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Poster Abstracts

**P1-1**

**Psychological States and Coping Strategies after Bereavement Among Spouses of Cancer Patients: A Quantitative Study in Japan**

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**BACKGROUND:** Comprehension and assessment of psychological states and coping strategies during spousal bereavement are necessary for hospital staff to provide psychological care in clinical practice. The purposes of this study were (1) to characterize psychological states and coping strategies after bereavement among spouses of cancer patients in Japan and (2) to explore the factors associated with psychological states in oncology settings.

**METHOD:** In March 2009, questionnaires to assess spouses’ psychological states, coping strategies, and mental health states (GHQ-28) were sent after patients died at the National Cancer Center of Japan. To address the first purpose, exploratory factor analysis, gender comparison, and calculation of correlation with age, time since bereavement, and mental health states were conducted. Hierarchical regression analysis was conducted to address the second purpose.

**RESULTS:** A total of 821 spouses experiencing bereavement for 7 months to 7 years participated in the study. Psychological states revealed three factor structures: “Anxiety/Depression/Anger”, “Yearning”, and “Acceptance/Future-Oriented Feelings”. Coping strategies also revealed 3 factor structures: “Distraction”, “Continuing Bonds”, and “Social Sharing/Reconstruction”. Coping strategies represented 18% to 34% of each factor associated with psychological states, whereas the characteristics of bereaved spouses and deceased patients represented 6% and <6%, respectively.

More “Distraction and Social Sharing/Reconstruction” and less “Continuing Bonds” were significantly associated coping strategies for achieving “Acceptance/Future-Oriented Feelings” (p < 0.01).

**CONCLUSIONS:** Both psychological states and coping strategies after bereavement revealed 3 factor structures. Coping strategies was the primary, bereaved spouses’ characteristics was the secondary, and deceased patients’ characteristics was the tertiary factor associated with psychological states. Enhancing “Distraction” and “Social Sharing/Reconstruction”, and reducing “Continuing Bonds” might be promising strategies for achieving positive psychological states of the bereaved.

**RESEARCH IMPLICATIONS:** Based on the Western theoretical framework of “stress and coping theory”, coping strategies were the primary associated factor of psychological states, beyond the characteristics of bereaved spouses/deceased patients. The strategy for encouraging coping strategies would contribute to positive psychological states in the bereaved.

**CLINICAL IMPLICATIONS:** All 3 factors of coping strategies (“Distraction”, “Continuing Bonds”, “Social Sharing/Reconstruction”) included adaptive and maladaptive items. Each item characteristics would be useful to comprehend and assess whether coping strategies utilized by the bereaved are adaptive or not in clinical practice.

**ACKNOWLEDGEMENT OF FUNDING:** This research was supported in part by Grants-in-Aid for Cancer Research and the Third-Term Comprehensive 10-Year Strategy for Cancer Control from the Ministry of Health, Labour and Welfare, Japan.

**P1-2**

**Patterns of Coping Strategies after Bereavement Among Spouses of Cancer Patients**

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**BACKGROUND:** The purposes of this study were (1) to identify healthy and unhealthy patterns of coping strategies after bereavement among spouses of cancer patients and (2) to explore the characteris-
tics of patients and spouses associated with these patterns of coping strategies, so that we could suggest the strategies for improving the unhealthy coping patterns after spousal bereavement and the indicators for early detection of high-risk spouses.

METHOD: In March 2009, questionnaires to assess spouses’ coping strategies (“Distraction”, “Continuing Bonds”, and “Social Sharing/Reconstruction”), psychological states (“Anxiety/Depression/Anger”, “Yearning”, and “Acceptance/Future-Oriented Feelings”), and mental health states (GHQ-28) were sent after patients died at the National Cancer Center of Japan. Non-hierarchical cluster analysis was used to identify patterns of coping strategies. Analysis of variance or chi-Square test were used to identify healthy and unhealthy patterns by comparing their psychological states, mental health, and potential psychiatric disorders identified by the cut-off score of the GHQ-28. Discriminant analysis was conducted to explore the characteristics associated with these patterns of coping strategies. RESULTS: A total of 821 spouses returned the questionnaires. Three patterns of coping strategies were “Distraction Focused (n = 215)”, “Continuing Bonds Focused (n = 219)”, and “General Coping (n = 215)”. Mental health was unhealthier in “Continuing Bonds Focused”. Prevalence of potential psychiatric disorders was higher in “Continuing Bonds Focused” and lower in “Distraction Focused” than expected value. The patients’ characteristics associated with “Continuing Bonds Focused” were “history of psychiatric consultation”, “duration of last hospital admission was less than one week”, “time since cancer diagnosis to death was less than one year”, and “under 65 years”. CONCLUSIONS: Two strategies for improving the unhealthy coping patterns of “Continuing Bonds Focused” were (1) enhancing “Distraction” and reducing “Continuing Bonds” for achieving “Distraction Focused (healthy)” and (2) enhancing both “Distraction” and “Social Sharing/Reconstruction” for achieving “General Coping (almost healthy)”. RESEARCH IMPLICATIONS: Two strategies for improving the unhealthy coping patterns of “Continuing Bonds Focused” among bereaved spouses were identified. These strategies would be useful to develop an original Japanese program of psychological support for the bereaved who have lost their spouses to cancer. CLINICAL IMPLICATIONS: Four patients’ characteristics whose spouse would utilize the unhealthy coping patterns after bereavement were identified. These indicators would be useful for early detection of high-risk spouses during end-of life (EOL) care. ACKNOWLEDGEMENT OF FUNDING: This research was supported in part by Grants-in-Aid for Cancer Research and the Third-Term Comprehensive 10-Year Strategy for Cancer Control from the Ministry of Health, Labour and Welfare, Japan.

P1-3

OmSorg - Dealing With Bereavement Lessons Learnt from the Implementation of Action Plans in all Danish Schools and Kindergartens

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BACKGROUND: Every year more than 2500 Danish children under the age of 18 experience the loss of a parent by death. Another 42,000 children experience that their mum or dad is acute hospitalized with a severe illness. METHOD: For more than 18 years the project OmSorg (Dealing with Bereavement) has been a nationwide practical founded school and kindergarten based intervention towards children (age: 0–18) in loss and grief. The aim is to secure responsible adult help to grieving children - no matter the course of the grief. The main effort has been to inspire and support teachers and kindergarten staff in attending these difficult matters. This is done by offering educational materials, giving lectures, consultation and courses, establishing training groups for bereaved children, working with the media and by political lobbyism. RESULTS: One of the basic conditions in working with children in loss and grief is that the teachers share a common approach on what their basic responsibilities are. One of the main tasks has been to encourage the teachers in establishing Action Plans for their meeting with grieving children. An annual randomised survey among all Danish Public Schools (since 1997) and Kindergartens (since 2003) shows the development on the following issue: “Do you have a written down Action Plan on how to comply with children in loss and grief?”

<table>
<thead>
<tr>
<th>Schools</th>
<th>Kindergartens</th>
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<tbody>
<tr>
<td>1997: 4%</td>
<td>2003: 23%</td>
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<tr>
<td>2012: 96%</td>
<td>2012: 86%</td>
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CONCLUSIONS: In our opinion, the basic condition when working with bereaved children is that the responsible adult person involved in the child’s unbearable situation makes space for the child to be heard, seen and understood. The “Action Plans” is an effective tool towards achieving this goal. The key to this work is to denounce the part of our upbringing that taught us that silence is golden. Grief is not an illness, but on the contrary a very tough condition of life. If we realise that SPEECH is golden, we can help the child continue life in spite of the wounds in

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the soul. RESEARCH IMPLICATIONS: If we want to really spread the good practice of helping grieving children, the caretakers are very much dependent of the researchers to prove the effectiveness of their effort with reliable data. CLINICAL IMPLICATIONS: It is possible - over a period of 10 years - to change a whole country’s attitude toward issues concerning responsible adult help to grieving children and adolescents in Schools - and Preschool settings. ACKNOWLEDGEMENT OF FUNDING: None.

P1-4
OmSorg - Dealing With Bereavement Integrating Training Groups for Bereaved Children in Public School Settings in Denmark
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BACKGROUND: In every Danish Public School there are 6–7 children suffering from the loss of a parent, 1 or 2 who have lost a sister or a brother and some 12–20 kids carries the anxiety and insecurity knowing that their mum or dad is seriously ill or dying. METHOD: From more than 20 years of experience in the field, we know that a very efficient way to help grieving children in coping with the sad feelings of loss and despair, is to establish Training Groups lead by responsible adults. As a consequence of our work, today there are some 220 training groups in Denmark. Unfortunately his is still far too few to meet all grieving children's needs. RESULTS: To remedy this sad fact OmSorg has launched the project: “Training Groups in Schools”. It is a 4 years intervention in cooperation with a vast number of public schools in 3 selected municipalities. The present status of the project is that up to 50 new groups have started within the school system. They are led by 150 volunteer teachers, therapists and schoolnurses. We follow, describe, evaluate and report the process closely over the next 3 years. The presentation will take you through the first qualitative evaluation on the benefits of being part of a group reported by the children involved. CONCLUSIONS: The obviously goal is that the government must take its share of responsibility for the training groups’ operations. Thus, we expect that at least 50% of all Danish schools have established Training Groups for grieving children within the next 10 years. The need is very much present, as most existing groups report long waiting lists. In short - We work for that in the future there will be no need to put children’s grief on the waiting list. RESEARCH IMPLICATIONS: In all - to us known - evaluations of programmes aimed towards bereaved children we have never come across an evaluation where the children involved has been given the opportunity to speak for themselves. This is (perhaps for the first time) done in our evaluation. CLINICAL IMPLICATIONS: Training groups implemented in Public School settings is in many ways a very direct, cheap and helpfull effort towards bereaved children. ACKNOWLEDGEMENT OF FUNDING: None.

P1-5
OmSorg - Dealing With Bereavement Working With Training Groups for Bereaved Children
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BACKGROUND: Every year more than 2500 Danish children under the age of 18 experience the loss of a parent by death. Another 42,000 children experience that their mum or dad is acute hospitalized with a severe illness. One of the basic conditions in working with children in loss and grief is that the responsible adult person involved in the child’s unbearable situation makes space for the child to be heard, seen and understood. METHOD: A very efficient way of helping grieving children in coping with the sad feelings of loss and despair is to establish Training Groups lead by responsible adults. In the group the children can meet peers who are in a situation very similar to their own. They listen to one another, discus similarities, differences and problems. For once they can be in a context where everyone can look at one another and freely say: “I know exactly how you feel”. RESULTS: Since the early start in 2000 OmSorg has managed to start or support others to establish more than 220 training groups nationwide. This is still far too few to meet the needs of all grieving children, but it is a successful beginning. CONCLUSIONS: 220 groups is - as mentioned - far to few. One of the biggest obstacles is that the work in the groups is based on volunteering. It takes time to find the right place for the group setting, funding, advertising etc, etc. Often up 2 years of practical work before the group is established. And then - sadly enough - many volunteers are burned out when at last beeing at the center of their work. Here we do a great effort for making the number of groups to increase. CLINICAL IMPLICATIONS: The presentation will present some details from the work, point out some of the benefits and outcomes for the child to be part of the group, and finally give a short presentation on our future plans. In addition we will show a few samples from a TV-documentary describing the work done in one of the training groups. ACKNOWLEDGEMENT OF FUNDING: None.
P1-6
“What Bothers Me? The Memory”: An Interpretative Phenomenological Analysis
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BACKGROUND: Whereas a grief-related disorder tapping prolonged disabling reactions might be included in the DSM 5, the mechanisms underlying it remain poorly described. Some studies highlighted the risk for bereaved spouses after a cancer to develop this disorder, especially when reporting an insecure attachment. However no qualitative study explores associations between attachment styles and adjustment to grief in this population. This study aims at enhancing knowledge about the delineation of this debilitating condition.

METHOD: The interview of a male widower (57 years) of a cancer patient, presenting a disorganized attachment and meeting at 6 months post-death the criteria for PGD (Inventory of Complicated Grief, Prigerson et al., 1995) was subjected to an Interpretative Phenomenological Analysis (IPA, Smith, Flowers & Larkin, 2009). This standardized analysis targets the meaning making processes with regards to attachment styles.

RESULTS: Three inter-related master themes are presented: (1) Forgetting, and continuing bonds; (2) Guilt; (3) Disorganization of the daily life. Within these, the analysis describes ruminative coping as an avoidance mechanism, and its function in adaptation to loss, while associations between meaning making and attachment are underlined. Furthermore this study provides an insight regarding “normal” versus complicated reactions after the loss of a loved one, including relocation of continuing bonds and reorganization of self-defining memories.

CONCLUSIONS: Our data indicate that disorganized attachment is a major predictor of poor adjustment in bereavement. Whereas rumination was sometimes viewed as a confrontation process, associated with recovery from the loss, accordingly to the grief work hypothesis, our study underlined its ambiguous function, as an avoidance mechanism. Disorganized attachment, that is high anxiety and high avoidance in attachment, would undermine the integration of loss, by focusing grief process on avoidance, rather than on a beneficial oscillation between confrontation and avoidance.

RESEARCH IMPLICATIONS: Our data highlighted the associations between intra-individual factors such as attachment styles present upstream from the death and adjustment to spousal loss. The qualitative design of the study enables the researchers to capture complex links between attachment, meaning making processes and grief reactions. More studies are needed to explore cognitive, emotional and social mechanisms underlying these reactions, in an integrative perspective.

CLINICAL IMPLICATIONS: As the very nature of Prolonged Grief Disorder remains unclear, our study provides indications of impaired grief processes such as difficulties in finding meaning (or finding meaning pervaded by intense guilt), chaotic attachment to the deceased, and frozen autobiographical memory. These impaired processes could become therapeutic targets of individual grief support programs based on the Dual Process Model of Coping with Bereavement (Stroebe & Schut, 1999), which integrates the attachment theory.

ACKNOWLEDGEMENT OF FUNDING: Support for this research came from the French National Cancer Institute SHS 2011 (INCa).

P1-7
Prolonged Grief Disorder (PGD) in The Cancer Context: Results of A longitudinal Study Pre- and Post-Death Among Spouses of Cancer Patients
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BACKGROUND: Bereaved people are considered by health professionals and by common sense as vulnerable persons. Recent research suggests that caregivers of cancer patients can meet the criteria for PGD, which might be included in the DSM-5. However little is known regarding the display of maladaptive reactions in spouses of patients before the death, and how it spreads after death. This study aims at capturing the very nature of these reactions and their predictors.

METHOD: In a consecutive cohort of spouses of palliative cancer patients (N = 60), we studied at T1 (from 1 to 6 months before death) specific predictors of emotional adjustment at T2 (6–9 months after death). Evolution of depression between T1 and T2 (BDI) and intensity of grief reactions and Prolonged Grief Disorder (ICG) are linked to: Attachment (Experiences in Close Relationship Scale); Burden (Montgomery & Borgatta Caregiver Burden Scale); Coping and orientation of grief (Inventory of Daily Widowed Life); coping styles (COPE). Regression analyses were conducted to predict adjustment at follow-up controlling for baseline scores.

RESULTS: In the sample of 60 participants (M = 62.9 years, 60% male), the vast majority of the spouses (66%) reported during the palliative phase a depressive symptomatology and feelings of burden associated with the caregiving experience. After the death of the patient a minority (13.9%) meet the criteria for a Prolonged Grief Disorder. Above all, PGD is predicted by their levels of
depression assessed before the death and by their anxious attachment. The factors linked with the disease or with the death itself do not significantly predict the condition of the bereaved spouses.

**CONCLUSIONS:** Our data indicate that upstream from the death, then in the first months of bereavement, the spouses of cancer patients report an important psychological distress. Particularly, a significant minority of spouses experience dysfunctional grief, which is associated with later health impairments. Depression during the palliative phase and anxious attachment constitute warning signs for grief-related disorder. **RESEARCH IMPLICATIONS:** Our data highlighted the associations between intra-individual factors such as attachment styles present before the death and adjustment to spousal loss. More longitudinal studies are needed to capture the variability in grief reactions among caregivers of cancer patients. It is of critical importance to study the display of the maladaptive response to loss in long-term, as experts have suggested a time criterion of 12 months for the PGD diagnosis. **CLINICAL IMPLICATIONS:** When the very nature of Prolonged Grief Disorder remains ambiguous, our study provides indications of factors associated with this condition such as an insecure anxious attachment and depression during the pre-death period. These indications may allow us to identify the persons who could benefit from an early support from mental-health professionals. **ACKNOWLEDGMENT OF FUNDING:** Support for this research came from the French National Cancer Institute SHS 2011 (INCa).

**P1-8**

**Psychiatric Disorders and Background**

**Characteristics of The Bereaved Seeking Medical Counseling at a Cancer Center**

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**BACKGROUND:** The death of a person is a stressful event in life. This stress is related to the physical and psychological well-being of the bereaved. With the aim of alleviating psychological distress in the bereaved, our hospital started an outpatient service for bereaved families. The purpose of this study was to examine psychiatric disorders and background characteristics among the bereaved who lost a loved one with cancer and who sought medical counseling at a cancer center. **METHOD:** In this retrospective study, all patients who consulted the outpatient service for bereaved families in our hospital between April 2007 and March 2013 were reviewed. This study was approved by the Institutional Review Board of Saitama International Medical Center, Saitama Medical University. **RESULTS:** During the study period, 124 patients consulted the outpatient service for bereaved families. Their ages ranged from 17 to 84 years (mean: 53 ± 15). The most common psychiatric disorder among the bereaved was bereavement reaction (n = 49, 40%), followed by major depression (n = 34, 27%). Eight patients (n = 8, 6%) experienced dissociative disorders in addition to their psychiatric diagnosis. Females (n = 103, 83%) and the bereaved who lost their spouse (n = 72, 58%) were the most common users of the service. **CONCLUSIONS:** This retrospective study demonstrated the characteristics of the bereaved seeking medical counseling at a cancer center. Most of the patients who consult outpatient services for bereaved families suffer from psychiatric symptoms related to the death of close family members, and need some help. Therefore, we should avoid viewing symptoms of psychiatric disorders as only reactions to bereavement. Psychiatric interventions including psychotherapy and medications are required for these families. **RESEARCH IMPLICATIONS:** None. **CLINICAL IMPLICATIONS:** We should avoid viewing symptoms of psychiatric disorders as only reactions to bereavement. Psychiatric interventions including psychotherapy and medications are required for these families. **ACKNOWLEDGEMENT OF FUNDING:** This study was supported by the Third-Term Comprehensive 10-Year Strategy for Cancer Control and Research of the Japanese Ministry of Health, Labor and Welfare and Grant-in-Aid for Scientific Research.

**P1-9**

**Early Parental Death and Risk of Hospitalization for Affective Disorder in Adulthood**

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**BACKGROUND:** Early parental death is one of the most stressful childhood life events and may influence subsequent psychological health. We investigated the association between early parental loss and risk of hospitalization for an affective...
disorder in adulthood. METHOD: Our nationwide register-based cohort study comprises 1,225,660 people born in Denmark in 1970–1990, of whom 138,893 experienced the death of a parent before the age of 30 years. Followup for hospitalization for an affective disorder in the period 1990–2009 yielded 15,261,058 person-years and 19,867 hospitalizations for affective disorder (bereaved \( n = 2644 \); nonbereaved \( n = 17,223 \)). A Cox proportional hazards model was used to assess hazard ratios (HRs) for hospitalization with an affective disorder according to early parental death. RESULTS: People who experienced early parental death had an increased risk of hospitalization for a unipolar disorder (men: HR = 1.33; 95% confidence interval [CI] = 1.23–1.44; women: 1.23; 1.17–1.30). Stronger associations were observed for parental death caused by suicide than for other causes. For bipolar affective disorder, an increased risk of hospitalization was observed only after suicide. CONCLUSIONS: People who had lost a parent had an increased risk of hospitalization for an affective disorder. Although this was particularly true for bereavement due to parental suicide, it was also found for parental death from other causes. In contrast, an increased risk of hospitalization for bipolar affective disorder was observed only after parental suicide. RESEARCH IMPLICATIONS: There is a need for further research into the association between early parental death and depression, e.g. risk of mild depression, use of antidepressants, and identification of other vulnerable groups. CLINICAL IMPLICATIONS: Health personnel, dealing with people, who have lost a parent during childhood or young adulthood, should be aware that this group has an increased risk of severe depression that requires hospitalization. This is especially true for those who lost a parent to suicide. ACKNOWLEDGEMENT OF FUNDING: None.

PI-10
Communication Skills Training Program for Internship Year Nursing Students to Reduce Oncology Patient Emotional Distress in Egypt
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BACKGROUND: Communication skills are the cornerstone of the patient provider relationship in cancer care. Lack of these skills can diminish disclosure, increase patient anxiety. Nurses play an important role in providing emotional care and support to patients and their families. Unfortunately, few nurses receive sufficient training to ensure they are proficient in key communication tasks. This study was carried out to determine the impact of communication skills training program on reduce oncology patient emotional distress. METHOD: A quasi experimental design with pre-post assessment was utilized in this study with sample size of 86 participants from internship year nursing students. The study was conducted in Training Unit and Oncology Units at Suez Canal University Hospitals. Internship year nursing students went through the problem-based learning and role-playing exercises with regular feedback on basic communication skills, breaking bad news, effectively providing information and how to deal with patient’s emotions during the training program. The nurse students were evaluated both before and after the training using “Empathic Tendency”, “Empathic Skill” and “Communication Skills Evaluation Scales”. RESULTS: The training improved internship year nursing students’ empathic tendency, empathic and communication skills. “Respect to patients, giving constructive feedback, using effective body language, using continuing and leading reactions” showed gradual improvement during observations while self-disclosure and “ineffective communication techniques” were lower. CONCLUSIONS: Communication skills training programs have effectively improved the empathic tendencies, empathic skills, and communication skills of the internship nurses student. Therefore, expanded training programs on communication skills programs during in-service programs could improve nurses’ communication skills ACKNOWLEDGEMENT OF FUNDING: None.

PI-11
Prognostic Awareness and Communication of Prognostic Information in Malignant Glioma: A Systematic Review
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BACKGROUND: Prognostic awareness (PA) is a topic of research and clinical interest in healthcare communication, palliative care, and psycho-oncology. Accurate PA has been linked to positive psychosocial outcomes for patients and caregivers, but little is known about PA among patients with malignant glioma (MG), a devastating disease with uniformly poor prognosis. This systematic review synthesized the literature on PA in MG, with an emphasis on patients’ understanding of prognosis and preferences regarding communication of prognostic information. METHOD: A systematic literature review was conducted of \( N = 5 \) databases (Cochrane, Embase, PsycINFO, Pubmed, and WOS) with search terms related to brain neoplasms, prognosis, awareness, and patient-physician communication. Of the \( N = 7219 \) studies retrieved, \( N = 14 \) studies met inclusion criteria and were included in the systematic review.
RESULTS: Of the articles that met inclusion criteria, 9 were empirical studies and 3 were review articles or practice guidelines based on authors’ clinical experience. Across studies, methods for measuring PA and communication preferences were heterogeneous, as were rates of PA, which ranged from 25% to 100%. Studies of communication preferences suggest dissatisfaction with communication regarding prognostic information among MG patients and their caregivers. CONCLUSIONS: Despite the importance of PA in advanced cancer and the uniformly poor prognosis in MG, there is a dearth of evidence regarding PA among patients with MG. Our review highlighted a wide range of PA among MG patients and inconsistent preferences for detailed prognostic information. While many patients prefer detailed prognostic information, evidence also suggests that preference for limited information may serve as a mechanism to preserve hope. Additional studies are needed to understand the most effective means of measuring PA and communicating prognostic information to patients with MG and their caregivers.

RESEARCH IMPLICATIONS: There is an urgent need for rigorous, prospective, and standardized assessment measures of PA among patients with MG and their caregivers that account for the unique clinical features of this disease, including certain poor prognosis from the time of diagnosis and progressive neurological decline. CLINICAL IMPLICATIONS: PA and preferences for communication of prognostic information, as well as the factors that may influence them, are currently poorly understood in MG. Rigorous study of the needs of MG patients regarding prognostic information will provide an opportunity to improve patient-physician communication and quality of care. ACKNOWLEDGEMENT OF FUNDING: This research was supported in part by grant NCI T32CA009461-28 from the National Cancer Institute to AJA.

PI-12
Communication Skills of Nurses Caring for Oncology Patients: A Multicentric Study
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BACKGROUND: Nurses caring for oncology patients need to use their communication skills effectively to help patients and those close to them cope with the adverse impact of their illness. Professional knowledge and skills are required in order to communicate with patients and families. The purpose of this study is to identify the areas of nurses’ self-perceived proficiency and inadequacy with regards to the application of communication skills when interacting with cancer patients and their families.

METHOD: The study sample consisted of 108 oncology nurses at 4 medical centers (Istanbul, Ankara, Erzurum, Gebze) and who volunteered to participate, who wanted to receive training on psychological care, and who fully completed the questionnaires. Data were collected during face-to-face interviews where the “Communication Skills Confidence Questionnaire” was used. Developed by Fallowfield al. in 2001, this instrument comprises 14 statements relevant to communicating with cancer patients. It is designed for nurses to rate their self-perceived proficiency in these skills between 1 (I do very badly) and 10 (I do very well). The Cronbach’s Alpha co-efficient was calculated as 0.94.

RESULTS: The participants’ mean age was 29.1 ± 5.6 and average number of years in oncology was 3.1 ± 3.5. The mean “self-confidence” score for skills in communicating with cancer patients was 6.46 ± 1.65 (2.29–7.97). The 5 communication issues nurses felt most inadequate in were: discussing sexuality (5.08 ± 2.51) and the concept of death and dying (5.29 ± 2.38) with patients, informing patient families about impending death (5.87 ± 2.29), discussing prognosis with patients and supporting families of recently deceased patients (6.13 ± 2.50). Nurses perceived themselves as competent in communicating with patients of their own age-groups (7.46 ± 1.90), patients who are medical professionals (7.37 ± 1.90) and those with high levels of education (7.08 ± 1.69). CONCLUSIONS: The results of this study indicate that nurses view themselves as particularly inadequate in communicating with patients about sexuality and death. They also experience difficulty in supporting families of soon-to-die or recently deceased patients. Discussing prognosis with patients was another important area of perceived inadequacy. Several studies address the challenges nurses face when confronting mortality. While organizational procedures and collaboration between curative and palliative teams can facilitate discussion of death and sexuality, cultural influences undeniably affect the ability to communicate about these subjects. Nurses clearly need to develop their communication skills with regards to topics they have difficulty discussing. RESEARCH IMPLICATIONS: In order to support nurses in oncology units, it is necessary to identify factors which affect nurses’ communication skills with regards to sexuality and death. Furthermore, we recommend that researchers in this area conduct corroborative studies to compare the results of Turkish studies with results from differing cultural backgrounds. This study may serve as a guide in the development of training programs that address the needs of nurses. CLINICAL IMPLICATIONS: It is apparent that some of the needs of oncology patients are not currently able to be met. We found that clinical nurses experience difficulties in developing skills necessary for communicating with cancer.
Prompt Lists (QPLs) have been extensively used in the oncology setting to enhance patient participation and, consequently, to improve patients' psychological outcomes such as anxiety. Across studies different designs of QPLs have been used. The objective of this systematic review is to give an overview of how QPLs have been designed and to examine whether the effectiveness of a QPL is determined by its design. METHOD: A literature search was conducted in PsychINFO, Medline and CINAHL. Additional studies were sought via the snowball method, where the reference lists of included articles were hand searched for eligible articles. Empirical studies that included a QPL in an oncology setting were included. Further, the methodological quality of studies was assessed using a list with 11 criteria measuring internal validity designed by the Cochrane Collaboration Back Review Group. Studies that met 6 or more of the criteria were considered as high quality studies and studies that met less than six of the criteria were considered as low quality studies. RESULTS: Of the 51 articles that were found, 21 articles met the inclusion criteria. It was found that a QPL was effective in enhancing question asking. The effectiveness of a QPL in improving psychological outcomes was limited. Further, the design of a QPL varied between studies. In sum, the majority of QPLs were given to patients before consultation in hardcopy. QPLs mostly consisted of general questions but the design of this QPL was effective in enhancing question asking. a QPL varied between studies. In sum, the majority of QPLs were given to patients before consultation in hardcopy. QPLs mostly consisted of general questions. METHOD: An experimental framework was then a way of research in cancer patients comparing QPLs, it was found that QPLs were individually tailored. These individually tailored QPLs might have been more effective because patients included affective questions on them. Emphasizing affective communication instead of instrumental communication could be a way of improving the effectiveness of a QPL on psychological outcomes. RESEARCH IMPLICATIONS: To date, QPLs have been designed with instrumental questions (e.g. questions regarding treatment) and the results on psychological outcomes are limited. A possible reason is that patients have both instrumental (the need to understand what is going on) and affective (the need to express worries and to be understood) information needs. A QPL does not address this affective information need. Creating a QPL with affective questions or with concerns could potentially improve patients’ psychological outcomes. CLINICAL IMPLICATIONS: Improvement in psychological outcomes such as anxiety has been associated with better health outcomes for the patient. The clinician can provide the patient with needed information to improve psychological outcomes if the clinician is aware of the worries of the patient. Empowering patients with a QPL framed with affective questions can create the opportunity for clinicians to tailor their consultation to the worries of patients and provide them with information that can improve psychological outcomes.

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P1-14
The Therapeutic Stage Setting. Towards a Greater Acceptance of Care and for Better Wellbeing of Cancer Patients
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BACKGROUND: An experiment has been done in 2008 in the Laboratory of Imagery and Cognitive Neurosciences (CNRS) of Strasbourg France. We discovered the important role of the stage direction for the emergence of the theatrical reality via the principle of adhesion (e.g. the existence of the actor is substituted by the character he performs.) The application of this study in clinical psychology field was then a way of research in cancer patients compliance. METHOD: An experimental framework for the management of medical interview was established based on a series of attitudes, voices and scenography. The observation protocol was built on relationship and exchanges between patients and physicians after numerous meetings about their expectations, fears and attempts (software: Alcest.)

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P1-15
Cancer Disclosure: Account from a Pediatric Oncology Ward in Egypt
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BACKGROUND: Barriers to disease disclosure are many and vary across cultures and societies. Considering that truth telling about one’s diagnosis is the first step towards good patient-physician communication and for treatment decision-making in cancer patients it is unfortunate that common practice in the Arab world stands in the way of such communication. As concerns disease disclosure in connection with childhood cancers in Egypt, it appears that no studies have been made prior to our study. METHOD: We examined in some detail the nature of disease disclosure at the time of the first chemotherapy treatment; among children who has been diagnosed with cancer and were about to start treatment. This was done by administering 2 questionnaires to 304 parents of children diagnosed with cancer at the Children’s Cancer Hospital in Cairo (CCHE), Egypt, one before the first chemotherapy treatment and the other before the third.

RESULTS: We found that nearly three quarters (72%) of the parents had their child’s cancer diagnosis communicated by the physician. Only thirty-nine percent of the children were present with the parents during the disease disclosure conversation. CONCLUSIONS: There is a need for greater recognition of patient autonomy among physicians and the need for developing better practice for the disclosure of cancer diagnosis to the children and young adolescents and their parents. RESEARCH IMPLICATIONS: We hope that this study can form a base and provide important information that can be used to initiate interventions and future studies exploring similar topics. CLINICAL IMPLICATIONS: Our aim is to gain a greater recognition and better practice of disease disclosure for the children/young adolescent and their families.

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P1-16
Short-Term Courses of Communication Skill Training in General Hospitals
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communication skill training (CST) of bad news telling for cancer care with the SHARE model, which was empowered by the Bureau of Health Promotion in Taiwan. For encouraging more and more medical staff to understand the importance of CST, the short-term courses of communication skill training were promoted in general hospitals nationwide. The survey hoped to understand the efficiency of the short-term CST courses. METHOD: Empowered by Bureau of Health Promotion in Taiwan, from January to December in 2012, TPOS provide 2 short-term courses of CST including the CST-mini SHARE (4 hours) and CST-1D-SHARE (6 hours). All courses were held in general hospital nationwide. The ratio of facilitators to participants was 2:4 as the same as the CST-TTT (communication skill training- training the trainer). Participants’ opinions of truth telling were assessed using the Japanese truth-telling scale for evaluation. RESULTS: There were 35 hospitals and 454 medical staff attending the courses, including 367 in CST-mini SHARE and 87 in CST-1D-SHARE. Except the factor of setting, the other three factors were improved after the training courses, including method of disclosing bad news, providing emotional support, and providing additional information (all \( p < 0.001 \)). Many participants considered to attend the CST-TTT in future. CONCLUSIONS: Short-term courses of communication skill training were also efficient to help medical staff for understanding the importance of communication and improving their basic skills. Short-term courses can’t alter the CST-TTT but can encourage more and more medical staff to learn communication skill training. RESEARCH IMPLICATIONS: Many experts suspect the efficiency and outcome of the time-limited training courses about the communication skill training. We hope to evaluate and analyze data for the further national policy. CLINICAL IMPLICATIONS: In overload clinical work, it is possible to encourage medical staff to learn communication skill. ACKNOWLEDGEMENT OF FUNDING: The Bureau of Health Promotion in Taiwan.

**PI-17**

**Association Between Doctor-Patient Relationship and Maladaptive Coping to Cancer in European Countries**

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**BACKGROUND:** The role of doctor-patient relationship in oncology has been the object of a number of studies. Recent data regarding the use of specific instrument to examine some variables implicit in communication have shown the importance of empathy, attention and emotional support by oncologists towards their patients. As a part of a larger European study, the aim of the present report was to identify the association of doctor-patient relationship and maladaptive coping among cancer patients. METHOD: 284 cancer patients aged 18–65 years, with no cognitive deficits, Karnofsky Score >60 and a life expectancy >6 months, participated in a multicenter European study involving Italy, Austria, Spain. Each patient was administered a booklet for the evaluation of several variables, including, for the purpose of the present report, the 24-item Patient Satisfaction with Doctor Questionnaire (PSQ-MD) (Loblaw et al., 2004), to measure characteristics of doctor-patient relationship, 2 clinical subscales of the Mini-MAC (Watson et al., 1984), namely Anxious Preoccupation and Hopelessness, to measure maladaptive coping; and the 0-10 NCCN Distress Thermometer (NCCN, 2012), to measure patients’ emotional distress. RESULTS: In agreement with the original data, 2 factors were extrapolated from the PSQ-MD: Physician Disengagement (extent to which patients appraise their physicians as interested only in the medical aspects of their problems), and Physician Support (extent to which patients perceive their physicians as concerned, supportive, empathic and aligned with the patient’s best interests). Hopelessness and anxious preoccupation were associated with scores of Physician Disengagement (\( r = 0.31, p < 0.01 \); and \( r = -0.28, p < 0.01 \), respectively). In contrast, Physician Support was related to lower scores on hopelessness (\( r = 0.25, p < 0.01 \)) and, marginally, distress (\( r = 0.15, p < 0.01 \)). CONCLUSIONS: The study indicated that cancer patients’ perception of their relationship with their own doctor is associated with coping styles and symptom distress. In particular, a tendency to be concerned about their illness (Anxious Preoccupation) or to be hopeless about it (Hopelessness), as well as emotional stress symptoms were related to a perception of their physicians as detached, objective and interested more in the medical aspects rather than concerned, supportive, and empathic. RESEARCH
IMPLICATIONS: Given the vast research on communication skills in oncology, the use of specific tools, such as the PSD-MD can be of help in examining both the impact of the bipolar factor physician engagement/disengagement on patients' coping and the possible changes in physicians' attitudes after communication skills workshops or training. CLINICAL IMPLICATIONS: Results suggest the importance of establishing specific supportive and educational programs aimed at improving doctor-patient communication, in order to implement the quality of that relationship and to positively influence patients' coping with cancer. ACKNOWLEDGEMENT OF FUNDING: Istiuto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

PI-18
Communication of Health Practitioners With Parents of Children With Malignant Diseases
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BACKGROUND: It has been found that good communication and developing collaborative relationships with parents facilitates their adjustment and reduces stress. Besides its importance for psychological well being of parents and children, good adaptation to illness can also affect the course of the child’s illness and improve patient outcomes. The aim of this research was to examine the experiences and needs of parents of children with malignant diseases, focusing on their communication with health practitioners. METHOD: Participants were 32 parents of children diagnosed with malignant diseases that are currently in remission for period between 6 months and 3 years. Parents were contacted in premises of Association for helping children and families facing malignant disease “Firefly” where they filled out questionnaires which examined their experiences in communication with health practitioners. RESULTS: The first interview usually lasts longer then ten minutes, in 32% of cases parents answered it lasted 5 minutes or less. Only one third of the parents understood all given information, in 41% of the cases physician did not check their understanding of the given information. Physicians’ behavior in first consultation is mostly viewed as professional, kind and understanding, while nurses are described as professional, kind and compassionate. In communication with physicians parents need an optimistic approach with hope, support, more devoted time and more detailed information. Around two thirds of the parents are overall satisfied with physician-parent communication. CONCLUSIONS: Our results showed that most of the parents view their experiences in communication with health practitioners in a positive light, but also gives some guidelines for further improvement of health practitioners’ communication skills in order to provide better support to parents and address their needs in communication. RESEARCH IMPLICATIONS: Further research should be made to address more specific needs in communication of both parents and children with malignant diseases. It would be even more valuable to examine the communication between health practitioners and patients while still in treatment, in order to obtain more reliable data. CLINICAL IMPLICATIONS: There is a need for further education of health professionals in order to improve their communication skills. ACKNOWLEDGEMENT OF FUNDING: None.

PI-19
Enhancing Patient Participation in Oncology Consultations: A Best Evidence Synthesis of Patient-Targeted Interventions
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BACKGROUND: Due to the complexity of cancer consultations, the contribution of patients is often limited. This systematic review examined the characteristics and effectiveness of patient-targeted communication interventions to enhance cancer patients’ participation in consultations. Three research questions were formulated. (RQ1) What are the characteristics of patient-targeted interventions for enhancing patient participation in cancer consultations? What effect do these interventions have (RQ2) on immediate, intermediate and long term patient outcomes and (RQ3) on care process and provider outcomes? METHOD: Relevant studies were selected by a search of databases until mid-2010 (Pubmed, PsyCINFO and CINAHL), citations in relevant reviews as well as backward/forward citations. Studies were included if (1) the aim was to enhance patient participation within the upcoming consultation and (2) the intervention targeted adults diagnosed with cancer. For the evaluation of effectiveness (RQ2 and 3), only controlled trials were included. Characteristics and outcomes were extracted by 2 researchers. A “Best Evidence Synthesis” was conducted to quantitatively qualify effectiveness according to a set of principles, taking into account the quality of studies. RESULTS: A total of 52 publications were included, describing 46 studies and 30 unique interventions. One third was delivered through either written or multimedia material; two thirds face to face. Most originated from English speaking countries. Half targeted
heterogeneous cancer populations; one third targeted women with breast cancer. Half focused on initial, treatment planning consultations. Overall, there was evidence for an effect on observed patient participation. There was no evidence for an effect on patient or doctor satisfaction and insufficient evidence for an effect on psychological or physical well-being and consultation duration. The findings were largely independent of study quality. CONCLUSIONS: The number of patient-targeted interventions to enhance patient participation was shown to increase over the past decennia, reflecting the shift towards patient-centered medicine. The majority was delivered face to face, suggesting a willingness to invest in patient communication support. This systematic review demonstrated evidence for an effect of patient-targeted communication interventions on observed patient participation. Particularly on the more difficult areas of communication patients seem to benefit from support. Evidence for an effect on intermediate and long-term patient outcomes as well as provider and health care process outcomes was insufficient or absent. Potential explanations for this lack of effect will be discussed. RESEARCH IMPLICATIONS: Implications for future research are discussed, including attention for the gaps that were found in the literature, the challenge to find the right outcome measures, the quality of reporting in communication intervention studies and the importance of clarity about the theoretical underpinnings of communication intervention strategies. CLINICAL IMPLICATIONS: Patient-targeted communication interventions seem effective in enhancing patient participation in oncology consultations. Hence, they should remain on the research agenda and implementation of evidence-based interventions in clinical practice is warranted. Stimulating patient participation may improve the effectiveness of communication and facilitate optimal patient-centered care. ACKNOWLEDGEMENT OF FUNDING: The first author is financially supported by a personal grant of the Dutch Cancer Society (UVA 2009–4439).

PI-20
Using Data to Guide Effective Cancer Advocacy Group Leadership Training and Support Programs: The Case of The Global Advocacy Leadership Academy (GALA)
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BACKGROUND: Health advocacy groups can make significant contributions to supporting the needs of those confronting cancer by shaping health promotion programs that are responsive to the needs of consumers. Yet effective health advocacy groups demand strategic leadership, including the development of skills for communicating effectively with different stakeholders, media representatives, researchers, health care providers, health system administrators, and public policy makers. The GALA program is designed to support the training needs of health advocacy group leaders.

METHOD: The development of effective training programs, such as GALA depend on careful needs analysis research to guide evidence-based program design, implementation, and refinement. A series of in-depth, semi-structured, qualitative personal interviews with a purposive sample of active health advocacy leaders and influential health promotion professionals were conducted across selected global health communities to learn more about the concerns of health advocacy leaders and the unique issues they face. The data collected are being used to expand our understanding about the unique training needs of health advocacy leaders and the best strategies we can develop for meeting these training needs.

RESULTS: Twenty-eight in-depth personal interviews were conducted with key cancer community representatives from 4 different continents, and 5 different countries (USA, Taiwan, Estonia, Japan, and New Zealand). Respondents were asked to react to the GALA Mission Statement, to describe the issues faced by advocacy group leaders, and to identify advocacy group leader training and support needs. Overall, there was strong support for the GALA mission, and specific recommendations were made for supporting health advocacy group leaders. The responses from the survey are being used to guide evidence-based development of GALA training programs to support effective health advocacy group leadership.

CONCLUSIONS: The survey clearly validated the need for training programs, like GALA, to support the development of effective advocacy group leadership. The list of issues generated suggests that comprehensive health advocacy training programs should cover many topics. Health advocacy leaders must develop a deep understanding of the health care delivery system, the legal and regulatory health care environment, the corporate participants in the health care system, the health research enterprise, and the influences of media on health advocacy goals. It is also critically important for leaders to develop important communication, leadership, team-building, fundraising, and financial management competencies and skills.

RESEARCH IMPLICATIONS: Needs analysis surveys are instrumental for guiding development of health advocacy leadership support programs. The GALA program will continue gathering data from health advocacy leaders to help refine and expand training and support programs, especially as the health care system evolves and the demands of effective health advocacy leaders and organization change. In this way, the GALA program can grow, expand, and continually be responsive to the needs of health care advocacy group leaders.

CLINICAL IMPLICATIONS: This
study suggests strong demand for building collaborations across advocacy groups and with key partners from the health care system. To be effective, the GALA program must not only provide relevant training for health advocacy leaders, it must also facilitate partnership building, collaborative problem solving, and effective media relations. It must also provide ongoing consultation, advisory services, problem solving support, and disseminate key information about new findings and best practices for health advocacy. ACKNOWLEDGEMENT OF FUNDING: None.

P1-21
Communication of Genetic Test Results for a Breast and Ovarian Cancer Susceptibility: Report of a 2-Year Follow-Up Study and Comparison of Three Scoring Systems

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BACKGROUND: Communicating about genetic test results serves several purposes and could involve different types of relatives and friends. To better support this communication clinicians need to have more information about its unfolding process. In their efforts to conduct innovative projects on communication, researchers need to be aware of the different scoring system options. This study is a longitudinal assessment of communication about genetic test results for carriers and non-carriers of a familial BRCA1/2 mutation. METHOD: For 522 women, the communication to first-degree relatives, spouse, and friends was assessed 15 days, 1 year, and 2 years after receiving the test result. One point was counted when the relative was told, 0 when the relative was deceased or when there were no relatives of this kind, and −1 when the relative was not told. The 3 scoring systems were: (i) a compilation of communication with each type of relatives and friends, (ii) an index ranging between −7 to +7, and (iii) a dichotomous score based on whether or not women had told all types of relatives. RESULTS: Fifteen days after the women had received their genetic test results, the proportions of communication ranged between 98% for spouses and 54% for children. Carriers had shared their test results with fewer types of relatives and friends than non-carriers 15 days after receiving their genetic test results (1.89 vs. 2.55, respectively, p < 0.01) but this difference was no longer present in the 1 year and 2 years follow-up. Overall, 29% of the participants told relatives of all types 15 days after receiving their test results; this proportion amounted to 37% 1 year later and 39% two years later. CONCLUSIONS: In both groups, genetic test results were communicated with fewer types of relationships shortly after receiving their test result as opposed to 1 and 2 years afterwards. Carriers seemed to communicate about their test results less extensively than the non-carriers did, but such difference is no longer present in the longer term after receiving their genetic test results. Although proportions of communication with each type of relatives were considerable, a wide majority of women reported at least one type of relative with whom they did not communicate about their genetic test results. RESEARCH IMPLICATIONS: The measurement of communication is complex. Communication measurement scale and scoring systems should be carefully chosen. In light of these results, the utility, limits and empirical background of these different scoring systems of communication will be discussed. It might be a good practice to use and report more than one scoring system as it will be of greater benefit to both the clinic and research practice. CLINICAL IMPLICATIONS: The mutation status affects communication in the short term, but not in the longer term. Carrier women can be reassured about the fact that they might need time before they are ready to communicate about their test results. Given that spouses were almost always quickly informed and given that they are likely a privileged source of psychosocial support, inquiring about the nature, process and satisfaction with this communication could be important. ACKNOWLEDGEMENT OF FUNDING: Sources of support: Julie Lapointe is a CIHR Fellow in Psychosocial Oncology Research and Training (PORT), was funded through a CIHR Training Grant (No. TGF-63285), a Michael Smith Foreign Study Supplements - Canada Graduate Scholarships A Tri-Agency (SSHRC, NSERC and CIHR) Program and the Fonds d’enseignement et de recherche de la Faculté de pharmacie de l’Université Laval. The study project was funded by the Institut National du Cancer (INCA - grant R11108AA).
P1-22
Characteristics of Cancer Outpatients and Their Hesitation Types While Communicating With their Doctors During Medical Consultations

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BACKGROUND: Although effective communication between cancer patients and their doctors increases compliance and better health outcomes (Rodin et al., 2009), cancer patients often hesitate to speak with their doctors because of a conflict between deciding what to discuss and a feeling of giving up on their doctors (Ogawa, 2013). This study was conducted to clarify the characteristics of such patients and their hesitation types, by examining the relationship between their hesitation types and sociodemographic characteristics. METHOD: The participants were 38 individuals (15 male and 23 female, mean age 61.42 ± 11.42 years) undergoing either outpatient immunotherapy or hyperthermia treatment. Participants were asked to recall the conversation during their most recent consultation with their primary doctor. They then completed questionnaires measuring anxiety and depression (HADS: Zigmond et al., 1993), quality of life (EORTC-QLQ-C30: Aaronson et al., 1993) and the degree of hesitation when speaking with their primary doctor (Ogawa, 2013). A cluster analysis was performed on the hesitation factors. Fisher’s exact tests were used to examine the relationship between patients’ sociodemographic characteristics and hesitation types. RESULTS: The cluster analysis found that cancer patients’ hesitation types can be categorized into Good, Conflicted, and Hesitant. Fisher’s exact tests and residual analyses revealed that “Good” patients showed significantly low anxiety (p = 0.036) and depression (p = 0.036) and high emotional functioning (p = 0.006). “Conflicted” patients were younger than 65 (p = 0.027) and showed significantly high performance status (PS) (p = 0.010) and role functioning (p = 0.014). “Hesitant” patients showed significantly low PS (p = 0.029), global score (p = 0.002), role functioning (p = 0.002), and emotional functioning (p = 0.010), and high fatigue (p = 0.018) and insomnia (p = 0.012). CONCLUSIONS: Patients with better psychological status are less likely to experience hesitation when speaking with their doctors. Patients with younger age, high PS and role functioning are likely to experience conflict in deciding topics of discussion. Patients with low PS, global score, role functioning, emotional functioning, and high fatigue and insomnia were likely to give up on their doctors. These findings suggest that even patients with few symptoms experience hesitation while communicating with their doctors. Furthermore, because patients with poor physical and psychological conditions are likely to give up, doctors may need to adopt a more active communication approach with them.

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P1-23
Work-Related Stress and Helping Professionals: The Experience of The Oncohematology Department of Cosenza Hospital

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BACKGROUND: First aim of the study was to evaluate qualitative/quantitatively stress experienced by the oncohematological working group. Second aim was to design shared actions and behaviors in line with both: good practice on psychosocial risk in the workplace, with the needs of both relational, emotional and organizational of the professionals, to encourage personal and professional growth as a vehicle for change and continuous improvement of a working group. METHOD: We used the Apolis (Association of Psychology Organizations Work In Security) procedures which include the administration of the ROAQ (Organization Risk Assessment Questionnaire) to the members of the working group and the administration of a structured interview to the leaders of the professional group for analysis quantitative. Instead, for the qualitative analysis method involves the construction of four workshops conducted by the method of focus groups. Three of these were focused on perception, motivation and interpersonal relationships within the work group. The fourth workshop was made using the techniques of problem solving. RESULTS: 65 subjects (32 Oncology Unit, 20 Hematology Unit, 13 Units of Radiation) participated. The development of the ROAQ highlighted critical points in the emotional variables and action such as to prefigure a high level of risk that the operators develop work stress-related...
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Psychopathologies. The qualitative analysis of the content of the laboratory showed the most frequent responses in terms of emotional charge given by the relationship with the young patient and between the members of the working group. In the laboratory of problem solving the most frequent responses were oriented towards the realization of dynamic groups meeting. CONCLUSIONS: All the participants expressed their motivations about stress workplace experienced. This result made it possible to implement reductive measures of future risk of work-related stress as the realization of dynamic groups meeting: a monthly basis setting to plan together change and improvement in the working group. ACKNOWLEDGEMENT OF FUNDING: None.

P1-24
Brain Tumors in Children: A Support Tool for Parent-Child Communication About The Disease
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BACKGROUND: Psychological disturbances in children with brain tumor are determined by many factors, including the quality of parent-child communication about the disease. Proper communication about the disease is associated to a better adjustment by the child. The aim of this research was to verify whether a communication support tool for parents improves communication with their children, favoring a more functional awareness of the disease as well as a better psychological outcome in children. METHOD: The parents of 31 children with brain tumor were given a book – which had been created for the purpose – containing indications and examples on how to explain the disease to children. At the end of tumor treatments, children received a psychological assessment, including the Child Behavior Checklist (CBCL), to investigate the quality of parent-child communication about the disease and the child’s awareness. The experimental group consisting of 12 children was compared with a control group of 64 children who received the same assessments prior to the book creation. RESULTS: The 2 groups did not differ in clinical and demographic variables. Parent-child communication was found to be appropriate in 75% of the cases in the experimental group and 31.2% of the cases in the control group. This difference proved to be significant (p = 0.016). The experimental group obtained on average lower scores on all CBCL scales. The difference between the 2 groups proved significant on the “Social Problems” scale (p = 0.005). On the “Internalizing Problems” scale, the control group scored in the pathological range more frequently than the experimental group (p = 0.011). CONCLUSIONS: Our findings demonstrate the efficacy of the book, which helped parents enhance communication about the disease with their children. The experimental group received to a greater extent complete, truthful, consistent and individualized information about the etiology of the disease, its evolution and outcome and the treatment received (tumor treatment, drug therapy, rehabilitation). This information was always provided in a language that was intelligible, age-appropriate and at a level consistent with their cognitive abilities. This favored a greater psychological adjustment. RESEARCH IMPLICATIONS: Our findings should translate into indications and guidelines for clinical practice. This is why we deem our findings worthy of being further explored. We plan to carry out an additional investigation in order to confirm them in a larger sample of patients. CLINICAL IMPLICATIONS: Both avoidance and ineffective communication are associated with psychological problems. One of the priorities of clinical practice is to identify early the families with difficulties in dealing with, and sharing, information about the disease with their child. Our study shows that psychological difficulties can be prevented or minimized by raising the parents’ awareness of the importance of proper communication and training them. ACKNOWLEDGEMENT OF FUNDING: We gratefully acknowledge the funding support provided by Fondazione Guido Berlucchi.

P1-25
Patient-Centered Communication (PCC), Illness Perceptions and Self-Management Behaviors in Lung Cancer Patients: Ongoing Research Project
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BACKGROUND: PCC requires partnership, mutual exchange of information and an empathic relationship between patients and healthcare providers (Erickson, Gerstle, & Feldstein, 2005). Positive illness perceptions in cancer patients have been associated with improved quality of life and better coping strategies (Buick, 1997; Kaptein et al., 2011). Yet, there is still much unknown about the relationship between PCC, illness perceptions and self-management behaviors in cancer patients. This study will examine the association between those three variables. METHOD: In this cross-sectional
How are Verbal and Paraverbal Contents Associated With the Use of Communication Skills in a Highly Emotional Simulated Interview? A Pilot Study


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BACKGROUND: Highly emotional interviews are frequent in oncology. These interviews require specific communication skills. Few studies have investigated the relation between verbal and paraverbal content of communication skills. This study examines the relation between verbal content and paraverbal content - in terms of prosodic synchrony or desynchrony of voice intonation modulations - of communication skills used by an experienced clinician to facilitate a highly emotional simulated interview. METHOD: Voice intonation modulations have been assessed in a simulated interview between an experienced clinician and an actress playing the role of a young mother diagnosed with a breast cancer recurrence and expressing a fear of death. The verbal content of communication skills used by the clinician was assessed with the CRC Workshop Evaluation Draft Manual. Twelve sequences of turns-of-speech alternances including these communication skills were identified. These turns-of-speech alternances were then assessed with the Praat Software in order to examine prosodic synchrony and desynchrony of turns-of-speech alternances. Fifty-eight prosodic desynchrony alternances were identified and compared with fifty-eight prosodic synchrony alternances. RESULTS: “Interpretative hypotheses” were more associated with prosodic desynchrony (38% of alternances) than with prosodic synchrony (1% of alternances). CONCLUSIONS: Clinicians should be aware that the use of an “interpretative hypothesis”, in highly emotional interviews, is associated with prosodic desynchrony. In the context of these interviews, prosodic desynchrony clearly supports the verbal content of communication skills. RESEARCH IMPLICATIONS: Paraverbal content and especially voice intonation modulations should be further studied to examine how they may - positively or negatively - be associated with the verbal content of communication skills, not only in simulated but also in actual interviews. CLINICAL IMPLICATIONS: Clinicians should be aware that the paraverbal content and especially voice intonation modulations may be congruent or not with the verbal content of their communication skills. ACKNOWLEDGEMENT OF FUNDING: This research program was supported by the “Fonds National de la Recherche Scientifique - Section Télévie” of Belgium and by the “Centre de Psycho-oncologie” of Brussels.
P1-27
Perceived Information Provision and Satisfaction Among Patients With Ovarian Tumors: The Role of Health Literacy
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BACKGROUND: Appropriate information provision is an essential aspect of patient-centered care, and can result in better patient reported outcomes. However, low health literacy (HL) can create a barrier to accessing and processing information provided, leading to patient dissatisfaction. The general aim of this study was to investigate the role of HL in perceived level of information provision, information satisfaction and the use of Internet to find disease-related information in a sample of patients with ovarian tumors. METHOD: Women (N = 548) diagnosed with an ovarian or borderline ovarian tumor between 2000 and 2010, registered in the Eindhoven Cancer Registry, received a questionnaire including a subjective item to screen for low HL (“How confident are you filling out medical forms by yourself?”), the EORTC QLQ-INFO25 to evaluate the perceived level of and satisfaction with information provision about the disease, medical tests, treatment and other services, and one item about Internet usage. Multiple linear and logistic regression analyses were conducted to investigate the associations of subjective HL and educational level with perceived information provision, satisfaction with information received and Internet usage.

RESULTS: About 50% responded (N = 275). Of all women, 46% had high, 41% had medium and 13% had low subjective HL. Lower HL was associated with less perceived information provision about medical tests (medium compared to high HL: B = −15.8; low compared to high HL: B = −8.3, on a scale from 0–100) and lower information satisfaction (low compared to high HL: OR = 0.2). We did not find significant associations between HL and information provision about disease, treatment and other services, and Internet usage. Educational level was positively related to HL, but not associated with perceived information provision, information satisfaction and Internet usage.

CONCLUSIONS: Low subjective HL was associated with a lower level of perceived information provision related to medical tests and lower information satisfaction among patients with ovarian tumors.

RESEARCH IMPLICATIONS: Future research may be improved by addressing objectively measured HL and information provision. Our findings may also indicate a need for the development of a more sensitive cancer-specific measure of HL, which might be more related to cancer-specific communication. CLINICAL IMPLICATIONS: Patients with lower HL perceived that they received less information about medical tests, which may have caused them to be less satisfied with the information received. As information provision is an important influential factor in the support for patients, it is important to further investigate whether, and how, the provision of information to patients with low HL should be enhanced.

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P1-28
The Analysis of The Relationship Between Marital Adjustment and Coping Strategies in Married Women With Breast Cancer
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BACKGROUND: The breast cancer occur crisis by the women on physical, psychological and social area. It have been reported that social support is very effective to cope with crises of women especially support by spouses of women with breast cancer. The marital adjustment is important predictor to perceive social support and coping with stresses of women with breast cancer. This paper reports relationship between marital adjustment and coping strategies in married women with breast cancer. METHOD: The aim of this study was to investigate the relationship between marital adjustment and coping strategies in married women with breast cancer. The sample of study included 50 women with breast cancer who have been treated in an Oncology hospital in Turkey and 50 in the general surgical service of the same hospital treated non-cancer. In the study three instruments were used: Descriptive Knowledge Form, Dyadic Adjustment Scale (Spainer, 1976), and Ways of Coping Inventory (Folkman & Lazarus, 1984). The data were evaluated chi Square test, Mann Whitney-U and Correlation Analysis.

RESULTS: It was found that there were not statistically significant differences between the socio demographic characteristics of the women with breast cancer and non-breast cancer except the living city characteristic. A positive correlation was found between the scores of marital adjustment and effective coping way in the correlation analysis. (r = 0.32, p < 0.05). There is also a negative correlation between the scores of marital adjustment and ineffective coping way with the percentage 38%. (r = −0.38, p < 0.05).

CONCLUSIONS: This study has identified that women with breast cancer can cope more effectively and less ineffectively as the marital
adjustment of the couple increases. The marital adjustment could be a predictor to assessment perceived social support of the women with breast cancer which is necessary for coping with cancer related problems. Given the fact the cancer is a not personal but a family disease, the health care providers can identify the easier the women’s problems and origin of them. According to this identification they could give more effective psychological support to women with breast cancer. RESEARCH IMPLICATIONS: Based on these conclusions, it suggested to select the sample of control group except the patients without any breast disease that it could effect similar worries and coping problems with the cancer patients. It suggested too that next research could structured the relationship between positive thinking, coping and marital adjustment to identify better if the positive thinking effects both of them. CLINICAL IMPLICATIONS: Based on these conclusions, it suggested that to assessment the relationship between coping and marital adjustment and to provide family counseling if the marital adjustment has been perceived less by the women with cancer. Family counseling can be used in cancer care especially when the women with breast cancer have problems with coping of cancer experiences. The health professional in cancer care can use the results of study to prevent the possible coping problems. ACKNOWLEDGMENT OF FUNDING: None.

P1-29
The Influence of Paediatric Cancer on Parents’ Marital Satisfaction: Differential Predictors for Mothers and Fathers’ Marital Satisfaction When Caring for a Child With Cancer
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BACKGROUND: Within the paediatric oncology context, the cancer experience can have a significant influence on the family system as a whole (Long & Marsland, 2011). Parents have several caregiving and support roles in the child’s rehabilitation (Hutchinson, Willard, Hardy, & Bonner, 2009), thus their well-being (including their marital well-being) is of fundamental importance. This research examines the impact of paediatric cancer on mothers and fathers’ marital satisfaction over time while accounting for interrelationships in partner’s adjustment. METHOD: Couples completed the Family Well-Being Assessment to determine familial stress and perceived well-being (Caldwell, 1988) and the Profile of Mood States-Bipolar Form to determine mood states (Lorr, McNair & Heuchert, 1980, 2003) at diagnosis and 3 months later. Marital satisfaction was assessed at 1-year (n = 72) and 2-years post diagnosis (n = 61) with the Locke-Wallace Marital Adjustment Scale (Locke & Wallace, 1959). RESULTS: Analyses using the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) suggest differential marital satisfaction predictors for mothers and fathers of paediatric cancer patients. Mothers’ marital satisfaction at 1 and 2-years post diagnosis was predicted by familial variables at diagnosis and 3 months (family well-being, family support, and parental role conflict) (actor effects). For fathers, marital satisfaction predictors at 1 and 2-years post diagnosis included depressed mood (at 3 months) and fatigue (at diagnosis) (actor effects). Fathers’ marital satisfaction at 2-years post diagnosis was also predicted by the partner’s role conflict (at diagnosis) and fatigue (at 3 months) (partner effects). CONCLUSIONS: By using a relatively new conceptual model, this study was able to take past research on parental couples of children with cancer one step farther; accounting for both individual and interactional predictors of mothers and fathers’ marital satisfaction over time. These findings demonstrate that marital satisfaction for parents of children with leukemia differ, and indicate the importance of considering dyadic elements, such as partner effects. Mothers’ marital satisfaction was solely related to her family well-being in the early stages of the illness, whereas fathers’ marital satisfaction was related to both his own mood and his partner’s mood and family well-being. RESEARCH IMPLICATIONS: These findings have implications for theory and research advancement within the field of paediatric oncology. This research advocates for theoretical considerations to be made on the level of analysis used. Examining the parental couple at the dyadic level, as was done in this study, has inherent advantages such as accounting for interrelationships and testing gender effects. Hence, this research could be a catalyst for a more social-internationalist approach towards understanding parents of children with cancer. CLINICAL IMPLICATIONS: Furthermore, this research has significant clinical implications for health professionals working with these couples. It suggests that although mothers and fathers encounter the same chronic stressor (paediatric cancer), their experiences vary according to gender and to an extent time of assessment. Thus, clinical interventions aimed at helping these couples need to be tailored to their specific needs at that time. In addition, these findings emphasize the importance of early intervention and continued support for parents. ACKNOWLEDGEMENT OF FUNDING: CRSH-UdM “small grants”, Fondation CHU Sainte-Justine; Le Centre de recherche interdisciplinaire sur les problemes conjugaux et les aggressions sexuelles (CRIPCAS).
P1-30
Paediatric Cancer Through The Lens of Attachment Theory: A Systematic-Critical Review of The Literature on Marital Adjustment in The Parental Couple
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BACKGROUND: Although the effects of paediatric cancer have been examined in parents individually (Vrijmoet et al., 2008), the impact on their marital adjustment is a relatively novel research area, which has received little attention (cf. Da Silva, Jacob, & Nascimento, 2010; Long & Marsland, 2011). The aim of this research was to perform a systematic-critical literature review exploring the impact of paediatric cancer on marital functioning of parents and explain these findings according to attachment theory. METHOD: A systematic literature review was conducted using both keywords and associated MeSH terms in the following databases: PubMed, CINAHL, PSYCInfo, and Web of Science. The aim was to review paediatric oncology literature that focused on the parental couple, and put primary emphasis on relational aspects and/or marital functioning of these parents. Only studies that met this aim, as well as the restrictions for language (either English or French) and date of publication (January 1993 to December 2012) were retained. After synthesis of the results, key findings on these parental couples were paralleled with attachment theory research. RESULTS: Review of the literature showed that paediatric cancer was evidently a difficult experience for these parents and effects of the illness on parental couples were quite varied. Some studies reported negative repercussions, such as increased marital dissatisfaction and conflict (e.g., due to coping style differences), and dissatisfaction with sexuality within the parental couple. However, other studies reported the positive impact on the couple, such as strengthened trust, communication and spousal support. These discrepancies might be explained by differences in attachment styles of these couples; whereby secure couples were more likely to report positive effects on their marital relationship than insecure couples.

RESEARCH IMPLICATIONS: The systematic approach in this review provided a concise synthesis of research on parental couples, while the critical aspect allowed findings to be grouped theoretically and then explained through a relevant theoretical framework: attachment theory. This field of research is generally atheoretical, and this the first time that attachment has been proposed as a conceptual framework for understanding the impact of paediatric cancer on the parental couple. Future research needs to examine this proposed association. CLINICAL IMPLICATIONS: By establishing parallels from findings on parental couples of paediatric cancer patients with findings on attachment theory, we formed an argument that could have significant clinical implications. If future research empirically tests the proposed association and it is significant, clinicians would be able to predict to some extent, which parental couples, based on their attachment tendencies, might experience deteriorations in marital functioning as a result. This in turn could allow for early intervention and support. ACKNOWLEDGEMENT OF FUNDING: CRSH-UdM “small grants”, Fondation CHU Sainte-Justine; Le Centre de recherche interdisciplinaire sur les problèmes conjugaux et les agressions sexuelles (CRIPCSAS).

P1-31
Carers in Medical Consultations: How Can They Support Patients and Be Supported?
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BACKGROUND: Informal carers (e.g. family members/friends) often accompany patients into oncology consultations. They may provide emotional, informational, and logistical support for patients, and participate in medical decision-making. Carers may also change the dynamics of the consultation, influence the patient-physician relationship, and increase the complexity of the encounter. In 3 studies we have explored patient, carer and physician views on the carer role, the roles they actually play and reviewed the evidence on this topic. METHOD: 52 papers were identified...
in a systematic review of quantitative and qualitative studies exploring physician-adult patient-adult companion communication and/or decision-making within medical encounters. Data were extracted, quality reviewed and synthesised. Interviews were conducted, audiotaped, transcribed and coded with 30 patients, 34 carers, 10 oncology nurses and 11 oncologists, regarding their views of the carer’s role, and barriers and facilitators to their appropriate involvement. Twenty audiotaped oncology consultations involving carers were reviewed and on the basis of all of the above, an interaction analysis coding system for triadic consultations was developed and applied to 72 further consultations involving carers. **RESULTS:** Results indicated carers regularly attend consultations, are frequently perceived as helpful, and assume a variety of roles. Some carer behaviors were felt to be more helpful (e.g. informational support) and less helpful (e.g. dominating/demanding behaviors), and preferences for involvement varied widely. Interviews revealed perceived benefits (e.g. support, improved recall, reduced patient burden) and challenges (e.g. dysfunctional family dynamics, conflicting treatment wishes) of family involvement. Facilitators (e.g. oncologists’ encouragement of family involvement), barriers (e.g. blocking behaviors of the oncologist) and health professional strategies (e.g. clarify patient and carer role preferences) were described. Such facilitation however, occurs very rarely in clinical practice. **CONCLUSIONS:** Triadic communication in medical encounters can be helpful but challenging. A new theoretical framework is needed to guide ethical carer involvement in medical consultations. Strategies and training for health professionals are needed. Carers and patients need support to maximise their contribution and ensure carers are adequately supported. **RESEARCH IMPLICATIONS:** Future research could usefully evaluate interventions targeting training for health professionals in ethical communication with carers and patients, and support for carers and patients to maximise communication. **CLINICAL IMPLICATIONS:** Carers require support to maximise their involvement in medical consultations to better support patients, and involve carers to the level the patient and carer desire. **ACKNOWLEDGEMENT OF FUNDING:** This study was funded by the Informed Medical Decisions Foundation (IMDF).

**P1-32**

**Post-Traumatic Stress Symptoms in Parental Dyads of Children Diagnosed With Cancer: A Longitudinal Analysis**

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**BACKGROUND:** Posttraumatic stress symptoms (PTSS) are a common reaction in parents to their child’s cancer diagnosis. However, little is known about how parents’ PTSS develop during the course of the disease and about how fathers’ and mothers’ symptom trajectories are related. The present study had two aims: (1) examine the change in parents’ PTSS and (2) examine the dynamic longitudinal relationship between fathers’ and mothers’ PTSS, exploring the phenomenon of interdependent emotional systems in this population. **METHOD:** Participants of this study were 91 parental dyads whose children were diagnosed with cancer. Mothers and fathers completed the PTSD Checklist - Civilian Version (PCL-C; Weathers et al., 1993) via telephone after the moment of diagnosis, during treatment and after the end of successful treatment or transplantation. The latent difference score (LDS) modelling framework was applied to the data collected at six assessments. The framework of LDS modelling represents an alternative method for the structural modelling of longitudinal data combining features of latent growth curve models and cross-lagged regression models. The models were fit using Mplus (Muthén & Muthén, 1998-2010). **RESULTS:** Results generally indicated that fathers’ and mothers’ PTSS decreased proportionally to their previous symptom levels. Further, LDS analyses revealed that change in fathers’ PTSS was proportional to previous symptom levels in corresponding mothers after the end of successful treatment or transplantation, respectively. That is, mothers with high levels of PTSS put fathers at risk for stagnating or even increased symptoms over time. Reversely, when fathers suffered from high levels of PTSS, mothers with low symptom levels had a protective effect. For mothers, however, change in symptoms was not significantly associated with fathers’ previous levels of PTSS. **CONCLUSIONS:** In conclusion, crucial processes in parental dyads may be overlooked when mothers and fathers are examined as 2 separate units. Previous studies are limited with regard to investigating how parents’ PTSS are dynamically related over time. The findings of this study demonstrate that one parent may act as a risk or, conversely, as a protective factor in terms of the other parent’s development of PTSS. **RESEARCH IMPLICATIONS:** The present analyses of coupled change in PTSS were mainly exploratory, aiming at identifying the phenomenon of interdependent emotional systems. Since the results indicate that parents actually react as an emotional system rather than as 2 separate units, theoretical models of mechanisms by which parental dyads influence each other in symptom development are desirable. On that basis, refined research questions can be addressed in future studies. **CLINICAL IMPLICATIONS:** Future psychosocial strategies may be based on the unique needs of the parental dyad. A more efficient
and rapid route to symptom reduction in one parent may involve considering the role of the other parent. It may be important to buffer the endangering effect of a highly affected other parent, or foster the protective potential of a less affected other parent, respectively. Psychosocial care addressing both parents may strengthen the relationship between mothers and fathers. ACKNOWLEDGEMENT OF FUNDING: This work was supported by grants from the Swedish Research Council (K2011-70X-20836-04-4), the Swedish Cancer Society (2010/276), and the Swedish Childhood Cancer Foundation (PROJ08/010).

P1-33
In Sickness and in Health: Diurnal Salivary Cortisol Patterns in People With Cancer and Their Spouses
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BACKGROUND: Recent studies show evidence of co-variation between healthy couples’ diurnal salivary cortisol secretion, suggesting that they face similar stressors in their shared life. What if one in the couple experiences a disproportionate stressor? The study examines the diurnal salivary cortisol patterns in people with cancer and in their spouses, and investigates if there is any spousal influence on cortisol regulation. METHOD: The study analyzed data collected at a baseline assessment prior to a randomized controlled trial examining the effects of an exercise intervention on cancer-related quality of life. Analysis was based on fifty-three persons with cancer and their spouses. Each couple collected saliva samples at home on the same day (waking, 45 minutes after waking, noon, 5pm and 9pm). Cortisol values were natural log transformed before analysis. They also completed questionnaires that measures health-related quality of life, sleep quality, perceived stress, mood, and social support. RESULTS: Compared to their spouses, cancer patients (mean years since diagnosis = 1.68 years; SD = 1.41) had poorer physical well-being and sleep quality, but perceived greater social support. Couples did not have different salivary cortisol levels and diurnal slopes. Only cortisol levels at waking and 5pm were conjugally correlated. Linear regressions showed (a) patient’s diurnal slope associated with patient’s sleep quality, while spouse’s diurnal slope associated with patient’s, not spouse’s, sleep quality, and patient’s social support; and (b) patient’s and spouse’s morning cortisol level (45 minutes after waking) was associated with the other partner’s perceived stress and social support. CONCLUSIONS: Findings showed that while patients reported poorer physical health, they did not experience significantly different psychosocial and physiological responses from those of their spouses. Similar to past findings, only cortisol levels at morning and evening were correlated, when the couples were more likely to spend time together. For both patients and spouses, diurnal salivary cortisol patterns associated only with patient’s sleep quality.

RESEARCH IMPLICATIONS: This is the first study of the possible co-regulation effect of cortisol rhythms between cancer patients and their spouses. Further prospective research is recommended in light of the limitation of the current study being cross-sectional. CLINICAL IMPLICATIONS: Findings suggest that although cancer is a health threat to an individual, couples face the illness together both in psychological and physiological terms. ACKNOWLEDGEMENT OF FUNDING: None.

P1-34
Couples’ Experiences of Undergoing Treatment for Prostate Cancer Adjustment-Related Difficulties: A Qualitative Study
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BACKGROUND: The diagnosis and treatment of prostate cancer (PCa) can result in significant changes to a man’s physical and emotional functioning, which may adversely affect intimate aspects of his relationship with his partner. Survivorship issues in this population therefore pose unique challenges related to promoting the psychological well-being of couples. This qualitative study explored couples’ experiences of CECT, a manualised six-session couple therapy program delivered by clinical psychologists and psychiatrists via a randomized controlled trial. METHOD: Purposefully sampled couples (N = 10) who completed CECT were interviewed about their experiences of undertaking a specialist mental-health intervention. Interviews were exploratory, but utilised semi-structured prompts to facilitate discussion relating to: (1) Acceptability and perceptions of CECT; (2) Life after treatment for PCa; (3) Impact of PCa on the relationship; (4) Methods of coping; (5) Hopes for the future. Interviews were recorded, transcribed, and checked for accuracy. A thematic analysis was undertaken by three investigators,
using a constant comparative method influenced by grounded theory. Analysis was undertaken simultaneously with data collection, and emerging themes were explored until data saturation was reached. RESULTS: The following themes were prevalent in the data: (1) Returning to a "new" normal - which encompassed life as it was before diagnosis, but with changed perceptions of intimacy. (2) Talking about the unspoken - whereby CECT opened up communication of PCA-related concerns, which were previously unacknowledged between partners. (3) Setting the scene for dealing with future challenges - creating a mutual approach to face the uncertain future, and adapt to difficulties as they arise. (4) Cementing coping strategies used at the couple level - positivity, humour, and affirmation of each partners' feelings, as important coping strategies recognised by couples. CONCLUSIONS: The breakthrough in this CECT approach is the treatment of PCA adjustment-related difficulties systemically, at the couples level. We surmise: (1) Couples reported favourably the opportunity for a mutual supportive forum in which to communicate their fears and concerns. (2) Partners appreciated the opportunity to be involved and acknowledged in the PCA treatment and care process. (3) The couples approach provides a unique leverage point, which likely affords the greatest opportunity for change. RESEARCH IMPLICATIONS: Further research examining support for men with PCA related challenges should prioritise a couples approach. Adaptations to the CECT framework for structuring support may include reducing CECT to 4 face-to-face sessions ± 2 bolster sessions as required, with the option for these additional sessions to be provided via a telephone/internet format. CLINICAL IMPLICATIONS: Specialist mental-health professional's providing CECT were a valued addition to patient care. CECT has clinical relevance for men and their partners requiring support and the couple approach was endorsed by all participants. Alterations to the treatment dose, as suggested by couples, may be clinically appropriate. ACKNOWLEDGEMENT OF FUNDING: This study was funded by beyondblue.

P1-35
Impact of Partners Variables on Depression and Quality of Life in Couples Facing Cancer
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BACKGROUND: The purpose of this study was to examine the impact of partners' variables (patients and partners anxiety, Sense of Coherence (SOC), posttraumatic growth (PTG), relationship quality (RQ) and physical complaints) on depression and quality of life (QOL) in couples facing cancer. METHOD: Questionnaires assessing anxiety and depression, SOC, PTG, RQ, QOL and physical complaints were applied to 207 patients with different cancer types and stages and their partners. Anxiety and depression was measured by the Hamilton anxiety and depression scale, SOC by the 13-item Sense of Coherence scale, PTG by the Posttraumatic Growth Inventory and QOL by the EUROHIS-QOL 8-item index. To determine RQ patients and partners were asked the following question: How happy do you feel yourself in your relationship right now? Hierarchical regression analysis was done to calculate the impact of partner variables on patients and partners depression and QOL. RESULTS: Partners depression and RQ account for 23.7% of the variance of patients' depression. 29.2% of the variance was explained by patients' physical complaints, SOC and PTG. In partners patients' depression and RQ account for 24.7% of the variance of the partners' depression. 36.1% of the variance was explained by partners' physical complaints and SOC. Partners' depression and RQ accounted for 21.4% of the variance of patients QOL. 45.8% of the variance was explained by patients' variables. In partners patients' depression and RQ accounted for 13.4% of the variance of partners QOL. 44.1% of the variance was explained by partners' variables. CONCLUSIONS: These findings demonstrate the needs for survey depression and relationship quality in both cancer patients and their partners. If a depression or worse relationship quality is detected, couples should be referred to a psychiatrist with experience in couple therapy. It can be assumed that if the depression of the partner or the relationship problems is treated properly patient's depressive symptoms can be reduced and his or her quality of life increased. That applies to the partner as well. But this has to be scientifically proven in the future by further studies. ACKNOWLEDGEMENT OF FUNDING: This work was supported by the Zurich Cancer League (Krebsliga Zürich, www.krebsliga-zh.ch).

P1-36
Psychological Distress in Caregivers of Cancer Patients
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BACKGROUND: Caregivers of cancer patients go through a lot of psychological distress. As the sufferings and needs of the patients increase, so does physical, emotional and financial burden of
the caregivers, who often become “second-order patients”.

The aims of the study are:
1. To assess psychological distress of the caregivers of cancer patients.
2. To assess the impact of life events.
3. To assess coping strategies used by the caregivers.

METHOD: A retrospective observational cross-sectional study was done in the setting of oncology service of a tertiary care cancer centre in a developing country. Caregivers of patients referred to the service and who are closely involved in patient care were included. A retrospective analysis of caregivers’ assessments done over a period of 3 months was conducted, noting the sociodemographic details of the caregivers, patient’s disease status, psychological distress of and coping strategies used by caregivers (identified on the basis of interview done with the help of semi-structured proforma) and Life Event Scale score. Relevant statistical analysis was done. RESULTS: 100 (59 men and 41 women) primary adult caregivers of cancer patients between the age group of 18–75 years were assessed. Psychological distress was present in 43% of caregivers, who were between the age group of 21–40 years. High distress was noted in gastrointestinal (60%) and (53%) in haematological lymphoid cancer patients’ caregivers followed by head and neck (33%) and brain tumor (29%) patients’ caregivers. In 36% caregivers, Life event Scale score was high. Majority of caregiver (98%) expressed multiple problems and concerns, main being emotional and practical. Adaptive coping strategies were used by 97 out of 100 caregivers assessed. CONCLUSIONS: Psychological distress was seen in 33% of caregivers of cancer patients. Increased distress is associated with diagnosis of high care giving demands associated with some types of cancers like hematological lymphoid, brain tumor, gastrointestinal and head and neck. The predicted degree of risk for distress due to life events was seen at moderate level in 36% of caregivers. Useful and adaptive coping strategies were used by almost all the caregivers, indicating a high amount of resilience, despite the burden of caregiving. RESEARCH IMPLICATIONS: There is a need for research to assess the impact of psychological interventions (individual or group based) on distress of cancer patients’ caregivers at different stages of treatment. The influence of personality and cultural variables on resilience of caregivers also needs to be studied. Socio-cultural influences on caregiver distress and coping strategies is another challenging area of research. CLINICAL IMPLICATIONS: Considering high levels of distress in cancer patients’ caregivers, specialized psychological and social interventions for caregivers are a priority service area. Clinical efforts are needed to assist distressed caregivers in providing practical support to the patient. Tailor made psychological interventions for helping caregivers to attend to their own emotional needs and taking into account their coping strategies, will be useful.

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PI-37
When a Parent Has Cancer: Developing an Educational Programme to Enhance Supportive Care for Patients and Young Families
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BACKGROUND: There is an established need for family-centred care when a parent has cancer. Oncology professionals often avoid issues associated with patients’ families and children because they lack confidence, feel inadequately prepared and unsupported. Targeted, evidence-based educational initiatives are needed to improve the quality of care. A pilot educational programme was developed to enhance the supportive care for patients and young families when a parent has cancer. The development, implementation and evaluation of the programme are described. METHOD: The development of the programme followed examination of theory and research and consultation with psychology and oncology and educational experts. Attachment, child development and systemic theory informed the content; models of adult learning, problem-based and reflective practice the learning methods. It was run 3 times with professionals from a specialist cancer treatment centre - 10 per programme. Evaluation pre-post programme: prior to participants were asked about their hopes for the programme and concerns about providing support. On completion they were asked about their experience of programme, its influence on clinical practice, their feelings about providing support. Qualitative analysis was used for questionnaire data. RESULTS: Thirty-one professionals from varying backgrounds took part. Before, they described fears and felt they lacked skills, knowledge, experience, and emotional capacity. Afterwards, they were enthusiastic about providing support and meeting challenges more pragmatically. They reported increased confidence: initiating conversations; explore emotions; assess family coping; providing support; facilitate parent-child communication; had increased understanding of the impact of illness on children at different ages; open communication; and importance of self-care. Group reflection, support and clinical scenarios were seen as essential to learning. All anticipated a positive change to their clinical practice. Some had concerns about forgetting skills, balancing family support with other roles, and time for self-care. CONCLUSIONS: The programme successfully increased oncology professionals’ confidence and enthusiasm; and perception of their skills, ability...
and knowledge in offering supportive care when a parent has cancer. It was highly acceptable to professionals from a range of backgrounds, including medics, nurses and allied health. Findings suggest that group-based reflection and clinically-based problem-solving exercises are important factors in building confidence, mechanisms of support, and helping participants connect learning to the clinical context. Professionals experience a significant emotional burden providing support to young families. The programme helped to deepen professionals’ appreciation of their emotional needs and encourage self-care. RESEARCH IMPLICATIONS: Initial findings suggest the programme is beneficial and suitable for further evaluation. Further research following-up participants at timed periods after completing the program is needed to assess whether learning outcomes are transferred to the clinical setting, and what professional support mechanisms sustain the provision of supportive care, and help to manage the emotional burden on professionals. Further research would usefully also include patient and family perspectives on the quality of care provided. CLINICAL IMPLICATIONS: There is an unmet need for family-centred care when a parent has cancer. The programme is a useful step toward enhancing professionals’ supportive care in this underrepresented area. Systematic provision of support to patients and families that encourages open communication, assesses family coping, and considers the needs’ of children is likely to help prevent psychological difficulties occurring in children and family members. It may also help to identify vulnerable families where specialist services are needed. ACKNOWLEDGEMENT OF FUNDING: The Royal Marsden Cancer Charity.

P1-38
Creative Therapy for Children of Cancer Patients
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BACKGROUND: It is more recognized that cancer and its treatment have impact on the emotional, cognitive and social life of children of cancer patients. At the psycho-oncology foundation the Vruchtenburg (Rotterdam, the Netherlands) the application of creative therapy for children of cancer patients has been evaluated in terms of the perceptions by parents on the quality of the therapy (satisfaction, reaching the aims), and progress of the children in expressing their emotions and social activities. METHOD: The children (6–18 years) did participate in 6–8 sessions doing all kind of creative expressions: painting, drawing and molding. A questionnaire was sent to the parents of children who followed the therapy during 2009–2012. The questionnaire contains standardized questions about the aims and effects of the therapy, the impressions of the parents on changes in the children, and the satisfaction with the therapy. Forty-three parents received the questionnaire; 24 questionnaires were sent back; the non response was mainly due to the physical and psychological condition of the parents. RESULTS: The parents did evaluate the therapy with a mean score of 8.4 (10 point scale). Nearly all parents (91%) indicated that their aims were realized. They perceive that their children did express more emotions, paid attention to their feelings of mourning, and could easier to talk about the illness and their emotions. The parents indicate an improvement of the functioning of the children: less expression of anger, sadness and anxiety. The therapy gave the children a place to talk about their emotions and experiencing that they are not alone with their problems. CONCLUSIONS: The creative therapy is evaluated very positively by the parents. It leads to changes in the emotional life of children and their social functioning. The therapy did fulfill their aims. RESEARCH IMPLICATIONS: The current positive evaluation is not measuring the objective effects of the therapy, but only the perception by the parents, which may be biased in the perception of the emotional and cognitive problems of their children. There is a need for further research applying follow-up measures and comparing this therapy with other interventions. CLINICAL IMPLICATIONS: Creative therapy is a fruitful approach to support children of cancer patients to cope with their emotional problems. It is advised to offer this therapeutically approach in Dutch center for psycho-oncology for children of cancer patients. ACKNOWLEDGEMENT OF FUNDING: No.

P1-39
Abstract withdrawn

P1-40
Valleys: A Webseries About Survivorship and Caregiving for Young Adults With Metastatic Cancer
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BACKGROUND: Film has quickly become a dominant form of communication around the world. This is shown by the fact that one billion people watch videos on YouTube every month. Psychosocial oncology professionals can use the medium of film in their practice. The purpose of this presentation is to provide an example of a freely available film tool, Valleys: The Webseries, that can be used in individual and family counselling. METHOD: This
The presentation will use Episode 3 – “This Guilty Feeling” from the newly released webseries, Valleys, to illustrate how film has the ability to teach important coping behaviours and open lines of communication between cancer survivors and their supporters. Set in the majestic and wild Grand Canyon of the southern USA, this webseries includes the perspectives of one young adult woman with metastatic cancer, Amy, her best friend Annie and her husband and daughter as they explore their relationship and grapple with the unique physical and emotional challenges that cancer has brought into their lives. RESULTS: The webisode shows the emotional burden that is placed on the supporters of someone with cancer as well as the cancer patient themselves. The story emphasizes the importance of open and honest communication between cancer survivors and their supporters and demonstrates that everyone touched by cancer experiences the same emotions, just for different reasons. The universality of the difficult emotions faced in a cancer experience often goes unnoticed because each person involved does not feel like they should be “burdening” each other with their feelings. This webisode gives the opportunity to broach this subject during family or individual counselling. CONCLUSIONS: Film is a universal language that can be used for many different purposes in clinical psychosocial oncology practice. CLINICAL IMPLICATIONS: Attendees will learn about a freely available film tool that can be used in their clinical practice with metastatic cancer patients as well as gain a candid and engaging insight into the challenges faced by both cancer survivors and their supporters. ACKNOWLEDGEMENT OF FUNDING: Lazarex Cancer Foundation, Chasing Rainbows Young Adult Cancer Advocacy, Survive & Thrive Expeditions.

PI-41
Trajectories of Marital Satisfaction for Couples Confronted to Husband’s Prostate Cancer
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BACKGROUND: To be face to a prostate cancer and the radiotherapy’s effects, patients often need for a caregiver on a daily basis: their wife. However, both spouses are confronted to an important distress. In this deleterious context, marital satisfaction is not only an element of well-being, but could also be a determinant of disease’s adjustment. The purpose of this study was to define the marital adequacies’ trajectories and psychosocial determinants associated. METHOD: Our sample was composed by 90 French prostate cancer patients, who received radiotherapy (mean age: 67 years), and their spouses (mean age: 62 years). A longitudinal approach was used with 4 times of evaluations from the beginning of radiotherapy to 4 months after treatment. Both husbands and wives completed the following questionnaires. State anxiety (Spielberger’s STAI adapted by Bruchon-Schweitzer and Paulhan), social support (Segrestan et al.’s QSS) and coping strategies (Lazarus and Folkman’s WCC adapted by Cousson et al.) were evaluated at T1. Marital satisfaction (Spanier’s DAS adapted by Antoine et al.) was completed at T1, T2, T3 and T4. RESULTS: Patients’ and spouses’ marital satisfaction whether in groups or within each matched pair is stable between the 4 measurement times and reflects a good fit between spouses. Overall, adequacy also remained stable. However, 5 trajectories of dyad adequacy could be distinguished (affershock, stable mismatch, stable match recovering, unstable). No significant effect was found between STAI, QSS or WCC at T1 and those trajectories, except thelow spouses’ perceived social support at T1 increasing the probability of belonging to the “stable mismatch” group. CONCLUSIONS: We aimed to make a first approach of adequacy pathways for the marital satisfaction during a prostate cancer disease. In accordance with previous researches, we have found overall a good stable adequacy between patients’ and wives’ adequacy, hiding heterogeneity of reactions. The most frequent (“affershock”), concerning 26.4% of the couples, improve adequacy after the beginning of treatments, but led to a later decrease. The presence of a subgroup of wives perceiving low social support in the “stable mismatch” group confirms the importance for a following of the 2 spouses. RESEARCH IMPLICATIONS: This research highlight the importance for taking account the 2 spouses’ point of view when investigating marital satisfaction. Moreover, in terms of methods, this study aimed to compare patients with their wives, not only comparing 2 groups like most of the studies, but preserving the unique relation of each couple. Further studies are still necessary to develop statistical analyzes to determine developmental trajectories for paired samples. CLINICAL IMPLICATIONS: This study support previous recommendations for practitioners to keep an attention on both of the spouses when one of them is confronted with cancer. Illness affects not only the patient’s life and deleterious situations can preexist that should not be ignored. More generally, patients’ marital satisfaction should be considered not just as an intimate question but as a part of quality of life. ACKNOWLEDGEMENT OF FUNDING: INCA, French National Cancer Institute and French League against Cancer.
P1-42
Start the Talk: Supporting Children and Adolescents When a Family Member has Cancer - A Guide for Educators and Health Care Professionals
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BACKGROUND: Although most people with cancer are older, a significant number will develop cancer during child rearing years. Studies on the impact of parental cancer suggest children and teens experience distress when living with a parent with cancer. Those whose parents have more advanced disease appear to be the most distressed. Few resources exist to guide educators and health care providers on how best to support children and adolescents when a family member has cancer. METHOD: The Canadian Association of Psychosocial Oncology (CAPO) Education Committee, supported by the de Souza Institute, developed an evidence-based online education resource for health care professionals and school based personnel to support children and adolescents when a family member has cancer. We conducted a systematic review and meta-analysis of depression and anxiety studies comparing long-term survivors of cancer with cancer survivors. RESULTS: The prevalence of depression was 4.2% among cancer survivors and 26.3% in 1285 spousal relatives. The pooled relative risk (rr) was 1.01 (95% CI = 0.86 to 1.20). The prevalence of anxiety was 28.0% in the pooled sample of 1230 individuals. RESULTS: The prevalence of depression was 26.7% in the pooled sample of 1437 cancer survivors and 26.3% in 1285 spousal relatives, a pooled relative risk (rr) was 1.01 (95% CI = 0.86 to 1.20). The prevalence of anxiety was 28.0% in the pooled sample of 631 cancer survivors and 40.1% in 539 spousal relatives. The pooled relative risk (rr) was 0.71 (patients vs relatives) suggesting 41% higher anxiety in relatives than LCS. CONCLUSIONS: Results

P1-43
Comparing Depression and Anxiety in Spousal Relatives With Cancer Patients: Meta-Analysis of Long Term Cancer Survivors
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BACKGROUND: There is considerable debate about levels of depression and anxiety in spousal relatives of cancer patients in the early stages and also in the long-term. We aimed to discover whether depression/anxiety are more or less common in spousal relatives compared with long-term survivors of cancer. METHOD: We defined long term survivors as those 2 years or more since a diagnosis. We conducted a systematic review and meta-analysis 12 comparative depression analyses (against spousal relatives) and 5 comparative anxiety studies (against spousal relatives). In the 12 analyses examining the prevalence of depression studies recruited 2722 individuals a mean of 4.2 years after cancer. The anxiety studies recruited 1230 individuals. RESULTS: The prevalence of depression was 26.7% in the pooled sample of 1437 cancer survivors and 26.3% in 1285 spousal relatives, a pooled relative risk (rr) was 1.01 (95% CI = 0.86 to 1.20). The prevalence of anxiety was 28.0% in the pooled sample of 631 cancer survivors and 40.1% in 539 spousal relatives. The pooled relative risk (rr) was 0.71 (patients vs relatives) suggesting 41% higher anxiety in relatives than LCS. Within this data there appeared to be one outlier and if removed the rr was 85% higher in spousal relatives vs LCS. CONCLUSIONS: Results
suggest that risk of depression is equivalent in relatives of long-term cancer patients but risk of anxiety is actually higher. After 2 years of more post-diagnosis anxiety remains very high in spousal relatives. RESEARCH IMPLICATIONS: Results may be mediated by time since cancer, type of case-ascertainment and burden of disease in cancer patients. These moderating factors should be clarified in future research. CLINICAL IMPLICATIONS: From this study we suggest screening and surveillance for mood disorders is extended to relatives of cancer patients, and extended to include relatives of long-term survivors. ACKNOWLEDGEMENT OF FUNDING: None.

P1-44
Family Participation in the Adjustment of Children and Adolescents who Survive Cancer
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BACKGROUND: The aim of this non-experimental study was to determine the active participation of the family in the adjustment of children and adolescents who survived cancer. METHOD: The sample was represented by 21 children and adolescents of both sexes, between 2 and 21 years old, assisting to the Oncology department in the University Hospital, and one parent for each child. The questionnaire applied to each parent was Family Involvement in the Past (PIP) which assesses the behavioral and emotional support given by family members as well as the level of patient adaptation. RESULTS: High parent involvement (M: 28) was shown, with the mother having a 70% of intervention. The average emotional support (M: 24.3) and high behavioral support (M: 78) found showed that parents have tools to deal with the nuisance of the child. The negative emotions present in the parents during treatment were stress*, anxiety*, impotence*, fear*, depression* and sadness*, all decreasing significantly at the time of completing the treatment. Positive emotions such as joy* peace* and happiness* were also found. *(P > 0.05): CONCLUSIONS: The mother had the greatest participation in terms of emotional and behavioral support, showing that parents have tools to deal with the discomfort of the child. The negative emotions during treatment disappeared in the period of survival, showing a new period of adjustment appearing in the opportunity of well being. Surviving cancer involves a series of trials that must be overcome from the physiological perspective as a “cure or remission” of disease, as well as the healing of “emotional” wounds that the situation involves. RESEARCH IMPLICATIONS: There are many questions needing to be answered when working with oncology patients: adjustment to new life, family support, treatment of a serious illness. This research gives appropriate answers to these questions. CLINICAL IMPLICATIONS: Integrated, multidisciplinary work between physician and psychologist should be strengthened each day to make it function as a tool to accelerate steps towards a happy and healthy survival. ACKNOWLEDGEMENT OF FUNDING: None.

P1-45
Abstract withdrawn

P1-46
Characteristics Associated with Posttraumatic Stress Symptoms and Quality of Life in Children with Parental Cancer in Japan
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BACKGROUND: About a quarter of cancer patient have dependent children. Cancer not only affects the patients, but the experience also encroaches deeply on family life. Recently in Japan, there is a greater recognition for the need to understand the effects of parental cancer on children. However, there are few studies in Japan evaluating the relationship between characteristics of the parents with cancer and the functioning of their children. METHOD: We conducted a multi-institutional cross-sectional study comprising children of cancer patients hospitalized or visiting on an outpatient basis for treatment or follow-up at one of four major clinical centers in Japan between October 2011 and December 2012. Children were considered eligible if they were between ages 6 and 18 years. Questionnaires were administered to the children and their affected parent with cancer to collected information on sociodemographics, psychosocial factors, quality of life (QOL), and illness-related characteristics. These included a scale of social-support, emotional condition (HADS and IES-R), family functioning, posttraumatic stress disorder-reaction index (PTSD-RI), and PedQL for children. RESULTS: Eighty-two children and their parent affected with cancer returned questionnaires. The median ages of the parents and children were 45 years (range: 36–53 years) and 13 years (range: 6–17 years), respectively. Forty-three percent of children aged 6–14 years and 12% of children aged...
15–17 years showed symptoms of posttraumatic stress. Daughters reported higher PTSD-RI scores than sons (p = 0.012). Single parent (p = 0.002) and no siblings (p = 0.003) were associated with lower QOL based on children’s self-reported data. Additionally, lower QOL of children was associated with anxiety (p < 0.001), depression (p < 0.001) and posttraumatic stress syndrome (PTSS) (p < 0.001) of parents. CONCLUSIONS: To our knowledge, this is the first study to evaluate the characteristics of children affected by parental cancer in Japan. Our data showed PTSS to be more frequent in elementary and junior high school children than high school children and affected more girls than boys. Low QOL of children was related to having a single parent and no siblings. Poor mental health of parents affected physical, emotional and social functioning of children. These findings suggest that total care for cancer patients should include their children. RESEARCH IMPLICATIONS: Our previous research showed that 70% of clinicians believe it is better to support children with parental cancer, and 85% of them indicated there to be a lack of appropriate data about children affected by parental cancer in Japan. We demonstrated that considerable proportion of children with parental cancer suffer from psychosocial issues and suboptimal QOL suggesting a need for further studies to clarify the risk factors and evaluate the effectiveness of potential intervention strategies. CLINICAL IMPLICATIONS: The number of individuals affected by cancer in their 30’s, 40’s and 50’s are increasing. Many have school aged children making it increasingly necessary for clinicians to consider the children with parental cancer in an effort to provide total care. Our results suggested that lower QOL in children is related to their parents’ emotional state and the composition of family. Total care needs to have a field of vision that includes the support of children. ACKNOWLEDGEMENT OF FUNDING: This study was supported by a grant from the Japanese Ministry of Health, Labour and Welfare.

PI-47

Is Primary Caregiving Stress Related to Secondary Caregiving Stress? A Cross-Sectional Study of Chinese Family Cancer Caregivers

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BACKGROUND: Caregivers stress is cited as a focus of intervention for effective informal cancer care in the field of psycho-oncology. Existing literature on caregivers are plagued two major limitations: First, few studies examine how stress related to care provision (primary stress) spreads and influences the other aspects of the caregivers’ life (secondary stress). Second, few studies examined caregiver stress in a patient-caregiver dyad. This study contributes to our understanding of caregiver stress by addressing these limitations.

METHOD: 235 pairs of Chinese cancer patients and their family caregivers completed questionnaires on their perceived social support (Multidimensional Scale of Perceived Social Support), perceived stress (Perceived Stress Scale), mood (Hospital Anxiety and Depression Scale), and self-reported mental health (Short Form 12). To measure the impacts on cancer caregiving on caregivers’ financial well-being, health status, and daily life schedule (secondary stress), caregivers also completed the Caregiver Stress Assessment (CRA).

RESULTS: Regression analyses with caregivers’ demographics background, perceived stress related to primary cancer caregiving, as well as care recipients’ demographics, cancer-related medical condition, mood, and self-perceived social supports as reported by caregiver-patient dyads were entered as possible predictors showed that: (a) caregivers’ perceived caregiving stress was associated with all dimensions of secondary stress (betas = 0.16, 0.10 and 0.21); (b) impacts on daily schedule was also associated with patient’s depression and physical health (betas = −0.06 and 0.19); and; (c) impacts on caregiver’s health was associated with caregivers’ gender and perceived family support (betas = 1.0 and −0.9). CONCLUSIONS: The present study found that primary caregiving stress proliferated into secondary stress in the context of primary family cancer giving. Caregivers’ perceived cancer caregiving stress appeared to be a major factor associated with all aspects of secondary stress. Impact on caregivers’ schedule was associated with care recipients’ mood and physical functioning, whereas impacts on caregivers’ health was associated with caregivers’ gender and the self-perceived family support. RESEARCH IMPLICATIONS: The present study showed that primary stress is associated with secondary stress in the context the cancer caregiving among Chinese patient-caregiver dyads. The present study leaned empirical support to and extended the application of the stress process model (Pearlin, Mullan, Semple, and Skaff, 1990).

CLINICAL IMPLICATIONS: The findings of the present study highlighted the multi-faceted needs of cancer caregivers and the care recipients. The cultural obligation of taking care of one’s family member imposes considerable stress on the caregivers. The present study suggested that to improve quality of informal caregiving, it is important to facilitate
Expectation management of the caregivers, to enhance the family support of the caregivers, and to address the psychological and physical needs of the care recipients. ACKNOWLEDGEMENT OF FUNDING: None.

PI-48
Dyadic Coping of Patients With Hematologic Malignancies – Preliminary Findings of a Longitudinal Study
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BACKGROUND: Hematological cancer is related with multidimensional burden for the patients and their partners. This is caused by the life threat itself and by the prolonged and often exhausting treatment including transplantations for the patient. The concept of dyadic coping (Bodenmann 1995) acknowledges this fact. In this context, supportive and not helpful ways of coping can be distinguished. METHOD: Therefore, 320 patients and their partners (dyads) will be included in a German multicenter study (Leipzig and Ulm). In a prospective design with 2 time points (t1: < a half year after diagnosis; t2: 6 months later) patients, aged 18 to 75 with ICD-10 diagnosis (C81–C96; D46) complete a questionnaire assessing dyadic coping (instrument: Dyadic Coping Inventory) and further psychosocial parameters (e.g. distress with PHQ-4, quality of life with the SF-12, attachment with a German short version of the ECR). Further, 15 problem-centered interviews focusing on dyadic coping processes will be conducted. RESULTS: We will present findings concerning (a) the course and changes in dyadic coping over time, (b) dyad-related predictors of dysfunctional coping, (c) associations of dyadic coping and personal, pair- and illness related characteristics and (d) specific aspects of dyadic coping in dyads with one partner having hematological cancer. CONCLUSIONS: The results will provide an enhanced understanding of dyadic coping in partnerships of haematological cancer patients. Further, the results could have impact on the development and adaptation of psychosocial interventions for dyads that are faced with cancer. RESEARCH IMPLICATIONS: Common coping processes in a partnership have the potential to encourage or to hamper individual coping. Therefore, it is necessary to investigate interactions of illness-related coping of the patient and the partner in order to conduct patient-centered psychosocial research for cancer patients. CLINICAL IMPLICATIONS: The systematic consideration of dyadic coping could contribute to an early detection of dysfunctional and maladaptive coping. Due to an early identification of factors related to dysfunctional dyadic coping appropriate and tailored psychosocial interventions can be offered early. ACKNOWLEDGEMENT OF FUNDING: This study is funded by a grant from the German José Carreras Leukaemia-Foundation (grant: DJCLS R 12/36).

PI-49
The socio-Economic Costs of Back Pain on Working Children of Working Patients with Cancer of the Cervix
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BACKGROUND: Back pain is a common reason of multiple doctor consults in patients with cervical cancer. It affects all ages but worse at the age of >50. The study explored the socioeconomic effects of back pain on the working children of working patients. METHOD: Data consisted of working children whose parents presented with back pain with a primary diagnosis of cervical cancer. A questionnaire was sent to the children. Cross sectional study. RESULTS: Over 30% of the participants reported absence from work at least 10 days in an year to assist their parents visit doctors, buy medication, attend non pharmacological modalities and do chores for their parents. 40% reported that in 1 year, >40 days were away from families, the longer the duration of pain, the more the absence time. Adjustments of work load factors, at home, at work, and socio-economic standing showed that pain was a relatively independent determinant of care burden.>75% reported missing an engagement in 1 year. The scenario was worse if there were other underlying conditions. CONCLUSIONS: The burden of back pain with cancer of the cervix affects the whole family both socially and economically. It is important that excellent management coupled with counseling is practiced. Supportive care for the patient and family is an important aspect of quality care. RESEARCH IMPLICATIONS: Physical aspects of care are important when dealing with patients with cancer. But social factors are usually ignored with consequence more distress for patients and families. A bigger research need to be undertaken to assess this situation. CLINICAL IMPLICATIONS: Though the parents were working, children had to chip in financially and assist their parents to access better care which became even more frustrating when the pain was not controlled. As such paying attention to psychosocial settings greatly enhance the care patients receive. ACKNOWLEDGEMENT OF FUNDING: No acknowledgement.
P1-50
Quality of Life in the Informal Carers of Cancer Patients with Cachexia
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BACKGROUND: Informal caregivers have an important role in managing care and supporting patients with cancer. The challenges associated with caregiving may be increased if the patient also has cachexia, a multidimensional syndrome characterised by involuntary weight loss, muscle atrophy and physiological changes which cause progressive functional impairment. The aim of this study is to identify the quality of life (QoL) issues which are important for carers of cancer patients with cachexia. METHOD: Relevant electronic databases were searched using free text and MESH-terms related to cancer, cachexia, QoL and carers. Full papers were retrieved for studies which described qualitative interviews with the informal caregivers of cancer patients with cachexia or unintentional weight/appetite loss. Studies of carers of patients with paediatric cancers were excluded as were studies in which the carer only acted as a proxy for the patient. The reference lists of the retrieved articles were checked for additional articles. Direct quotes from carers were extracted from the articles by 2 judges, who carried out open content analysis. RESULTS: The search found 15 relevant studies with 114 direct quotes. In about half the quotes, there was no information about how the carer’s own QoL was affected. QoL issues in the remaining quotes fell under the following general headings: - dissatisfaction with health care professionals; feelings of guilt, worry and anger over patient’s eating; change to own diet and eating habits; missing past food-related experiences; empathy and sympathy for patient; not knowing what to do for the best; family conflict; putting a lot of time and energy into food. CONCLUSIONS: The complexity of caring for a cancer patient with cachexia translates into a range of problems and experiences for informal carers. However, carers can sometimes be reluctant to report on how their lives are affected and focussed research with carers is required to provide a complete list of the relevant QoL issues. RESEARCH IMPLICATIONS: Carers of cancer patients with cachexia may be too focussed on the patient to report fully on their own experiences. Carefully designed interviews are therefore required to fully explore the impact on the QoL of carers. These interviews will also inform the content of psychoeducational interventions for families affected by cancer cachexia. CLINICAL IMPLICATIONS: The literature shows the challenges of caring for a loved one with cachexia. Clinicians should not ignore the patient’s weight loss: carers want their acknowledgement and advice. It may help the patient, and their relationships, if professionals acknowledge and address carers’ feelings of guilt, worry and anger, and provide advice to carers as well as patients on how best to address eating difficulties in cachexia.

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P1-51
The Peculiarities of Perception of Cancer of the Oncologikal Patients, People Related to Them and Within the Society
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BACKGROUND: Today in Armenia, despite the wide prevalence of the disease, public perceptions of cancer remain mostly imaginary and are mainly based on myths and fear rather than scientific facts. An important indicator of Armenian society’s wrong attitude towards cancer is the fact that the true diagnosis is often concealed from the patient. This work was aimed at research of the peculiarities of attitude towards cancer with groups having various relations with the disease. METHOD: To achieve maximal efficiency of the research, methods of survey, association and testing were selected and the following methodologies were utilized: a survey developed specifically for this research and aimed at revelation of attitudes towards cancer was used with all research groups. The group of patients diagnosed with cancer was additionally tested with Behterev Institute personality test (LOBI) aimed at revelation of attitudes towards cancer was used with all research groups. The group of patients diagnosed with cancer was additionally tested with Behterev Institute personality test (LOBI) aimed at revelation of types of attitudes towards diseases and SF-36 health survey, which belongs to the unspecified questionnaires aimed at assessment of quality of life. Microsoft Excel and SPSS (Statistical Package for the Social Sciences) software were used for data processing. RESULTS: Taking into account the type of relation with cancer, the survey sample is divided into 5 main groups: (1) cancer patients, (2) relatives and friends of cancer patients, (3) oncologists, (4) junior medical staff and (5) the general public - group of individuals with no direct relation with cancer. First 20 participants are included in each of the first 4 groups while 60 are included in the fifth group. Summing up the research in this 5 pilot groups and combining the results, the following conclusions were made. CONCLUSIONS: Cancer patients’ attitude towards cancer is ambiguous and contradictory. The attitude of cancer patients’ relatives is extremely negative: the fact of the disease itself is considered to be unfair and horrific. In the group of junior medical staff, it was found that the intensive, close interaction with cancer patients is mainly based on compassion and emotional support. Oncologists
P1-52
A Plea for Total Care: An Examination of the Doctor-Patient Relationship in the Context of Breast Cancer Care in Egypt
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BACKGROUND: The research is an empirical study examining the doctor-patient relationship as an important foundation to the quality of health care with patients with breast cancer in Egypt. The research focuses on four bioethical concerns that emerge within the doctor-patient relationship: equal allocation of resources, disclosure of diagnosis, decision-making and informed consent; for analyzing such relationship in the context of cancer care in Egypt. METHOD: This is a qualitative research mainly relying on semi-structured in depth interviews using open-ended questions to explore patients and doctors' perceptions and attitudes on the various bioethical constructions and the doctor-patient relationship. Eleven patients with breast cancer and nine doctors were interviewed coming from both public and private medical institutions in Cairo. RESULTS: The bioethical concerns are culturally constructed in Egypt unlike the already institutionalized bioethical principles in the west. In many cases, doctors and patients' perceptions differ in relationship to the way and degree of disclosure of diagnosis. Doctors do not negotiate power with patients as they feel and are expected to always know what is right, while some patients demand participation in the treatment decision-making. Although informed consent is formally institutionalized it is not explained thoroughly to patients, leading to disappointments post breast surgery. Equal allocation of resources has been recognized as a major public problem influencing the doctor-patient relationship. CONCLUSIONS: The culturally constructed bioethical concerns are determined by several factors affecting the doctor-patient relationship with breast cancer in Egypt. These factors include the nature, severity, and risk of the illness, the illness’ psychological impact on patients, family structure, the socio-economic position of both patients and doctors, and the medical institution. The doctor-patient relationship is just another contextualized social relationship. Adapting the bioethical principles to fit the context within which the clinical encounter is taking place without comparing it to the western basis will improve the doctor-patient relationship enhancing patients' satisfaction and compliance thus improving the quality of health care. RESEARCH IMPLICATIONS: This research is an initial exploratory study to the doctor-patient relationship and bioethical principles in Egypt. This research should not be generalized but can be used by other researchers and policy makers to explore new bioethical guidelines. Researchers can also administer a larger scale to draw new guidelines and further improved quality of health care programs. CLINICAL IMPLICATIONS: The doctor-patient relationship is poorly described and misunderstood within the clinical encounters of breast cancer in Egypt increasing patients' dissatisfaction and non-compliance to treatment. Clinicians should consider all the different aspects that play a role in shaping the doctor-patient relationship in order to institutionalize bioethics for improving the relationship. A plea for total care is called for putting into consideration an integrated perspective: clinical, psychological, socio-economic, cultural, spiritual, political and educational. ACKNOWLEDGEMENT OF FUNDING: None.

P1-53
What are the Factors Associating With Caregiver Identity in Cancer Care? A Cross-Sectional Study of Chinese Family Cancer Caregivers
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Poster Abstracts of the IPOS 15th World Congress
BACKGROUND: Numerous studies have identified the positive role informal cancer care in enhancing quality of life of the care recipients. However, little is known about associating factors of caregiver identity in primary cancer caregiving within a family; and that available studies focused primarily on Caucasian population. Thus, this study aimed to bridge the gap in existing knowledge by identifying factors within the patient-caregiver dyads that are associated with caregiver identity in the Chinese community. METHOD: 235 pairs of Chinese cancer patients and their family caregivers were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the “self-esteem” subscale of the Caregiver Stress Assessment (CRA), which is presumably a proxy measure for caregiver identity; whereas the care recipients completed questionnaire on their self-reported mental and physical health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. RESULTS: Caregiver identity was significantly correlated to care recipients’ mental functioning \((p = -0.35)\), and; caregivers’ social support from friends \((p = 0.32)\) as well as perceived stress in caregiving \((p = -0.35)\). Caregiver identity was not associated with family support as well as caregivers’ physical functioning. Regression analyses with care recipients’ mental health, caregiver’s social support from friends and perceived stress entered as possible predictors found that higher level of caregiver identity was associated with: (a) higher level of caregivers’ perceived support from friends, (b) higher level of caregivers’ perceived stress, and; (c) poor care recipients’ self-reported mental health status. CONCLUSIONS: Contrary to existing literature on caregiving identity, the present study found that perceived stress in caregiving as well as the care recipients’ impaired mental state appeared to be the building blocks for Chinese caregivers’ identity. Nevertheless, it is consistent with existing literature that caregivers who received more supports from friends are more likely to report a lower level of sense of caregiving burden. RESEARCH IMPLICATIONS: The present identified factors associated with caregiver identity of Chinese primary cancer caregiver in the family. The paradoxical findings on the effect of perceived stress and care recipients’ mental health status warranted additional research efforts to further explore the phenomenon in the Chinese community. CLINICAL IMPLICATIONS: The results of the present study also highlighted the importance of cultural sensitivity in understanding caregiver identity and burden, as well as informal health practices in psycho-oncology.

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PI-54
Does Caregiver Stress Mean Differently for Male and Female Cancer Caregivers? A Cross-Sectional Study of Chinese Family Primary Cancer Caregivers
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BACKGROUND: Informal cancer caregiving has long been recognized as a stressful experience. Cancer caregiving resulted in impairments to daily life schedule, financial arrangement, family relationships, and physical health of the caregivers. Little is known about caregiving stress across the gender. This study attempts to explore whether caregiver stress means differently to Chinese male and female caregiving spouse, in the context of the patient-caregiver dyads. METHOD: 146 pairs of Chinese cancer patients and their caregiving spouse were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the Caregiver Stress Assessment (CRA); whereas the care recipients completed questionnaire on their self-reported mental and physical health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. For this study, a total of 72 male caregiving spouses (49.3%) and 74 female caregiving spouses were surveyed (50.3%). RESULTS: Regression analyses with patient- and caregiver-perceived social support, patients’ mental and physical health, and caregivers’ perceived stress entered as possible predictors of impairments on caregivers’ financial arrangement, daily schedule, and family relationship found that: (a) impacts on financial arrangement were associated only with support from family for the females \((\beta = -0.29)\); (b) impacts on schedule were associated with caregivers’ support from friends for the females \((\beta = -0.41)\), but with the patients’ familial support for males \((\beta = 0.30)\), and; (c) impacts on family relationship were associated with caregivers-perceived support from friends for both genders \((\beta = -0.17\) and \(-0.28)\). CONCLUSIONS: Caregivers’ support from friends appeared to have the protective effects on family relationships for both gender. Nevertheless, impairments on financial arrangements and daily scheduling were associated with different sets of factors for caregiver of different gender. Caregivers’ familial support appeared to have the protec-
Carry That Weight: A Comparison of the Impacts of Cancer Caregiving on Male and Female Chinese Family Caregivers

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BACKGROUND: Cancer not only impacted on the patients, but also on their caregivers. Cancer caregiving resulted in impairments to daily life schedule, financial arrangement, family relationships, and physical health of the caregivers. Little is known about caregiving stress across the gender. This is the purpose of this study to explore whether impact of caregiver stress means differently to Chinese male and female caregiving spouses in the context of the patient-caregiver dyads. METHOD: 146 pairs of Chinese cancer patients and their caregiving spouse were surveyed. The caregivers completed a questionnaire on their perceived stress (Perceived Stress Scale) and the Caregiver Stress Assessment (CRA); whereas the care recipients completed questionnaire on their self-reported mental and physical health (Short Form 12). In addition, the patient-caregiver dyads also completed a measure on their perceived social support (Multidimensional Scale of Perceived Social Support), as well as their demographics. For this study, a total of 72 male caregiving spouses (49.3%) and 74 female caregiving spouses were surveyed (50.3%). RESULTS: Regression analyses with patient- and caregiver-perceived social support, patients’ mental and physical health, and caregivers’ perceived stress entered as possible predictors of impairments on caregivers’ financial arrangement, daily schedule, and family relationships found that: (a) impacts on financial arrangement were associated only with support from family for the females (β = −0.29); (b) impacts on schedule were associated with caregivers’ support from friends for the females (β = −0.41), but with the patients’ familial support for males (β = 0.30); and (c) impacts on family relationship were associated with caregivers-perceived support from friends for both genders (βs = −0.17 and −0.28). CONCLUSIONS: Caregivers’ support from friends appeared to have the protective effects on family relationships for both gender. Nevertheless, impairments on financial arrangements and daily scheduling were associated with different sets of factors for caregiver of different gender. Caregivers’ familial support appeared to have the protective effect on disruptions of financial arrangement, daily schedule and family relationships only for the female caregivers. Whereas for the male caregivers, self-perceived stress and supports from friends appeared to have the protective against caregiver stress, whereas patients’ support from friends seemed to mitigate disruptions of daily life schedule. RESEARCH IMPLICATIONS: At present, existing literature studied caregiver stress without taking adequate consideration to the possible gender effect. And thus, little was known about cancer-related caregiving stress across the genders. The findings of this research implied that caregiving stress might mean differently for Chinese male and female caregivers, but not male caregivers. The findings of this study called for a review of existing psychosocial support for male caregiving spouse in the Chinese context, who might need strengthening their social support networks outside the family to help them cope. ACKNOWLEDGEMENT OF FUNDING: None.
P1-56

Build it, but will They Come? Development and patient use of an Online Information Tool Designed to Reduce Psychosocial Distress

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BACKGROUND: Communicating treatment options and providing psychosocial support are critical in assisting patients to cope with a cancer diagnosis. The provision of information can take many forms, from verbal information provided by a clinician to the use of written, video and web based materials. The advantages and disadvantages of each of these approaches will be described, as well as the development and use of a web-based information tool in the context of a randomised controlled trial. METHOD: A randomised controlled trial is being conducted to examine the effectiveness of a web-based information tool in reducing depression, anxiety, and unmet information needs among haematological cancer patients and their support persons. Patients and their support persons are recruited by their clinician at the first consultation then randomly allocated as a dyad to receive the intervention or usual care. Intervention participants are provided with access to a web-based tool designed to provide tailored information and decisional support around diagnosis, treatment options, and self-management strategies. Participants can access the web-based tool in hospital using iPads, and via home computer when discharged. RESULTS: The content of the web program was developed using existing resources from cancer organisations. Two expert advisory committees rated written and video content for accuracy, completeness, detail and communication style. Information was revised until consensus was achieved. The program was then piloted with 33 haematological cancer patients; 90% found the program easy to use and all reported that they would share it with others. The web-based tool records at each log in the date, time, person accessing the content, which sections and how long the content is accessed. Data about use of the web based tool will be provided. CONCLUSIONS: Web-based information access has the potential to improve critical outcomes for cancer patients. This innovative intervention uses technology to support tailoring, can be easily integrated into practice, and draws on best practice recommendations at a critical phase of the disease trajectory. This research has a high potential for translation into clinically significant benefits for haematological cancer patients and their families. RESEARCH IMPLICATIONS: Empowering patients to self-manage offers a mechanism for improving important patient centred outcomes. This trial will provide information about the acceptability, feasibility and effectiveness of web-based information program in meeting important needs of cancer patients. CLINICAL IMPLICATIONS: Web-based technologies offer the potential of providing tailored information about treatment options, as well as preparing patients for potentially threatening interventions. Access to information via tablet computers is now feasible for patients who are admitted to hospital for long periods of time. The ability to track patient use of information provides useful clinical and research feedback necessary to improve the quality information provided to patients. ACKNOWLEDGEMENT OF FUNDING: This research is funded by a Translational Research Grant from the Cancer Institute New South Wales.

P1-57

‘Fitter na Kanker’: The Effectiveness and Working Mechanisms of two Different e-Health Interventions for People Suffering From Chronic Fatigue After Cancer

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BACKGROUND: About a quarter of cancer survivors suffer from chronic cancer-related fatigue (CCRF). Physical activity interventions and psychosocial interventions seem effective in reducing these fatigue complaints. E-health makes interventions available for patients who do not have the energy to travel. This study aims to investigate the effectiveness of 2 e-health interventions in reducing fatigue. Also, working mechanisms and predictors to the effectiveness of the interventions, are studied. Results are expected in the year 2016. METHOD: In the next 2 years, an RCT including 330 CCRF patients will be performed using 3 conditions: 2 nine-week e-health interventions (Ambulant Activity Feedback and online Mindfulness Based Cognitive Therapy) and a 9 week minimal control condition (psycho-education). Participants in the control condition are offered one of the interventions six months after baseline. Fatigue is measured with the fatigue severity subscale of the Checklist Individual Strength. Work ability and mental health are studied as secondary outcome measures.
Working mechanisms (i.e. mindfulness, physical activity) are studied during treatment. Follow-up is assessed 6 and 12 months after baseline. Bayesian statistics will be used. RESULTS: We expect that both interventions are effective in lowering fatigue severity 6 months after baseline. We expect that increasing the level of mindfulness will reduce fatigue in AAF and balancing and/or increasing physical activity as well as improving activity perception will reduce fatigue in AAF. Also, we hypothesize that general working mechanisms account for lowering fatigue severity, that is increasing sleep quality, a good working relation with the therapist, and high expectations of the patient for the intervention. CONCLUSIONS: What Is Known:

- CCRF is a serious and growing problem, for which easy accessible interventions are needed.
- Both physical activity interventions and psychological interventions aimed specifically at reducing CCRF are effective. What This Study Adds:
  - Knowledge about the effectiveness of 2 different types of e-health interventions for CCRF.
  - Knowledge about specific and general working mechanisms of these interventions to optimize treatment for CCRF.
  - Knowledge about what type of treatment works best for whom.

RESEARCH IMPLICATIONS: By studying the working mechanisms of 2 different e-health interventions simultaneously, we are able to isolate treatment specific working mechanisms from more generic working mechanisms. Bayesian statistics allows us to evaluate a set of informative hypothesis by incorporating prior information into the analysis. Consequently, more power is generated with the same sample size, therefore, making it possible to do these complex analyses on relatively small sample sizes. CLINICAL IMPLICATIONS: If we find AAF and MBCT to be effective, a large group of cancer survivors will have access to home-based interventions that reduce fatigue, increase wellbeing and promote work ability. In addition we will know how to advice patients which type of intervention will most likely help them. By studying the relative importance of treatment specific working mechanisms as increasing level of mindfulness and a good balance in activities we can optimize interventions for fatigue.

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P1-58
An Innovative, Interactive Intervention for the Internet: Helping Cancer Patients Find Solutions and Cope With Negative Feelings
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BACKGROUND: Since the birth of Psycho-Oncology in the 1980’s, one focus concerned research on interventions that help patients cope with emotional distress. Returning from a Fulbright-grant in Ho Chi Minh City, November 2012, the author re-framed a teaching tool (1990’s) that improved patients’ ability to overcome moments of, “Loss of Control,” and turned it into an interactive, self-directed website, https://www.copingengine.com/ designed for users to identify negative feelings, thoughts and find solutions to the underlying problem(s). METHOD: During her breast cancer treatment in 1987, Fobair was surprised to learn how many emotional moments there were in the post diagnosis experience. To better prepare other patients, she found a teaching tool used with drug addicts. Fobair took Matano’s design and added 22 active coping choices. “Coping with Loss of Control” was important to patients at Stanford University Hospital for 22 years. But, in Vietnam (2012), a cross cultural validation occurred as social work students and others found it the most compelling work presented in the 9 lectures at the University of Social Sciences and Humanities, Vietnam National University. RESULTS: A unique, user directed interactive intervention was launched May, 2013 as an i Phone app/website for cancer patients. It is designed for the user to identify an emotionally charged negative feeling or thought, then choose an active coping solution. The copingengine.com can be reused as many times as desired. Now live, https:www.copingengine.com/ is being disseminated through lectures and internet distribution. As interest increases, and supporting funds develop, a validation of it’s effectiveness is planned. Stanford University Hospital, the American Cancer Society and others have found the website useful for patients. CONCLUSIONS: Since the 1990’s the development of interventions for cancer patients has followed the medical guidance and self-help models of each decade. As people throughout the world make use of websites to learn about and solve their problems, it is helpful to have a teaching tool on line which improves the ability to find solutions to problems that brings up emotionally charged negative feelings. RESEARCH IMPLICATIONS: With additional funding, validation research is planned to learn the effectiveness that copingengine.com has for subgroups. What steps are necessary to make an active coping choice...
work? The copingengine.com can be expanded to address the needs of other chronic illness groups, the bereaved, or being in a "car accident." Outcome research is possible, how does I judge whether an active coping choice was helpful or not. Work has been started in these directions. CLINICAL IMPLICATIONATIONS: Cancer patients experience frequent moments of distress post-diagnosis, during the treatment period and beyond. Now, with access to a computer, i Pad, and i Phone or Android, the patient will have the opportunity to define his feelings, and thoughts and choose a solution to problems that come up for them each day. ACKNOWLEDGEMENT OF FUNDING: The website, http:www.copingengine.com/ was funded by the author. The teaching experience in Vietnam, November 2012 came from grant #5133, CIES Fulbright Specialist program.

PI-59
Motivating (Former) Cancer Patients to Increase Their Physical Activity: The Computer Tailored Oncoactive + Project
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BACKGROUND: The increasing incidence of cancer, increasing survival rates, and important negative physical, psychological and psychosocial effects of cancer and its treatment emphasize the importance to develop interventions that reduce negative effects and prevent recurrence of cancer and co-morbidities. Physical activity (PA) enhancing interventions provide important efforts in this respect. Despite the beneficial effects of PA, most (former) cancer patients do not meet the recommended levels of PA, therefore easily accessible PA programs should be developed. METHOD: During this project an existing effective personalized computer tailored intervention (based on behavioral change techniques) to increase and maintain PA in older adults (ActivePlus) will be adapted and extended for (former) colon and prostate cancer patients. Adaptations will be based on preliminary studies, literature and interviews with cancer patients and experts. A randomized controlled trial (RCT) will be performed, comparing the intervention to a waiting list control group. In total 428 (former) colon and prostate cancer patients will be recruited. Follow-up measurements will be performed 3, 6 and 12 months after baseline measurement. Concurrently a process evaluation will be performed. RESULTS: The adaptations will result in a unique new intervention for (former) colon and prostate cancer patients: OncoActive+. The intervention will be fine-tuned to specific needs and experiences of (former) cancer patients such as coping with fatigue, lack of energy, physical side effects, distress and a lack of self-efficacy in overcoming these barriers. A printed and a Web-based version of the intervention, and a website with additional elements (e.g. discussion forum, expert consultation facility) will be developed. The RCT will provide us with information on PA behavior, health outcomes (e.g. health related quality of life, fatigue) and appreciation of the intervention. CONCLUSIONS: The developed OncoActive+ intervention will be an easily accessible PA intervention for (former) colon and prostate cancer patients as the user defines when and how to be physically active. Since OncoActive+ is based on computer tailoring, it has the potential to easily reach broad patient populations with low (personnel) costs, and is therefore low in demand of health care providers. If proven effective, the feasibility of the intervention will be examined among relevant organizations in order to come up with an end product that is usable in practice. In the future OncoActive+ might also be useful for other cancer types. RESEARCH IMPLICATIONS: The results of the RCT may provide information on the effects of PA on (former) colon and prostate cancer patients. If the OncoActive+ interventions is effective in increasing PA, further research may be done to extend the intervention to other groups of cancer patients. Additionally, the research may also provide information on the feasibility of implementing PA programs in practice. CLINICAL IMPLICATIONS: OncoActive+ has the potential to positively influence several health outcomes, cancer recurrence and co-morbidities by stimulating PA. As most current PA programs are based on face-to-face contacts, they are quite demanding for health care providers in terms of time, money end quality of implementation. If proven effective, OncoActive+ would be a less demanding alternative to most current PA programs. The end product of the project ought to be ready for large scale implementation.

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P1-60
Communicating Cancer Treatment Information Through the Web - How can we use the Patient’s Perspective in Developing Useful Information?
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BACKGROUND: As patients are increasingly expected to participate in healthcare decisions, adequate and useful information about cancer treatment is vital. It seems important to incorporate the patients’ perspective in developing such information. The purpose of this study was to investigate how patients understand, use and evaluate a newly developed website providing information on a new treatment option for stage I non-small cell lung cancer (NSCLC). METHOD: From patients who were referred to undergo stereotactic ablative radiotherapy (SABR) for stage I NSCLC, as well as their family members, a total of 24 were recruited. A qualitative user evaluation of the developed prototype website was followed by an additional user test after a redesign of the website. Methods used included semi-structured interviews and “thinking aloud”. RESULTS: Participants appeared most interested in the pages about “which treatment options are available” and “what is stereotactic radiotherapy”, and indicated a preference need for more detailed information. Furthermore, not all participants clearly understood the risks of side-effects and struggled with some specific definitions mentioned on the website, especially concerning NSCLC and the difference between conventional radiotherapy and SABR. CONCLUSIONS: By using several established user testing methods such as thinking aloud, we gathered data before and after design changes of the website. Pre- and post comparisons of the website highlighted the improvements made to the site, including a large decline in number of problems and increased readability and lay-out. Had this qualitative approach not been taken, some of these problems and subsequent improvements to the website may have been overlooked, and the website would thus not have been patient-centred. RESEARCH IMPLICATIONS: The development of online information about cancer treatment should involve testing by patients, as involving the targeted patient group in website development will increase the likelihood of a more patient-centred and comprehensive website that can support patient participation in treatment decision-making. CLINICAL IMPLICATIONS: By involving patients in the development of adequate and useful cancer treatment information, clinicians can understand the information needs and barriers in information processing of their patients when confronted with new treatment options. This can lead to better available information, which can support the treatment decision making process.

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P1-61
An Online Community for Oncology Professionals in Flanders
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BACKGROUND: Within the Belgian National Cancer Plan 320 extra psychologists, nurses and social workers were recruited. This increased the need for exchange and sharing experiences in Belgium. In answer to these needs, the Cédric Hèle institute (CHi) wants to create a secure online community, with access to up-to-date information, training materials and scientific research. The CHi trainings and workshops confirm the need for exchange of knowledge and good practices between health care providers, beyond the borders of hospitals and organizations. METHOD: CHi conducted a qualitative research with 100 onco-professionals to discover the need for an online community. We developed a survey. Results show a large support base for the community, beyond the borders of disciplines and institutions. There is little to no experience in the use of communities. Many professionals use the internet on a regular basis to search for work related information. Almost all professionals were in favor of an accessible online platform in psycho oncology. In addition CHi composed a core group with representatives from each discipline (oncologist, psychologist, social worker, nurse) in order to specify and further develop functionalities. RESULTS: There is a large support base, both amongst professionals working in the hospitals as in the home care for cancer patients. Major focus is ease of use, the community shouldn’t require prior knowledge or experience with social media. It is a secure platform, with clearly visible profiles, and close quality control. In terms of functionalities, there is a need to a clear who’s who, a news feed, a forum for the exchange of study materials and discussions, calendar with useful events and training courses, a research track in which the bridge between researchers and clinicians is simplified, e-learning possibilities. CONCLUSIONS: An online community is a relatively new phenomenon within the healthcare industry. A search for similar initiatives provided little to no sites. CHi would mainly expand the interactive part of the site and give people the chance to strengthen their working skills. The CHi community wants to cultivate better psychosocial care for cancer patients, in a secure environment. All relevant, up-to-date information in
our field will be there to consult. To this end, we set up cooperation initiatives with universities, key players and experts in Psycho-Oncology. RESEARCH IMPLICATIONS: The community aims to connect the clinical world with scientific researchers. There will be more attention to implementation of research results in the daily practice. The community will facilitate contacts between researchers and clinicians making participation in research more accessible. Researchers will have clearer view of research questions, relevant to the field. The community will help to establish and realize multicentre studies. CLINICAL IMPLICATIONS: The clinical implications are 3-fold: to scientific research, offering access to relevant high-quality information, create a platform for continuous professional development. Researchers can announce and publish their research results directly to professionals, which will facilitate implementation in the daily practice. In addition, access to quality information for onco-professionals will be simplified, bundled in one place. The meeting with colleagues will respond to the need to exchange. ACKNOWLEDGEMENT OF FUNDING: The Cédric Hèle institut was founded thanks to the support of the national society “Vlaamse Liga tegen Kanker” (the Flemish League against Cancer).

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Development and Feasibility of a Web-Based Question Prompt Sheet Aimed to Increase the Discussion of Health Related Quality of Life Topics in the Initial Follow-Up Consultation After Esophageal Cancer Surgery
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BACKGROUND: Given the poor prognosis of esophageal cancer and the impact of surgery on health-related quality of life (HRQL), it is important to address patients’ postoperative information needs. Therefore, we have developed a web-based list of example questions (i.e., a question prompt sheet, QPS) for the initial follow-up consultation after surgery for esophageal cancer. The QPS aims to increase patient participation (e.g., more questions asked) and the discussion of HRQL topics. METHOD: We will conduct a total of three studies to examine (1) patients’ usability of the QPS (n = 8), (2) patients’ evaluation of the usability and usefulness of the QPS (n = 40), and (3) the clinical feasibility of the QPS (20 patients and 2 surgeons). Each study will produce a modified QPS which will then be tested in the subsequent study. In study 1, we asked purposefully selected patients who had undergone surgery, to think aloud whilst using the QPS. Patients were surveyed afterwards. We then categorized audio recorded comments, and changed the QPS accordingly. RESULTS: Study 1: 8 patients (6 male, age range 51–70) were interviewed (mean 1 h 45 m). We obtained 454 individual comments (187 positive, 214 negative, 27 neutral) and 91 explicit suggestions for improvement. Most comments were related to: (1) the introduction of the QPS, (2) navigation, (3) the arrangement of example questions, (4) instructions, and (5) logging out. All patients perceived the QPS to be very useful, and many proposed to extend its use to other consultations. Most patients did not find the QPS burdensome. CONCLUSIONS: Study 1 resulted in several changes to the QPS to enhance patient-friendliness. The results of study 2 and 3 will further determine the feasibility of a web-based QPS intended to increase the information provision of HRQL. These studies are ongoing and (preliminary) findings will be presented at the conference. RESEARCH IMPLICATIONS: This QPS is unique in that it is: (1) web-based and linked to the surgeon, (2) focused on HRQL, (3) for use in a follow-up consultation, and (4) designed for patients with esophageal cancer. In addition, this project demonstrates the iterative process of the development of a feasible communication support tool. By making use of several methods (e.g., think-aloud interviews, web-based surveys, pilot study in clinical practice), we aim to deliver a thoroughly developed QPS. CLINICAL IMPLICATIONS: This QPS aims to provide both patients and clinicians with a valuable tool to prepare the initial follow-up consultation after surgery for esophageal cancer. As a result, we aim to increase the number of HRQL questions asked by patients, and also the number of HRQL topics covered by clinicians. In the end, we aim to increase tailored information provision, and to help patients cope with the often detrimental and long-lasting side-effects of esophageal cancer surgery. ACKNOWLEDGEMENT OF FUNDING: None.

PI-63
The Effect of age on Perceptions of e-Health in Men with Prostate Cancer (PCa)
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BACKGROUND: PCa patients confront physiological and psychological ramifications of disease and treatment that require ample informational and emotional support. E-health may convey such
support through static Internet media as well as interactive online communication. Currently, evidence about how age influences use and perceptions of PCa e-health is lacking. We examined Internet behavior and experiences to determine whether there are differences between patients under 65 years old and patients 65 years old and older.

**METHOD:** Permission for this study was granted by the institutional review board of George Mason University and the Inova Health System. PCa patients ($n = 297$, $M_{\text{age}} = 64.99$, $SD = 8.32$, range 40–89) were recruited through the Inova Health System and online PCa social networks. A questionnaire was designed that included measures related to personal and PCa characteristics; general Internet use; PCa e-health seeking behavior and experiences; reasons to use/not use PCa-related online communication; and psychosocial dimensions of e-health (feeling informed, in control, connected with others, able to cope, confident in treatment decision, scared, depressed, lonely, anxious). RESULTS: Compared to older patients, patients under age 65 were more frequent and comfortable Internet users. Younger patients used e-health more for concern about erectile dysfunction, whereas older patients used e-health more for concern about urinary incontinence ($\chi^2 = 3.85, p = 0.050$). Regarding online communication, younger patients reported using e-health more to receive emotional support ($\chi^2 = 12.50, p < 0.001$). Finally, older patients experienced more negative psychosocial dimensions of e-health (e.g., more anxious, depressed) and less positive dimensions of e-health (e.g., more informed, in control) as a result of less Internet use ($\beta = -0.10$, 95% CI [$-0.26, -0.01$]). CONCLUSIONS: Our findings suggest that greater use of the Internet leads to a more positive psychosocial response to PCa-related Internet information and/or support. Furthermore, important findings include greater use of online PCa communication for emotional support and encouragement by younger patients. This is noteworthy because past research without consideration for age has shown e-health to be used predominantly for informational support over emotional support. Because PCa incidence is lower in men under 65 years old, it may be difficult to find emotional support in their own social circles. Online social networks may generate new social circles to fulfill emotional support needs.

**RESEARCH IMPLICATIONS:** Our findings show that use and perceptions of PCa e-health vary by age. Future studies should examine how use and perceptions vary not only by age but with greater time since diagnosis. Furthermore, audience analysis of other segments of the PCa population is warranted, including evaluation of patients affected by the “digital divide,” such as racial and ethnic minorities. Understanding of diverse audience segments gleaned from research should be translated from evidence to practice.

**CLINICAL IMPLICATIONS:** Clinicians should be cognizant of greater use of e-health for emotional support among younger PCa patients. Patients under 65 years old may benefit from education about how to access online PCa social networks. Furthermore, for patients 65 years old and older, clinicians should be aware of the relationship between increased Internet experience and positive psychosocial effects of e-health. Helping advance the Internet skills of this age group may reduce feelings of loneliness, anxiety and depression.

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info-decisional support in cyberspace via peer-based health communities. This is the first step, albeit an important one, in understanding how computer-mediated health support communities help those coping with cancer. RESEARCH IMPLICATIONS: The ability of this composite measure to provide information about the extent to which computer-connected patients view digital peer support as an empowerment tool makes it a valuable addition to the literature on supportive care in cancer and quality of life research. As there is a growing discussion in online information technology to transform personal health, the findings constitute a step forward in understanding how patients use technology to better manage their health care through provision of support. CLINICAL IMPLICATIONS: The information obtained from the administration of this short scale will provide helpful information for health care professionals and researchers in understanding patient efforts to be proactive during the process of cancer management. Additionally, this instrument will help to unpack digital influences on physician and patient encounters. ACKNOWLEDGEMENT OF FUNDING: None.

P1-65
The Use of Social Media to Recruit Participants in Cancer Care Research: Challenges and Opportunities
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BACKGROUND: Ethical concerns about the involvement of seriously ill patients in research are often raised by ethics committees and health care professionals. On the other hand, seriously ill patients are happy to take part in the studies as it often gives them a sense of purpose and an opportunity to give something back. As a result, recruitment in this field is often challenging. Social media can provide an alternative opportunity for recruitment. METHOD: Ethical concerns about the involvement of seriously ill patients in research are often raised by ethics committees and health care professionals. On the other hand, seriously ill patients are happy to take part in the studies as it often gives them a sense of purpose and an opportunity to give something back. As a result, recruitment in this field is often challenging. Social media can provide an alternative opportunity for recruitment. RESULTS: The types of social media most commonly used for recruitment include, but are not limited to, interactive social applications (e.g. Facebook) and blogs. Some studies have successfully used social media to recruit the so called “hard to reach” participants, as they have the potential to target a wider audience. However, this method may attract patients who are already well informed and proactive in seeking support, creating a biased picture. Screening of potential participants may also prove difficult as it relies on patients’ understanding of their condition, which in a traditional research set-up is usually done by the clinicians. CONCLUSIONS: Social media provide an opportunity worth exploring in regards to the recruitment of research participants in fields where recruitment has proven to be challenging. However, the scientific literature on the use of social media to recruit research participants in cancer care is sparse and more research needs to be done in this field. The case study presented here has shed some light into the potential challenges and opportunities when using social media for recruitment purposes. Guidelines must be kept up to date in the fast-moving, dynamic landscape of social media. RESEARCH IMPLICATIONS: The opportunities provided by this method of recruitment should not be overlooked. Equally, we must be mindful of the ethical challenges associated with the use of social media. Methodologically, using social media may produce an inaccurate picture of patients’ experiences and needs, as patients who use social media might not be representative of the population studied. Guidelines are essential if we are to incorporate this as a standard practice. CLINICAL IMPLICATIONS: Holistic care means responding to changing patients’ needs. e-Health is part of a paradigm shift, where patients have become active consumers, as opposed to the traditional, “doctor knows best”, passive receiver of health care. The use of social media by patients in healthcare provides a very good example of this new paradigm. ACKNOWLEDGEMENT OF FUNDING: Oxford Brookes University.

P1-66
Kanker Nazorg Wijzer: Supporting Cancer Survivors With Psychosocial and Lifestyle Problems Using an Online Tailored Intervention
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BACKGROUND: Cancer is a life-threatening disease which causes psychosocial and physical problems that may continue after primary treatment has been completed successfully. However, the current aftercare available does not sufficiently meet cancer survivors’ needs. Therefore, we developed an online tailored intervention, the “Kanker Nazorg Wijzer” (Cancer Aftercare Guide; KNW). The primary goal of the KNW is to encourage self-management in cancer survivors, in order to help them to deal with psychosocial and lifestyle problems they encounter. METHOD: The content of the KNW was determined by the results of preliminary research, consisting of a literature study and focus group interviews

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and a survey among former cancer patient. Aim of this research was to investigate the most prominent information and support needs of former cancer patients and to gain insight in the psychosocial and lifestyle problems they experience. For the evaluation of the KNW, an RCT with follow-up measurements at 3, 6 and 12 months will be performed comparing the KNW intervention to a waiting list control group. In total, 750 adult cancer survivors will participate in the study. RESULTS: The preliminary research results led to the development of eight modules in the KNW focussing on depression and anxiety, fatigue, return to work, social contacts and intimacy, physical complaints, physical activity, nutrition, and smoking. First, participants will be advised which modules fit their specific needs. Within a module, participants get tailored advice and practical assignments teaching them to cope better with the specific theme. Additionally, participants can get in contact with other cancer survivors through online discussion forums. The RCT will provide information on change of self-management and coping skills, lifestyle behaviours, and experienced quality of life and psychological distress. CONCLUSIONS: The KNW will be an easily accessible self-management intervention for cancer survivors. Since the KNW is based on computer tailoring, it has the potential to easily reach broad patient populations at low costs, while still providing specific information tailored to the personal needs of the user. Also, the KNW is consistent with the current guidelines, stating that self-management in cancer survivors should be stimulated. If the KNW cannot sufficiently meet the user’s needs, the user will be advised on where to get (more intensive) professional help. In this way, the KNW can serve as a starting point in stepped care. RESEARCH IMPLICATIONS: The results of the RCT will provide information on the relationship between secondary outcomes such as coping, perceived social support, experienced fatigue, return to work and lifestyle behaviour on the primary outcomes quality of life and psychological distress. Additionally the research will provide information of the intervention elements, including tailored information and self-management training on the primary and secondary outcomes. CLINICAL IMPLICATIONS: The development of the KNW intervention could lead to a theory- and evidence-based intervention aimed at improving QoL of cancer survivors by assisting them in self-care. The study results will demonstrate which people are at risk of developing psychosocial and lifestyle problems during their life after cancer. The KNW aims to support these patients by encouraging self-care through offering tailored information and support at an early stage. ACKNOWLEDGEMENT OF FUNDING: This research project is funded by the Dutch Cancer Society (KWF Kankerbestrijding).

PI-67
Unmarried Women With Breast Cancer: Their Psychological Distress and Quality of Life After Treatment
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BACKGROUND: According to the World Health Organization in 2008, there were around 7.6 million people died from cancer around the world. More and more women encountered the incidence of breast cancer. Early detection and improvement in breast cancer treatments had contributed to the low breast cancer death rates, however patients gone through cancer treatments may usually experience lots of physical discomfort and psychological distress. The negative affect even lasts after the treatment. METHOD: Pre-test and post-test design had been used in this study. 76 breast cancer patients had been recruited from 2 local hospitals and community cancer support organization. Participants were asked to fill in a set of self-reported questionnaires prior to the commencement of radiotherapy treatment and right after the completion of the treatment. Participant’s radiotherapy-related symptoms (fatigue, stress, anxiety, depression, pain level and sleep disturbances) and quality of life would be measured. RESULTS: At the baseline measurement, married women scored higher mark in social well-being (FACTB-SWB), functional well-being (FACTB-FWB) and overall quality of life (FACTB) than single women. There was significant difference at baseline (before randomization) in their quality of life between the married women and single women (all ps > 0.05). The post-test measurement (after receiving the radiotherapy treatment), married women still scored significant higher quality of life score than single women. Moreover, single women had lower emotional well-being (FACT-EWB) and higher psychosocial distress (PSS). CONCLUSIONS: This research finding is aimed at discussing the psychological characteristics and quality of life among married and unmarried breast cancer patients. Findings showed that unmarried had more negative psychological reactions to the cancer treatment and it affected their quality of life. More than that, single women had higher psychological distress after treatment. It would be a negative influence on their survivorship care. RESEARCH IMPLICATIONS: The importance of spousal support after breast cancer treatment had been widely studied in the field. However, limited research findings has
addressed on the psychological needs of single women. This study may reveal the unique challenges of unmarried women with breast cancer. And how did the cancer treatment affect their social and functional well-being. CLINICAL IMPLICATIONS: It is very important to provide intensive psychological care to breast cancer patients after treatment. This study may also imply that single women with breast cancer may need more survivorship care after cancer treatment. ACKNOWLEDGEMENT OF FUNDING: This study is supported by the Research Grants Council General Research Fund (HKU745110H), Hong Kong Cancer Fund, Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital.

P1-68
A Unique Challenge: Sexuality in Young Women After Breast Cancer Treatment From a Developmental Perspective
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BACKGROUND: Earlier diagnosis and advances in breast cancer treatment have significantly improved survival rates. Consequently, quality of life has become a matter of great importance and more attention has been focused on sexuality. Although sexuality is important at every stage of life, it plays a crucial role for young women in achievement of developmental tasks: establishing intimate relationship and starting a family. Altered sexuality after cancer treatment may create a unique challenge in their development. METHOD: Review of literature was made to present up-to-date research findings on sexual life in young women with breast cancer. The PubMed, Elsevier, Medline browsers and the web were searched for scientific articles published in English language in the period of 1999–2013. Following phrases were used: breast cancer, young women, premenopausal, sexual, sexual functioning, sexuality, development, developmental tasks. Literature review was supplemented by the author’s own clinical experience. RESULTS: Numerous studies report that many young women experience disturbances in body image after breast cancer treatment. Invasive therapy raises concerns about fertility. A wide variety of sexual dysfunctions are reported including low sexual desire, decreased arousal and lubrication, impaired orgasm, painful intercourse, diminished sexual satisfaction and frequency of sexual activity. What is more, treatment may induce premature menopause. Altered sexuality challenge future and present relationships. Single women face concerns about cancer disclosure and engaging in new intimate relationships whereas couples have to resume sexual activity after cancer and adjust to a new sexual situation. CONCLUSIONS: Breast cancer treatment may affect sexuality of young women in all its domains: biological, psychological and relational and sexual act in all its functions: procreation, pleasure and intimacy at the time when sexuality is essential in successful attainment of specific developmental tasks: being in an intimate romantic relationship and starting a family. Altered sexuality may threaten natural developmental trajectory. Consequently, young women after breast cancer treatment are at high risk of sexual dysfunctions and are more vulnerable to disruptions in biopsychosocial development. Due to this unique developmental context young women require special attention of researchers and clinicians. RESEARCH IMPLICATIONS: A precise definition of young women must be provided. More research on the impact of breast cancer on sexuality and intimate relationships in young women is needed both from women’s and partners’ perspectives. Risk and protective factors for sexual dysfunctions must be recognized for single and partnered women, in heterosexual and same-sex couples, with more attention to cultural context and methodological quality of studies. A unique experience of young BRCA mutation carriers requires further investigation. CLINICAL IMPLICATIONS: Due to developmental context changes in body image, sexual functioning and fertility in young women with breast cancer must be addressed in clinical settings throughout the process of diagnosis, treatment and recovery. Intervention programs should be couched in developmental framework. Interventions that target body image, cancer disclosure and establishing new relationships seem beneficial for unpartnered women whereas coupled-based psychoeducational interventions with elements of sexual therapy are recommended for partnered women. ACKNOWLEDGEMENT OF FUNDING: None.

P1-69
Sexuality and Cancer in the Elderly: What About Moroccan Patients?
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BACKGROUND: Understanding sexuality among older adult cancer survivors is complex. Thorough assessment merits consideration of normal physical and emotional changes with age. In Morocco, the influence of cancer on sexuality represents a delicate and little investigated subject where the taboo of sex adds to the mystical fear of the disease. This survey has shown that lack of communication is one of the main problems in
recognizing and handling sexual problems. METHOD: We conducted a prospective study conducted during 10 months, including 150 patients aged over 70 years followed at the National Institute of Oncology in Rabat assessing the impact of cancer on sexuality in older subjects after informed consent. RESULTS: Median age was 73 ans, the most common cancer is lymphoma and breast cancer 82 (54.7%) patients were married, 43.3% widower, 72(48%) of patients have a preserved sexual activity. 65% of patients reported decrease in libido, 19.4% have erectile dysfunction and only 9.7% of them were able to communicate with their spouse partner about this taboo. Anxiety was found in 74% of cases and depression in 12.6% (DSM IV), 52 patients (34.7%) admitted taking plants and 30 (20%) patients used spritul medicine CONCLUSIONS: In morocco the impact of cancer in sexuality represents a delicate and little investigated subject where the taboo of sex specially in the elderly adds to the mystical fear of disease. the patient partner’s spouses and healthcare team underestimate this impact which affect the quality of life. Efforts are necessary to improve sexual activity of elderly cancer patients ACKNOWLEDGMENT OF FUNDING: None.

PI-70
Dealing With Cancer – Does Gender Matter? Gender Differences as an Important Psychosocial Aspect in Cancer Patients
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BACKGROUND: Cancer is a leading cause of death worldwide and the total number of cases globally is growing, influenced in part by an increasing and aging world population. Gender aspects have been identified as relevant to our health system, patient-doctor communication and the outcome of cancer patients. So far, limited data is available analyzing the relationship between gender aspects, somatic and psychosocial parameters in cancer patients. METHOD: 4278 adult cancer patients (51.8% women, 48.1% men) were included in a cross-sectional single-center study. Fifteen somatic and psychosocial variables were included in the analysis based on published data and feasibility: somatic factors: sex, age, cancer site, metastatic disease, anemia; social factors: income, education, unemployment, social support (children, marital status), residency; psychological factors: depression, anxiety, distress and previous psychiatric disorders. Standardized questionnaires have been used to assess anxiety and depression (the Hospital Anxiety and Depression Scale –HADS- cut off >7 for depression and >9 for anxiety), socio-demographic characteristics as well as the patients’ need for psycho-oncologic support. RESULTS: Our data demonstrated significant psychosocial differences based on gender issues in patients dealing with cancer. Women showed significantly higher levels of anxiety (p < 0.001), requested more frequently psychosocial support by our psycho-oncology team (p < 0.005) and subsequently received more psychosocial support. Women affected with cancer were more often divorced/widowed (social support), had lower education and income than men. Moreover, a significantly higher number of women used complementary medicine in addition to their standard treatment. CONCLUSIONS: The results of this study indicate that
1. women and men have different perceptions of anxiety when affected with cancer.
2. higher levels of anxiety and lack of social support resulted in an active coping style (request for psychosocial support) in female cancer patients.
3. psycho-oncological support strategies offered in our study either do not reflect the needs of male patients or are not communicated in a gender appropriate manner or are indeed not needed by male patients.

RESEARCH IMPLICATIONS: Given the impact of gender aspects in cancer, these factors should be considered in the design of future therapeutic trials, screening and treatment approaches for individual patients. Failure to acknowledge the impact of gender aspects in communication and study design might account for a confounding bias in clinical trials. CLINICAL IMPLICATIONS: Gender specific psycho-oncological approaches need to be established. Data presented here indicate that the inclusion of gender issues support the goal of personalized medicine to use each patient’s unique genetic and environmental characteristics to design optimal health care strategies. ACKNOWLEDGMENT OF FUNDING: None.

PI-71
Breast Cancer: Identity, Intimacy, Sexuality After Total Mastectomy
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BACKGROUND: In Western Society, breasts are overvalued. How does react a woman after a total mastectomy? There is a face to face with a loss of the physical integrity. In the real mirror, she sees an image of an asymmetric body. However, other
images arrive in the same time in the mirror. They come from the social and symbolic mirrors. What are the impacts of these images on identity, intimacy and sexuality after total mastectomy?

**METHOD:** I studied this issue by an exploratory qualitative sociological research. Therefore I interviewed (n = 12) women in Quebec (Canada) who had a total mastectomy (n = 6) with breast reconstruction (n = 9) with chemotherapy. Their age varied from 35 to 56 years old. Nine (n = 9) women were less than fifty. Eight (n = 8) women had a heterosexual partner living with her (4 = singles). The interviews were intimate and varied from 45 minutes up to two and a half hours. I analysed, the respondent’s comments that started with the discovery of breast anomaly until the sexual interaction post-mastectomy, by a content analysis (n = 5 themes).

**RESULTS:** After analysis, I developed the concept of Mirrors. In these Mirrors, the images interlaced: real, symbolic, social. If some women felt as complete women with a new body, others felt as incomplete women or half woman. In my study, (n = 9) women resumed sexual interaction after breast removal and before breast reconstruction (n = 5). Two women had a sexual exclusion from their regular partner. These 2 women, without breast reconstruction, received a proposition from men who knew about their total mastectomy. One of them refused and another woman accepted. One woman with breast reconstruction refused propositions before and after breast reconstruction.

**CONCLUSIONS:** The sexual life is possible after total mastectomy without breast reconstruction. A sexual partner’s constructive look helps a woman’s perception (images) to re-find their identity as a complete woman. By the opposite, a destructive outlook from her partner isn’t helpful. It destroys the sexual link. In my study, the women developed strategies to re-appropriate their intimacy and sexuality: clothing, behaviour, surgery (breast reconstruction). For some, breast reconstruction supports the re-building of the body image and/or the self-image. With breast reconstruction is easier to wear sexy lingerie, so to have again a seductive approach with the sexual partner.

**RESEARCH IMPLICATIONS:** My qualitative research was done in Canada in a Western Society. The perception and the interpretation of the images were come from of this sociocultural context. The social images from Mirrors depend on the process of socialization. Where you were born, you growth up and you live influence the way how you interpret the images after a total mastectomy. It would be interesting to study this issue by a transcultural research: African women, etc.

**CLINICAL IMPLICATIONS:** The support groups and the health professionals are significant for women who had a total mastectomy. They have an essential role in helping women to regain their self-esteem, for some, consequently their feelings about their completeness especially when a woman has a partner with a destructive outlook. To feel an incomplete woman interferes on intimacy and sexuality. It would be important to considerate this aspect and to integrate it in health care in onco-sexology.

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degree relatives to continue their lives without worrying too much about breast cancer risk. CONCLUSIONS: Preliminary results show that, though not frequently mentioned, screening practices are a topic of communication between mothers and daughters, and between sisters in the long term. Among sisters, who were frequently given a copy of the counseling letter, patients felt they had done their duty to inform and it was now the responsibility of their sister to undertake screening. When dealing with their daughter’s increased breast cancer risk, mothers tried not to pay much attention to that, but to focus on the positive aspects of the participation to a breast cancer screening program and one’s own alertness. RESEARCH IMPLICATIONS: Genetic counseling advice is targeted to the counselee, and usually to their female first-degree relatives. We gained insight into the content of the communication between these family members and how they cope with their family members’ elevated breast cancer risk in the long term. Interestingly, our qualitative analysis showed a difference in the way of dealing with a daughter’s or a sister’s elevated breast cancer risk. CLINICAL IMPLICATIONS: Counselees have a central role in the communication of genetic test results to relatives. We found that mostly sisters, but not all adult daughters, were given a copy of the letter of the genetic counselor. In the long term, these daughters depend on their mother for information about the genetic counseling results. This raises questions as to whether this is an acceptable way of informing individuals at elevated risk for breast cancer. ACKNOWLEDGEMENT OF FUNDING: This study was funded by the Dutch Pink Ribbon Foundation (grant number 2010.WO14.C60).

P1-74
Supporting Counselees in Disclosing Hereditary Cancer Information to At-Risk Relatives: A Pilot Study
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BACKGROUND: Despite the use of genetic services, counselees do not always share hereditary cancer information with their at-risk relatives. This project aimed to develop and assess the feasibility of an intervention which supports counselees in disclosing hereditary risk information to relatives. METHOD: Intervention: an additional telephonic counseling session, delivered by psychosocial workers, after regular genetic counseling. An intervention protocol was developed by psychologists based on Motivational Interviewing techniques, aiming to improve counselees’ knowledge, motivation and self-efficacy with regard to informing relatives. Evaluation: Consecutive counselees visiting the Clinical Genetic department for hereditary breast/ovarian or colon cancer received additional counseling and completed a pre- and post counseling questionnaire. Feasibility of the intervention was based on (1) patients’ evaluation; (2) analysis of audio recorded counseling sessions; (3) pre- and post counseling differences of the primary outcomes (knowledge, motivation and self-efficacy) and (4) recruitment potential. RESULTS: Of all 358 counselees who were invited between February and September 2012, 231 responded (65%); 21% declined participation and 43% gave their consent to participate. 144 counselees completed the pre-counseling questionnaire; 136 telephonic counseling sessions were recorded and 123 counselees completed the post-counseling questionnaire (drop-out: 15%). Preliminary results show that counselees evaluated the intervention as positive. The psychosocial workers performed the counseling largely according to the protocol. Pre- and post counseling differences were found for knowledge: M1 = 7.23, M2 = 9.10, p = 0.025; motivation: M1 = 50.61, M2 = 47.70, p = 0.01 and self-efficacy: M1 = 25.01, M2 = 23.80, p = 0.021. CONCLUSIONS: The intervention, comprising an additional telephonic counseling session to support counselees informing relatives about hereditary cancer, was found to be feasible. The effectiveness of the additional counseling will be investigated in a randomized clinical trial. RESEARCH IMPLICATIONS: This pilot studies gives more insight in the feasibility of an intervention which supports counselees in disclosing hereditary cancer risk information to relatives. The effectiveness of this intervention must however be investigated in a randomized clinical trial. CLINICAL IMPLICATIONS: Genetic counselors rely on counselees to inform their relatives about their hereditary cancer risk and possibilities to reduce this risk. It is therefore essential that their ability to be a good informant is maximized, while respecting their wish not to inform (some) relatives. The developed intervention will (1) support counselees in this difficult test and (2) hopefully allow more at-risk relatives to make a well informed decision taking up genetic services and preventive screening. ACKNOWLEDGEMENT OF FUNDING: This study was funded by the Dutch Cancer Society; Grant number: UVA 2010-4658.
Awareness and Acceptability of Preimplantation Genetic Diagnosis (PGD) as a Reproductive Option Among BRCA Carrier Couples


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BACKGROUND: The awareness of PGD as reproductive option among BRCA carrier couples is often reported to be low (20–30%). Although after explanation the majority of carriers are supportive of offering PGD, most would not consider it personally. However, a majority indicates the desire to be able to take this option into consideration. With this study we aim to increase insight in the awareness and acceptability of PGD among BRCA carrier couples in the Netherlands.

METHOD: 186 BRCA mutation carriers and partners of carriers participated in a cross sectional survey. Participants were recruited in cooperation with two clinical genetic centres and via internet. Announcements about the study with a link to an online questionnaire assessing awareness and acceptability of PGD, were made at digital communities of patient organisations associated with hereditary breast and ovarian cancer (HBOC). An online questionnaire was filled in by 165 BRCA carriers and 21 partners of a BRCA carrier. 38 participants (20.4%) indicated that they (or their partner) had been diagnosed with breast cancer. 24.2% was religious and 62.9% was highly educated. 76.3% of BRCA carriers and partners were aware of PGD, of whom 88% were aware of its possibility for HBOC. 80.3% found PGD for HBOC acceptable and 41% would personally consider this. Previous awareness, knowledge and higher perceived seriousness of HBOC were positively associated with acceptance and willingness to consider PGD for HBOC. Willingness to consider PGD was higher among non-religious participants. The majority of carriers (34.8%) first heard about PGD from a physician or other health worker which was also the preferred informational medium. Clinical geneticists and genetic counsellors were the most appreciated health workers for PGD information provision.

RESULTS: 76.3% of BRCA carrier and partners were aware of PGD, of whom 88% were aware of its possibility for HBOC. 80.3% found PGD for HBOC acceptable and 41% would personally consider this. Previous awareness, knowledge and higher perceived seriousness of HBOC were positively associated with acceptance and willingness to consider PGD for HBOC. Willingness to consider PGD should be provided by a clinical geneticist or genetic counsellor. ACKNOWLEDGEMENT OF FUNDING: This study was funded by the Dutch breast cancer foundation Stichting Pink Ribbon. None of the authors have competing interests to declare.

Professional Psychosocial Care Offered to Breast Cancer Patients Undergoing Rapid Genetic Counseling and Testing in Breast Cancer Patients: What is the Problem?

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BACKGROUND: Offering rapid genetic counseling and testing (RGCT) directly after the diagnosis of breast cancer and before surgery has been considered distressing. Therefore, professional psychosocial care is offered to breast cancer patients undergoing RGCT. First results are reported here on the use and nature of professional psychosocial services in the RGCT setting. METHOD: Data were collected as part of a multi-center randomized controlled trial (“Time-trial”) comparing RGCT versus usual care in newly diagnosed breast cancer patients with a suspected hereditary form of the disease. The frequency of use of such services was assessed via a checklist completed by professional psychosocial caregivers summarizing the frequency and content of the psychosocial counseling sessions. RESULTS: 265 women were randomized at the time of breast cancer diagnosis to either rapid genetic counseling (n = 178) or usual care (n = 87). Fifty women (28%) in the RGCT intervention group received additional psychosocial care (face-to-face or telephone). Of these, 58% had only one session, 20% two and 22% three or more. Most common presenting problems were: “coping with breast cancer” (49%), “genetic counseling and testing” (22%), “family communication and support” (16%), “personal functioning” (9%), “strengthening social system” (4%). Women opting for “rapid” genetic testing (DNA test results within 4 weeks) more frequently discussed issues related directly to genetics. CONCLUSIONS: Approximately one-third of women who undergo RGCT seek additional psychosocial support, the large majority of whom require only one session. In general, coping with breast cancer was the most prominent topic discussed, although women who opted for the “rapid track” were more focused on issues surrounding genetics than the women who opted for the semirapid-track testing (DNA test result within 4 months) and “routine testing” (test results available >4 months). RESEARCH IMPLICATIONS: Very few studies have presented data on the content of psychosocial counseling sessions within the field of cancer genetics. More clinical psychosocial care studies like ours are needed that focus on the specific psychosocial problems encountered by individuals who are offered genetic counseling and testing. This may help us in an attempt to further open the black box of need for and content of satisfaction with targeted evidence-based psychosocial care in (hereditary) cancer. CLINICAL IMPLICATIONS: A third of all women who were offered RGCT may benefit from additional psychosocial help. In clinical practice, this professional support should be available and offered to all counselees undergoing rapid genetic testing. Our first results indicate that not genetics, but coping with (breast) cancer is the most frequently discussed topic during the procedure of genetic counseling and testing. This has clinical implications for the focus of psychosocial workers on predominantly coping with (hereditary) cancer. ACKNOWLEDGEMENT OF FUNDING: Funding for the RCT study was provided by NutsOHRA Fund.

PI-77
Sense of Coherence and Self Concept Patterns in Individuals at Risk of Hereditary Colorectal Cancer (Lynch Syndrome)
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BACKGROUND: Lynch syndrome is a hereditary cancer syndrome predisposing to colorectal, endometrial and ovarian cancer. Most individuals who learn about hereditary cancer manage well, but identification of subgroups that find this knowledge burdening would allow psychosocial intervention. The purpose was to assess sense of coherence (SOC) in individuals at risk of Hereditary Colorectal cancer (Lynch syndrome) and correlate the data to results from the general population and to self-concept in the Danish Lynch syndrome cohort. METHOD: A total of 345 individuals identified with Lynch syndrome completed the 13-item SOC scale and the 20-item Lynch syndrome self-concept scale. SOC scores were compared to a general population and were correlated to self-concept estimates. Characteristics of subgroups with adverse scores were described. RESULTS: Individuals with Lynch syndrome report SOC scores similar to the general population. SOC and self-concept correlated well with a correlation coefficient of –0.51. Subsets with convergent and divergent scores, which may reflect different psychological effects from knowledge about hereditary cancer, were identified. CONCLUSIONS: Individuals with Lynch syndrome report SOC scores similar to the general population. SOC and self-concept correlate well but allow identification of subset that report adverse outcome and may be relevant for targeted intervention. RESEARCH IMPLICATIONS: The possibility to apply self-concept and SOC in order to identify subgroups with different needs should be further explored. Such data could be generated through correlations between self-concept and registry data on e.g. health care consumption. CLINICAL IMPLICATIONS: Identification of subgroups would be
valuable for indvidualized management of Lynch syndrome from a psychological point of view.

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PI-78

Familial or Hereditary? Differences in Informational Needs, Communication Behavior and Perceived Quality of Care (QoC) Between Patients With Lynch Syndrome and Familial Colorectal Cancer

BACKGROUND: Between 2% and 5% of colon cancers arise from well-defined inherited syndromes, including Lynch syndrome (LS), whereas up to one-third of colon cancers exhibit increased familial risk (familial colorectal cancer; fCRC). In fCRC, susceptibility genes are unidentified, thereby limiting possibilities of genetic testing and targeted surveillance strategies. The present study investigates differences in informational needs and communication behavior, quality of life (QoL) and perceived quality of care (QoC) between LS and fCRC patients. METHOD: A mixed method approach was applied to investigate impact of diagnosis, satisfaction with provided care and communication behavior among individuals with LS or fCRC who had accomplished genetic testing. First, focus group interviews were conducted (N = 16). Transcripts were analyzed and provided input for the development of a 58-item questionnaire, quantifying the main aspects of QoL, informational needs and communication behavior, and QoC. Patients were recruited via the multidisciplinary outpatient clinic for counseling and surveillance of high-risk groups at Maastricht University Medical Center. 87 Patients (41 LS, 46 fCRC patients) participated in the questionnaire study. RESULTS: The 2 patient groups did not differ in QoL. fCRC patients expressed high concern regarding the long surveillance intervals, experienced less disease control and had a higher desire for information about medical examinations and risk for CRC than LS patients. 91% of fCRC and 98% of LS patients communicated about their increased risk with partners and relatives. The need for emotional support and providing clarity to their family were more important motivators for communication in LS patients than fCRC patients. Besides information on the disease and its inheritance, both patients groups preferred information on follow-up, new developments and lifestyle factors. CONCLUSIONS: Patients with familial CRC have a higher desire for information about CRC risk and experience more feelings of insecurity than patients with Lynch syndrome, possibly as a result of a perceived need for more intensive surveillance. Psychosocial profiling might form the basis for shared decision making and finally improve the quality of counseling and patients’ satisfaction in high-risk groups. RESEARCH IMPLICATIONS: Although overall QoL did not significantly differ between the 2 patient groups, subtle differences in informational needs, and particularly the expressed feelings of insecurity and low perceived control among fCRC patients may warrant further investigation to prevent longer-term psychological consequences. CLINICAL IMPLICATIONS: Physicians and counselors need to be aware of differences in informational needs between patients with familial and hereditary cancer. Potential insecurities that arise as a result of unidentified genetic causes need to be addressed in counseling, as well as tailored information on lifestyle, risk and medical developments. ACKNOWLEDGEMENT OF FUNDING: None.

PI-79

Determinants and Changes in Psychological Adaptation and Quality of Life During Chemotherapy for Diffuse Large B Cell Non-Hodgkin’s Lymphoma in the Vulnerable and Frail Elderly (“Psy-frail” Study)

BACKGROUND: The aim of the “Psy-Frail” study is to assess the impact of psychosocial factors on fatigue, quality of life and depression on older patients living with a non-Hodgkin’s lymphoma and treated by chemotherapy. We hypothesize that elderly patients with low routines, high fighting spirit, low helplessness/hopelessness and high perceived social support report higher quality of life, lower fatigue and better outcome during treatment. METHOD: Sixty-seven patients treated by eight cycles of chemotherapy, aged 70 years old and more were included of 2009 to 2011. Quality of life (QLQC-30), depression (MADRS, MINI, GDS-15), cognitive state (MMS), nutritional state (MNA), fatigue, (MFI-20), comorbidity (CIRS-G), quality of life, and adherence to treatment and side effects were measured. We analyzed changes over time using repeated measurement ANOVA and Pearson correlation analyses. RESULTS: The most important determinants of QoL were found to be fatigue, depression and social support. Further, negative changes in some domains were observed. CONCLUSIONS: The development of the “Psy-Frail” study protocol is ongoing to evaluate the impact of psychosocial factors on fatigue, quality of life and depression among elderly patients treated with chemotherapy for DLBCL with focus on quality of life, adherence to treatment and side effects.
of relationships (QRI), routinization (EPR) and coping (WCC-R) were assessed before (before the cycle 1), during (between the cycles 3 and 4) and after chemotherapy (after the cycle 8). We study the impact of psychosocial variables on quality of life and psychological adjustment during the period of treatment. RESULTS: Analysis of the results concerned with the first three-time evaluation is currently under way and will be communicated through this communication and poster, at the congress of 4 to 8 November 2013. These results will be interested in the evolution of the quality of life, mood and psychological adjustment of patients throughout their treatment by chemotherapy. CONCLUSIONS: The study represents a major advance which would allow understanding the relationships between psychosocial factors and cancer outcome in older, frail and vulnerable patients. This research could allow a better comprehension of psychological predictors of a good quality of life and survival. RESEARCH IMPLICATIONS: The research implications will be available from analysis of results. CLINICAL IMPLICATIONS: Thanks to the results, clinicians may refine the psychological care and work on therapeutic approaches to improve counselling offered to patients, in order to reduce anxious and depressive symptoms, if frequent during the haematological cancer. ACKNOWLEDGEMENT OF FUNDING: This research was supported by the French National Cancer Institute (INCa).

P1-80
Transfer to an Acute Care Hospital for Nursing Home Residents Without Cognitive Impairment with a Diagnosis of Cancer
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BACKGROUND: There are few studies of hospital admission among cognitively intact nursing home (NH) residents with a diagnosis of cancer. Knowledge about the associations between demographics and medical variables with hospital admissions can aid in preventing unnecessary admissions. The objective was to determine whether residents with cancer have more hospital admissions and whether sociodemographic and medical variables are associated with hospital admission among cognitively intact NH residents with and without cancer. METHOD: A prospective study in 2004–2005 with follow-up to 2010. Residents aged ≥65 years, 60 with cancer and 167 without, cognitively intact and had at least 6 months’ residence. Medical records from the NHs provided sociodemographic and medical variables. We identified 227 respondents through the NHs records and linked them to the hospital record system to register all admissions. We examined whether demographic and medical variables were associated with the time from inclusion to first hospital admission. RESULTS: Residents with cancer diagnoses had more hospital admissions (25 of 60) than those without (53 of 167) (log-rank test, p = 0.04). Residents with cancer at inclusion had 1.7 times higher risk for hospital admission than residents without. The most common main diagnoses among residents with cancer at discharge were cancer related and circulatory diseases. Infectious diseases, respiratory diseases and circulatory diseases were most common among residents without cancer. Independent of cancer, residents with ≥3 years of education had a significantly higher risk of hospitalization than those with less education. CONCLUSIONS: Residents with cancer diagnoses had more hospital admissions than those without. Their main diagnoses in hospital were often related cancer. RESEARCH IMPLICATIONS: Further information is needed about the symptoms and causes of hospital admission, and especially whether the cancer-related admissions are for palliative care. CLINICAL IMPLICATIONS: Preventing unnecessary admissions and securing the necessary care requires that nurses be aware of cancer-related symptoms and collaborate with the nursing home physician and palliative care personnel to provide the best care. ACKNOWLEDGEMENT OF FUNDING: Jorunn Drageset received a postdoctoral fellowship from the Norwegian Cancer Society.

P1-81
Knowledge and Attitudes Towards Cancer in an Old Sample: Final Report
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BACKGROUND: In 2007 we began a study to ascertain knowledge and attitudes in old people towards cancer in our culture. Our goal is to have our own data to design programmes that fit to the eldest to improve their knowledge, have a realistic attitude towards cancer and change their minds towards prevention, early diagnosis and pessimism and misbelieves related to cancer. METHOD: We approached 874 people 65 years old or over. They were contacted by trained professionals in their leisure centres. They completed a semi-structured interview consisting of 72 questions covering different topics on cancer knowledge and attitudes, prevention, early diagnosis, research topics and
support. RESULTS: We have 814 valid questionnaires. Mean age: 75 (SD = 6.90), 54% women, 31% lives alone, 6% had cancer in the past. 31% feels as a risk group, 2% think cancer is contagious and 5% a punishment consequence. The more known prevention was no smoking (95%) and excessive sunbathing (90%) and the less avoiding overweight (33%). 68% believes in early diagnosis, but differences in procedures (88.4% mammograms, 44% PSA). Research terms are unknown (27% informed consent), 32% feels treatment is worse than cancer, in case of having it 36% would prefer not undergoing therapy, 79% would like knowing diagnosis and prognosis and 71% would inform others. Gender, age and having had cancer yielded few differences. CONCLUSIONS: This is a final report of a work previously presented. Our data shows old people in our zone have a low knowledge about cancer illness, being the main conclusion that they do not feel themselves as a risk group. Pessimistic attitudes towards cancer and towards cancer treatment are in the basis of their underuse of medical advice when ill. Also they seek medical consultation in a delay since some symptoms are underestimated or attribute to old age. A high percentage prefer to know full diagnosis and prognosis in case of having cancer and wouldn’t hide it to relatives and friends. RESEARCH IMPLICATIONS: Having these conclusions our next effort is to design a programme to improve knowledge and attitudes towards cancer in this growing population. They may assume themselves as a sample especially in risk and we must work to promote an active attitude in order to have a better prognosis and when is possible a better quality of life of old people. CLINICAL IMPLICATIONS: Our next step is being planned now and it is to design an action to reach old people and to change their attitude towards cancer moving from a pessimistic view to a more realistic one. ACKNOWLEDGEMENT OF FUNDING: None.

PI-82
Impact of Surgery on Psychosocial Needs Among Older Chinese Colorectal Cancer Patients: A Longitudinal Analysis
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BACKGROUND: Colorectal cancer (CRC) is a predominant cancer in developed populations. Hong Kong has a rapidly ageing population. Elucidating the impact and issues older cancer patients face is needed for effective care planning to meet the needs of older cancer patients. Little information has been published on how supportive care needs (SCNs) differ between younger and older cancer patients. This presentation details some preliminary findings on a cohort of Chinese CRC patients. METHOD: Newly diagnosed CRC patients attending surgical departments in a major Hong Kong regional hospital were approached prior to admission for surgery. After informed consent, participants completed a face-to-face interview including assessments of unmet supportive care needs using the Chinese-version of the Supportive Care Needs Survey (SCNS-34-Ch) prior to, and again one month after their surgery. Older (>64 yoa) and younger (<65 yoa) CRC patients’ supportive care needs are compared and contrasted before and 1 month after surgery using repeated measures ANOVA. RESULTS: Females comprised a larger proportion of younger (45%) than older (32%) patients, while more younger patients reported higher educational achievement. Younger patients reported more SCNs and significant increases in Health Information & Systems (HIS) needs over time, but low and declining Psychological SCNs. Care & Support (PCS) SCNs increased slightly, more so in the older group. Both groups showed significant increases in Physical SCNs. Sex SCNs were low but increased in younger while declining in older patients. CONCLUSIONS: Younger cancer patients reported higher HIS, PCS and less so Psy SCNs compared to their older counterparts at Baseline. Younger cancer patients show the most obvious increases in SCNs over the month following surgery, with higher HIS, Physical and Sex SCNs. Older patients demonstrated marked increases only in Physical SCNs. Otherwise, SCNs remained mostly unchanged from low pre-surgery levels. RESEARCH IMPLICATIONS: CRC and related surgery impact younger and older people differently. Excepting HIS needs, in this cohort, SCNs remained generally low. Psychological needs declined over time, indicating that these were largely anticipation-based. Most reported SCNs were lower that is reported elsewhere in the literature. Future research needs to consider cultural, service and age influences on SCN. CLINICAL IMPLICATIONS: Many CRC patients experience higher psychological need prior to surgery. In this cohort, significant jumps in both HIS and Physical SCNs indicate clinical shortfalls in the provision of both information and assistance in adjusting to the impacts of treatment. Differences in service provisions are likely to be responsible for major differences in SCNs. ACKNOWLEDGEMENT OF FUNDING: Health Care Promotion Fund grant 7080651, Food & Health Bureau, Hong Kong Government.
P1-83
Fatigue and Depression Among Younger and Older Breast Cancer Patients: The Mediating Role of Optimism
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BACKGROUND: Several studies reported lower levels of distress in younger than older breast patients cancer, but only a few studies assessed differences in cancer related fatigue (CRF) in this regard and their results were not conclusive. The aim was to assess levels of depression and CRF in older and younger breast cancer patients, post-chemotherapy treatment, and to assess the mediating role of optimism between age, depression, and CRF. METHOD: Participants were 84 breast cancer patients, 47 of whom were <60, and 37 ≥60, diagnosed with breast cancer stages I-III, 3 months after the end of chemotherapy. Patients filled out a physical symptoms list, Fatigue Symptom Inventory (FSI), Center of Epidemiological Studies – Depression Scale (CES-D), Life Orientation Test (LOT-R55) for optimism and socio-demographic and cancer-related questionnaires. RESULTS: Levels of depression and CRF were low to moderate in both groups, but the older cancer patients reported lower levels of CRF, but no statistically significant differences were found for levels of depression and optimism. CRF and depression were highly associated (r = 0.59). Multivariate regression analysis revealed that 49% of the variance of depression and 54% of the variance of CRF were explained by study variables. Physical symptoms and optimism were significant predictors of depression and CRF. The association of physical symptoms and depression, but not CRF, was partially mediated by optimism (z = 2.16, p < 0.05).

CONCLUSIONS: Although levels of CRF were higher in the older breast cancer patient group, age was not a predictor of either depression or fatigue, when background variables were controlled for. In addition, although CRF and depression were significantly correlated, distinct patterns of association to physical symptoms was found; direct association of physical symptoms with CRF was found, while the association of physical symptoms and depression was mediated by level of optimism.

RESEARCH IMPLICATIONS: This study contributes to the empirical knowledge about symptoms of depression and CRF in older breast cancer patients as compared to younger patients; although depression and CRF were highly associated, older cancer patients reported lower levels of CRF, but similar levels of depression. The different pattern of associations of physical symptoms and optimism versus each of the symptoms is of importance and should be further studied.

CLINICAL IMPLICATIONS: In contrast to previous studies, where stage of disease and treatment variables were controlled for, older patients exhibit levels of depression similar to those of younger patients. Therefore, clinicians should be aware of the risk of depression in older as well as younger patients. They should be also aware of the relation between depression and CRF, and also of their distinct characteristics. As suggested for depression, CRF should be also screened for.

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P1-84
Between Two Worlds: Liminality and Late-Stage Cancer-Directed Therapy
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BACKGROUND: Cancer-directed therapy near death is a growing trend among persons with late-stage cancer regardless of national healthcare delivery system. Although rates of aggressive chemotherapy (i.e. within 14 days of death) in developed countries vary, this phenomenon continues under-terred where access to biomedical technology exists. A theoretical framework is presented which describes cancer-directed therapy (e.g. chemotherapy) given for very advanced disease as a socio-cultural phenomenon which offers questionable benefits and portends suffering, but also potential for growth.

METHOD: Theories and concepts drawn from cultural anthropology, sociology, and existentialism illustrate how contextual factors contribute to the creation of a “liminal” space; the latter part of the cancer trajectory where living and dying can overlap. Derived from clinical observations, this conceptualization demonstrates that practice makes an important contribution to theoretical development in psychosocial oncology and end-of-life care research and practice.

RESULTS: When liminality is applied to clinical practice, cancer-directed therapy for terminal illness represents a temporal experience stemming from the advanced cancer patient’s uncertain position between 2 worlds as defined by acknowledged roles - neither sick role nor dying role. This tension suggests an existential crisis precipitated by challenges to one’s self where previously valued roles and newer meaningful ones are unattainable. Taboos about cancer, terminal illness, dying, and death...
serve as negative rites by masking authenticity during social interaction. An abrupt transition from this space to a dying role affords advanced cancer patients and their families little time for the instrumental or emotional tasks associated with dying and death. RESEARCH IMPLICATIONS: Biomedical explanatory models are inadequate to fully understand the lived experience of cancer patients and how they manage change over time. Moreover, the clinical significance of living/dying with paradoxical realities has received little attention in the psychosocial oncology assessment or intervention literature. This presentation will demonstrate how a theoretical framework can inform interventions for existential despair when patients with advanced metastatic disease express loss of meaning and interconnectedness with others. CLINICAL IMPLICATIONS: Applied to clinical practice, this perspective gives the cancer patient, family, and health care provider a way of “unmasking” a period of transition during terminal illness when aggressive disease-directed care continues. This conceptualization contributes to new theories on dying from cancer in a hypermodern society. Existential therapies, as part of whole person care, are discussed as an approach to support people during medical decision making and transition from disease-specific treatment to palliative care. ACKNOWLEDGEMENT OF FUNDING: Supported in part by a Doctoral Training Grant in Psycho-Oncology Social Work from the American Cancer Society.

P1-85

Hope and Meaning in the Context of Different Psychological Intervention Settings: When - to Whom - How?
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BACKGROUND: “To have hope then is to acquire a belief in your ability to have some control over your circumstances.” (Jerome Groopman). Hope and meaning are the spiritual domains in the care of cancer patients and are described as predictors for “good coping”. Hope as a never ending process is also a choice and involving will, which is influenced by different factors and different behaviours. Some psychosocial interventions are focusing on those factors relating to hope and meaning. METHOD: Different psychosocial interventions including the focus on hope and meaning will be demonstrated based on the literature search. Thereby it will be analysed at which stage of the illness to which these interventions are carried out and which psychotherapeutic methods are used. The importance of hope and meaning integrated in the basic communication between professionals, patients and their families will be characterized relating on the literature and existing data. RESULTS: I will discuss which different aims are described in the different used psychosocial interventions relating to hope and meaning. CONCLUSIONS: Hope and meaning are effective values for different outcomes, e.g. relating coping and quality of life the concept of hope and meaning should be integrated in the care of patients from the beginning of the diagnosis until the terminal phase of the disease. ACKNOWLEDGEMENT OF FUNDING: None.

P1-86

Hope and Optimism - The Additional Benefit for Patients With Cancer in the Interdisciplinary Treatment - From the Perspective of Psychoneuroimmunology
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BACKGROUND: “Face the worst while hoping for the best - because wonder and tragedy are always interwoven” (David Spiegel, Living Beyond Limits; 1993). Hope and its “little sister” optimism give us meaning and perspective in our lives. Both are important resources to power the will to live. Our patients define hope as “that you can still enjoy a good quality of life even if live expectancy is uncertain.” METHOD: We undertook a randomized study to evaluate a psycho-educational intervention program offered to an intervention group (IG) compared to a waiting group (WG) with the same intervention 6 months later and healthy volunteers (NC). Fifty-one postmenopausal women with breast cancer stage I, II, III and comparable healthy women used as a control group (Healthy Controls, HC), were evaluated in three different time points during a 6 months study period: A semi-structured interview, standardized psychological questionnaires and blood draws were carried out. RESULTS: We observed that even patients after curative treatment of early breast cancer and no evidence of disease experience a higher degree of state and trait anxiety as well as intrusion compared to NC. The stress hormone levels cortisol and noradrenalin were significantly elevated compared to NC. Furthermore, immune cell numbers were altered significantly in the patients group versus NC. Stress hormone levels and immune cell alterations were significantly improved in the IG but not in WG. CONCLUSIONS: We conclude that psychological variables are attributed to hormonal and immunologic parameters and may be influenced by psycho-educational interventions supporting the concept of the mind-body unity. ACKNOWLEDGEMENT OF FUNDING: Supported by grants of the Oesterreichische Nationalbank (Anniversary Fund)
PI-87

Measure of Hope & Spirituality in End Stage Renal Disease
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BACKGROUND: This study was undertaken to develop an insight into the psychosocial and spiritual issues in patients with End Stage Renal Disease (ESRD) in the Indian subcontinent. The palliative care needs of patients with ESRD are well documented. This study attempts to explore the relationship if any between spirituality and hope in patients with ESRD on maintenance haemodialysis. The secondary aim was to assess the symptom burden.

METHOD: 40 patients with ESRD undergoing haemodialysis in a unit in a semi-urban hospital setting in the Eastern part of India were randomly selected over a period of 3 months. Patients in all age groups and both genders were included. Patients who consented were requested to self-administer 2 questionnaires -Spiritual Health and Life Orientation Measure (SHALOM) and Hearth Hope Index (HHI). Both questionnaires were translated in Hindi, the local language. The symptoms experienced by the patients and their severity were also recorded to assess symptom burden.

RESULTS: The age of patients ranged between 35 and 80 with a mean of 54.8. There were 9 females. Most of the patients reported experiencing symptoms of depression, fatigue and pain. There appears to be a strong relationship between some indices of SHALOM and HHI. Relationship between Spiritual Dissonance and hope appears weak. These will be further discussed in detail at the conference.

CONCLUSIONS: Professionals should be able to recognise and address spiritual health issues to be able to provide holistic care to patients in palliative medicine. It is important for all health care professionals to be able to pick up symptom burden, mental health issues and seek specialist advice. RESEARCH IMPLICATIONS: A larger randomised multicenter study to assess the relationship between spiritual health and hope in ESRD should be undertaken to validate these results. CLINICAL IMPLICATIONS: Patients with ESRD have a comparable, if not greater, symptom burden to patients suffering from terminal malignancies. Addressing the spiritual concerns in such patients & helping them to foster a sense of hope is an integral part of the holistic care of such patients.

ACKNOWLEDGEMENT OF FUNDING: None.

PI-88

The Detection of Positive Responses After a Breast Cancer Diagnosis: A Systematic Review
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BACKGROUND: This systematic review aims to find the best available evidence regarding positive responses in women diagnosed with breast cancer from their disease experience. METHOD: Relevant outcomes were located in electronic databases (Medline, PsycINFO, Web of Science, Scopus, Cochrane, CINAHL, Wiley Online Library, DIALNET and TDX) using subject headings, keywords, titles and abstracts until 2012. A selected list of descriptors was used to identify studies including positive psychology related responses from breast cancer. The information was extracted independently by 3 reviewers and results were compared. Discrepancies were resolved by consensus. There was no restriction regarding the year of publication, study design, sample size or participants’ demographical and medical characteristics. RESULTS: 59 studies were included in the review. Posttraumatic growth, optimism and spiritual coping were the most common responses found among papers. Also an inverse association between developing positive responses and age was found, as well as a direct association between positive responses and having children or being partnered. Additionally, 5 groups of positive psychology related therapies were found to be applied on breast cancer patients: hope therapy, meaning-making therapies, spiritual therapies and written emotional-expression interventions. These therapies were capable of enhancing QoL, well-being, PTG, hope, meaning, happiness, optimism, life satisfaction and benefit finding in women with breast cancer. CONCLUSIONS: Positive psychology is beginning to be studied in relation to breast cancer. It has been found that these positive responses are given in 3 vital spheres: the personal sphere (e.g. well-being, personal growth), social sphere (e.g. enhanced altruism, personal relationships) and disease-related sphere (e.g. hope, meaning-making). However, few interventions have been developed in order to promote these positive responses. Only 5 groups of therapies have been found to be applied in breast cancer patients. This entails a need to engage more research in order to develop ways of promoting positive responses among women with breast cancer. RESEARCH IMPLICATIONS: This review reveals that more evidence is needed regarding positive psychology, especially among women with breast cancer. Thus, future research needs to examine those women who are more likely to develop positive responses from their experience of breast cancer. Identifying the processes through which these women develop...
responses like hope, meaning or optimism, between others, is also relevant for researchers in developing therapies to promote these responses. CLINICAL IMPLICATIONS: Psychologists may obtain benefit from the information obtained in this review in, at least, 2 ways. On the one hand, it provides relevant data regarding the demographical and medical characteristics of those women who tend to develop positive response from breast cancer, what can result in useful screening criteria. On the other hand, it also provides psychologists with efficient therapies in promoting positive responses among women diagnosed with breast cancer ACKNOWLEDGEMENT OF FUNDING: None.

PI-89
Effect of Group Meaning-Centered Hope Therapy for Cancer Patient and Their Families on Their Quality of Life
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BACKGROUND: Quality of life is a multidimensional concept which is considered as main purpose of supportive care in chronic diseases like cancer. Many interventions have been done for quality of life improvement in cancer patient, however, effect of indirect intervention on patients’ quality of life has not been investigated yet. This work was designed and carried out to determine effect of group meaning centered hope therapy on cancer and their families’quality of life. METHOD: This survey was a 3 group clinical trial with pre-test and post-test design in which effect of independent variable (meaning-centered hope therapy) on dependent variable (quality of life) was investigated. The sample was selected among cancer patients who were aware of their diagnosis were in the early stage of disease and had pass one course of chemotherapy. Statistical analysis of data was performed in tow section, descriptive and illative. RESULTS: Based on our finding, group meaning-centered hope therapy for patients and their families were useful compared to control group. The results show that group sessions either for patient and their families equally improved their quality of life. CONCLUSIONS: Quality of life in cancer patients improved by group meaning-centred hope therapy either for patients or their families. CLINICAL IMPLICATIONS: When patient can’t come to group therapy if one of the home caregivers (families) come in group session we can increase patient’s quality of life. ACKNOWLEDGEMENT OF FUNDING: Thanks to Entekhab center of Supportive and Palliative Care for kind cooperation and support that made conducting this research possible.

PI-90
Meaning in the Life of Japanese Female Breast Cancer Patients: Its Idiographic Aspects
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BACKGROUND: Meaning in Life (MiL) is a core concept for psychological care of cancer patients. The author has already reported quantitative aspects of MiL in Japanese female breast cancer patients (IPOS, 2012). This study aims to assess its idiographic nature using the “Schedule for Meaning in Life Evaluation” (SMiLE), an individualized instrument for the assessment of MiL, which was developed in Germany and validated in English, French, Japanese and Spanish. METHOD: In the SMiLE the respondents list 3–7 areas providing MiL to their lives in their current situation, and rate the current level of satisfaction (−3, very unsatisfied, to +3, very satisfied) and importance (0 to 7) with each area. 200 healthy Japanese females and 119 female breast cancer patients (age 30–70) diagnosed as Stage I-III, without recurrence and metastasis, were asked to answer the SMiLE and other questionnaires. The areas nominated were assigned to 15 categories identified in a representative study conducted in Germany (Family, Partnership, Social relations, Occupation/Work, Leisure time/Relaxation, Home/Garden, Finances, Spirituality/Religion, Health, Satisfaction, Nature/Animals, Social commitment, Hedonism, Art/Culture and Growth). RESULTS: (a) 110 patients (P, age 54.6 ± 10.4) and 192 healthy females (H, age 49.6 ± 11.1) filled in the SMiLE. In P, “Family” was most often indicated, followed by “Leisure time/Relaxation” and “Social relations”, while “Spirituality/Religion”, “Finances” and “Home/Garden” were the least 3 areas. In H, “Family” was also the most, but “Occupation/Work” was the 2nd, “Social relations” was the 3rd. “Spirituality/Religion”, “Home/Garden” and “Art/Culture” were the least ones. (b) Mean values of satisfaction were 1.90 ± 1.27 (P) and 1.75 ± 1.32 (H) (P > H, p < 0.05) and those of importance were 5.47 ± 1.60 (P) and 5.57 ± 1.57 (H) (n.s.). CONCLUSIONS: Patients showed higher levels of satisfaction with MiL in total. That implies that the patients are feeling more grateful for their lives. The percentages of the people who have nominated the specific categories were not significantly different between 2 groups except for 2 categories, “Occupation/Work” and “Leisure time/Relaxation”, the former H listed more, the latter P listed more. The mean value of satisfaction of P for the category “Social commitment” was significantly lower than H's.
show lower results on: Awe, Whole, Strength, Peace, Hope, Faith. Physical scale negatively seems to correlates with Whole, Emotive scale with Connect, Strength and Faith, Dyspnoea with Awe. CONCLUSIONS: The partial results indicate that QoL, Spirituality and Hope are key variables in the elderly palliative cancer patients. Actually, we can observe a critical QoL with a poor global status and with more symptoms. Regarding Spirituality, our patients seems to demonstrate a less sense of participation to these dimensions. Various aspects of QoL tend to be associated with different spiritual issues. Our results, although observational, allow interesting reflections on the Italian context and indicate the opportunity to continue further studies to more accurately describe the relationship between QoL, psychological well-being and spiritual needs. ACKNOWLEDGEMENT OF FUNDING: None.

PI-92
Investigating the Role of Physical Symptoms on Important Goal Pursuit in Early-Stage Breast Cancer Patients
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BACKGROUND: The diagnosis and treatment of early-stage breast cancer can interrupt ongoing goal-directed behaviour, and disrupt or completely block the pursuit of important personal goals. Symptoms of pain, fatigue, and insomnia are common across different treatments. Patients who report this particular cluster of symptoms are highly susceptible to functional impairment and poor psychological outcomes. This prospective study sought to better understand the relationship between physical symptoms and personal goal pursuit in breast cancer patients over time. METHOD: Forty-three women recently diagnosed with early-stage breast cancer provided self-report data at 1, 2, 4 and 6 months post-surgery. Questionnaires assessed physical symptoms, cancer-related goal interference, and psychological distress. Non-parametric correlations, cluster analysis and one-way analysis of variance were conducted to test the study hypotheses. RESULTS: The 5 most prevalent symptoms at each time-point were pain, difficulty sleeping, lack of energy, feeling drowsy and difficulty concentrating. Goal interference was significantly correlated with pain at T1, difficulty sleeping and feeling drowsy at T2, lack of energy at T2–T4, and difficulty concentrating at T1–T4. Women in the moderate-to-high symptom cluster had significantly higher average goal interference, depression, anxiety and stress than women in the
low-to-moderate cluster at each time-point. CONCLUSIONS: These novel findings indicate that common treatment-related physical symptoms differentially impact on the personal goal pursuit of breast cancer patients in the months following surgery. As expected, cancer-related goal interference was higher in women experiencing higher combined levels of these symptoms. Women in this subgroup also reported higher levels of psychological distress. RESEARCH IMPLICATIONS: This study provides important insight into the impact of cancer diagnosis and treatment on important goal pursuit, an under-researched topic in oncology. More research is needed to further explore the role of physical symptoms on goal pursuit in the short- and long-term following a cancer diagnosis. CLINICAL IMPLICATIONS: The findings suggest that women who experience high levels of pain, insomnia and fatigue at one or multiple times following surgery may require ongoing psychosocial support to help them cope with goal interference, disengage from unattainable goals and continue pursuing goals that remain attainable. ACKNOWLEDGEMENT OF FUNDING: None.

PI-93
Course and Predictors of Hopelessness and Demoralization
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BACKGROUND: The constructs of hopelessness and demoralization represent 2 different approaches that are currently used to assess existential distress in patients with cancer. The present study aims to determine and compare the course and predictors of these phenomena over 1 year. Given the high relatedness between hopelessness and depression, we further aimed to analyze the course and potential difference of these constructs in 2 groups of cancer patients with different prognosis. METHOD: At T1, N = 307 patients with lung/gastrointestinal (46%) and breast/gynecological (54%) cancer were recruited during inpatient treatment. The majority (79%) were diagnosed with advanced cancer. 55% received palliative treatment. After 1 year (T2), 25% of the patients had died and N = 150 (65% of remaining patients) participated again. Patients completed self-report measures including Beck Hopelessness Scale, Demoralization Scale, Patient Health-Questionnaire-9, and Memorial Symptom Assessment Scale - Short Form. In order to identify predictors of each dependent variable at T2, regression analyses were conducted controlling for baselines values, age, gender, treatment phase (curative vs. palliative) and number of physical problems at T2.

RESULTS: At T1, moderate to severe scores were found in 33% of the patients for hopelessness, 33% for demoralization, and 30% for depression. At T2, moderate to severe scores were found in 43% for hopelessness, 27% for demoralization, and 29% for depression. The correlation between hopelessness and demoralization was r = 0.75 (p < 0.001). At T2, the mean hopelessness score was significantly higher (M = 7.6, SD = 2.8 vs. M = 8.1, SD = 3.0) (p = 0.003). Hopelessness at T2 was higher in patients with lung/gastrointestinal cancer (β = 0.17, p = 0.04) and in those with more physical problems (β = 0.30, p < 0.001). Demoralization at T2 was only higher in those with more physical problems (β = 0.29, p < 0.001). CONCLUSIONS: The differences in changes of hopelessness and demoralization over 1 year point toward different conceptual emphases within these constructs, despite their high intercorrelation. This is further underscored by patients with lung/gastrointestinal cancer being more hopeless at T2 compared to T1, but not more demoralized, depressive or anxious. Importantly, this result was independent of gender and treatment phase. RESEARCH IMPLICATIONS: Based on the results it could be hypothesized that the constructs of hopelessness and demoralization identify different aspects of existential distress in cancer patients. Hopelessness refers to negative cognitive expectations of the future, while demoralization refers to both emotional and cognitive symptoms of loss of meaning and a sense of failure in addition to feelings of hopelessness. Hopelessness might hence more closely relate to changes in prognosis. CLINICAL IMPLICATIONS: Only patients with lung/gastrointestinal cancer showed an increase in hopelessness after 1 year, independent of treatment phase. An explanation might be that among those receiving palliative treatment, patients with lung/gastrointestinal cancer still face a faster disease progression than patients with breast/gynecological cancer. Patients with lung cancer did however not show an increase in depression, anxiety, and demoralization in our sample, indicating that an increase in hopelessness is not necessarily associated with higher emotional distress. ACKNOWLEDGEMENT OF FUNDING: This study was funded by the German Donor’s Association.

PI-94
Oncological Case Management and Care for Concerns Regarding Meaning - A Case Study
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BACKGROUND: Several Dutch hospitals - among which the Maasstad Hospital - have recently introduced casemanagement in their oncological...
care chains. The casemanagers of the Maasstad Hospital call their patients by telephone 2 to 5 days after they have received the diagnosis to monitor their well-being (post-diagnosis telephone call). In the current exploratory mixed-methods study the experiences of oncological patients and casemanagers of the Maasstad Hospital regarding casemanagement and the post-diagnosis telephone call were investigated. METHOD: Semi-structured, qualitative interviews were held with the 6 casemanagers of patients with ovarian, prostate, or breast cancer that were treated with curative intent. In addition, seven post-diagnosis telephone calls were recorded by the urology and gynaecology casemanagers. Consecutive patients with prostate, ovarian or breast cancer were asked to fill out a short questionnaire on their satisfaction with the care from their oncology nurse (N = 52) and 11 of these participants took part in a semi-structured qualitative interview. All interviews were verbally transcribed. The transcripts were then coded and the coded fragments were summarized in order to answer the research questions. RESULTS: In particular the information about the diagnosis, curative treatment and prognosis that was provided by the casemanagers and the availability of the casemanagers for the patient’s needs were appreciated by patients. Nevertheless, several areas of improvement were observed (see Conclusion). The casemanagers seemed to be equipped to carry out the post-diagnosis telephone calls. However, they did not always respond adequately to questions and concerns regarding meaning that were raised by the patients - such as feelings of guilt, questions about performing one’s profession, and fear of death - thereby overlooking some of their needs. CONCLUSIONS: There is room for improvement in casemanagement for cancer patients in the Maasstad Hospital. The following recommendations are made, that may also benefit other hospitals:

- Ensure attention to a patient’s concerns regarding meaning through guidelines about the goal and structure of the post-diagnosis telephone call
- Provide regular contact between patients and casemanagers.
- Assign only one casemanager to a patient.
- Adjust the amount of information that is provided to the needs of the patient.

Provide structure in the duration of consultations so that waiting-time is reduced, but patients can voice all of their questions and concerns.

RESEARCH IMPLICATIONS: The current exploratory study raises a number of questions regarding the presence and effects of spiritual needs, and the need for and the effects of spiritual care in the curative oncological setting. As of yet not much is known about these issues, particularly within the Netherlands. Furthermore, information is needed on the effects of the implementation of oncological casemanagement on patient satisfaction and well-being within the Netherlands, to further increase the quality of oncological care.

CLINICAL IMPLICATIONS: The present study has provided information on several issues that should be taken into account when implementing casemanagement in a hospital’s oncological care chain. Especially the structuring of the consultations with the casemanager and the provision of information, need to be considered carefully in order to fully meet the needs of the patient without increasing the workload of the casemanager too much. Involving the patient in these matters is key.

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P1-95
A Case Report of Application of Existential Approach in an Elder Cancer Patient With Suicide Ideation
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BACKGROUND: Cancer patients maybe think suicide as coping strategy in a sudden or for a long time when they fell much distress or hopelessness. We can see the cancer as existential frustration (Frankl, 1959) or really anxiety about death to patients (Yalom, 2008), and the therapeutic relationship, the patient-therapist encounter, will heal patients in terror of existential isolation (Yalom, 1980). This case report illustrates the meaning of the relationship in a elder cancer patient with high suicide risk.

METHOD: The patient is a 70-year-old man who divorced 50 years ago and lives alone thereafter. He was diagnosed with prostate cancer, stage IV, with spinal metastasis in January 2013. His suicide ideation resulted from his dysfunctional left leg and the diagnosis. The psychiatrist referred him to the psychologist. Till the end of April, he has undergone 11 sessions bedside individual psychotherapy during the period of inpatient, 5 sessions on the telephone after discharged from hospital, and 1 session in outpatient clinic. All sessions will be analyzed based on the approach of logotherapy and existential psychotherapy.

RESULTS: The patient had strongly suicide ideation at first but finally had the will to living again. It was the relationship effected his attitude remarkably because he said he appreciated our team “remembered” him. He had no will to tell us why he lived alone all his life. But he knew he deserved to be loved though this experience. He
practiced hard walking instead of jumping to death alone at home. He found the meaning of suffering (Frankl, 1959), showed his potentialities in life (May, 1983) and took his responsibilities (Yalom, 1980). And these changes were revealed in here and now (Yalom, 1980) in psychotherapy. CONCLUSIONS: Even we can use some screen tools to assess the problems cancer patients with suicide risk have, it still has obstructions. Such as patients don’t want to talk or it’s not right time to use these tools. At this time, therapists are “the tool”. According to Frankl’s and Yalom’s concepts, if therapists see the suicide ideation/attempts of cancer patients not masks for other problems, if therapists can contain patients’ terror of death and bravely enter into their existential concerns, and these attitude can facilitate patients finding the meaning of suffering autonomously in a genuine and secure base. CLINICAL IMPLICATIONS: If applying existential approach to cancer patients appropriately, the therapeutic alliance will get much more steady and secure. With to cancer patients appropriately, the therapeutic alliance will get much more steady and secure. With much more helpful relationship, any screen tool or intervention will get much effective. ACKNOWLEDGEMENT OF FUNDING: None.

PI-96
The Influence of Chemotherapy on Cognitive Functioning in Patients With Breast Cancer
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BACKGROUND: The effect of chemotherapy on cognitive functioning has not been adequately described yet, and results of previously published studies provide equivocal results. The aim of the study is to assess the influence of chemotherapy on cognitive performance (memory and learning, information processing speed) and some aspects of executive functions in patients with breast cancer. METHOD: 31 breast cancer female patients qualified to adjuvant chemotherapy with four doses of AC (mean age = 52 ± 8) participated in the prospective study before chemotherapy initiation (T1), after the 2nd cycle (T2) and up to 30 days after the last dose of chemotherapy (T3). The evaluation of cognitive functioning was carried out using the Trail Making Test A&B (TMT A&B), the Stroop Color-Word Interference Test (SCWIT), the Digit Symbol Substitution Test (DSST), the Fluency Test (COWA) and the Rey Auditory Verbal Learning Test (RAVLT). RESULTS: The results obtained showed significant improvement in: TMTA in T3 compared to T1 (z = 2.9; p = 0.004); TMTB in T2 compared to T1 (z = 4.14; p = 0.000); T3 compared to T1 (z = 4.04; p = 0.000). Significant improvement was also found in the second part of SCWIT in: T2 compared to T1 (z = 2.845; p = 0.004); T3 compared to T1 (z = 3.989; p = 0.000); T3 compared to T2 (z = 2.02; p = 0.04). Moreover significant improvement was observed in DSST: T2 compared to T1 (z = 3.55; p = 0.000); in T3 compared to T1 (z = 3.61; p = 0.000). Significant deterioration was found in the first part of SCWIT in T3 compared to T1 (z = 2.34; p = 0.019). CONCLUSIONS: Our results indicate that after adjuvant chemotherapy with four doses of AC for breast cancer only the time of accomplishment of the first part of the Stroop Color-Word Interference (reading colors written in black) worsened, whereas in all other tests no differences or even improvement was found. Further analyzes will be performed. RESEARCH IMPLICATIONS: The results obtained are inconclusive. Probably other factors which were not taken into consideration during these analyzes could have influenced these results. Further studies should include other factors (e.g. emotional and somatic functioning) which might influence cognitive performance. Use of tests, which have psychometrically matched, alternate forms could help to minimize practice effect. Moreover, different types of chemotherapy should be compared. CLINICAL IMPLICATIONS: While analyzing cognitive functioning of patients treated with chemotherapy various factors should be taken into consideration, e.g. emotional and somatic aspects of functioning of patients. It is important to use, if possible, the tests with have alternate forms to minimize practice effect. ACKNOWLEDGEMENT OF FUNDING: None.

PI-97
Self-Report Behavioral Measures Associate More Strongly Than Psychosocial Measures With Diurnal Salivary Cortisol Patterns in Persons With Cancer
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BACKGROUND: Diurnal salivary cortisol rhythms are associated with various psychosocial and behavioral factors (e.g. sleep quality and stress). Most psycho-oncological studies involving cortisol were done with specific cancer groups, most notably breast and prostate cancer patients. Little is known about patients with mixed cancer diagnoses. At the same time, the relation between salivary cortisol and physical activity has not been explored
before. The current study aims to investigate which measures are better predictors of cortisol response. 

**METHOD:** The study analyzed data collected at a baseline assessment prior to a randomized controlled trial examining the effects of an exercise intervention on cancer-related quality of life. Ninety-four persons with mixed cancer diagnoses completed an online questionnaire with behavioral measures (sleep quality, daily physical activity) and psychosocial measures (perceived stress, mood, social support). They also collected five saliva samples at home during 1 day (waking, 45 minutes after waking, noon, 5pm and 9pm). Cortisol values were natural log transformed before analysis.

**RESULTS:** We calculated the diurnal slope (by linear regression on collection time) and area-under-the-curve (AUC). Poor sleep quality was correlated with flatter diurnal slope ($r = 0.27$, all $p < 0.05$ below), elevated evening cortisol ($r = 0.30$) and higher AUC ($r = 0.28$). Low physical activity was associated with elevated evening cortisol ($r = 0.21$) and higher AUC ($r = 0.25$). On the other hand, psychosocial measures did not associate with salivary cortisol patterns, despite the fact that behavioral and psychosocial measures were correlated. Regression on diurnal slope and AUC with behavioral and psychosocial measures confirmed the same findings.

**CONCLUSIONS:** Among persons with mixed cancer diagnoses, low physical activity and poor sleep quality salivary were found to be associated with higher cortisol levels and flatter patterns. Interestingly, while psychosocial measures were correlated with poor sleep quality, they did not appear to affect salivary cortisol secretion. The findings of the study suggest that behavioral measures of physical activity and sleep may be superior to psychosocial measures in predicting cortisol responses, and by extension physiological outcome, in cancer patients.

**ACKNOWLEDGEMENT OF FUNDING:** None.

**BACKGROUND:** An effective psychological assessment is the one that promotes a standardized and personalized information gathering. It ought to allow a quantitative comparison with normative data and a qualitative analysis of the personal experience. The more complex is the focus of such an assessment, the more important is the integration of quantitative and qualitative data. In order to develop a supportive-expressive group therapy on body image in breast cancer patients, we integrated psychometric and narrative methods. 

**METHOD:** During the phase I of the study we translated and validated the Body Image Scale (Hopwood et al., 2001) on an Italian sample ($n = 217$) of cancer patients. We also developed and validated a procedure for eliciting (open questions) and analyzing (computer-aided qualitative data analysis software) the personal narratives about Quality of Life, cancer and body image. The 2 tools have been administered together with the Psychological Distress Inventory (Morasso et al., 1996) and the Distress Thermometer (Roth et al., 1998). In phase II we explored constructions of breast cancer patients ($n = 127$) using Body Image Scale and narrative procedure. 

**RESULTS:** The Italian version of Body Image Scale shows a high reliability (Cronbach’s alpha = 0.919). As in the original English version the Factor Analysis (Principal Component Analysis) highlights one significant factor (% of explained variance = 58.281). The analysis of the written narratives about Quality of Life, cancer and body image shows some recurrent clusters: (I) QoL is usually described in terms of daily normality; (II) cancer narratives refer to psychological constructs of distress and anguish; (III) questions about body image subsume a relational barrier, especially with partners.

**CONCLUSIONS:** The described procedure seems to be useful in assessing the patients distress about body image and in developing a tailor-made intervention. On one side we were able to identify high-level distress women, on the other side we clearly defined the personal experiences and the recurrent themes to be elaborated during the group therapy. It is interesting to note that the relational themes were the core issues of illness experience and specifically of problems in coping with changes in body image. 

**RESEARCH IMPLICATIONS:** An integration of quantitative and qualitative procedures in assessing cancer experience seems to be a preferential option. Narrative approaches enhance and specify the psychometric results. Standardized tools allow to compare personal narratives with a normative sample. Such an integration is particularly significant whenever we aim to develop a supportive-expressive intervention.

**CLINICAL IMPLICATIONS:** The body image changes in breast cancer patients involve aesthetic and relational issues. In our research recruited women highlighted that the more stressful issue was the relational barrier they experienced. Dealing with

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**P1-98**

**Looking at the Mirror: Different Approaches in Assessing Body Image in Breast Cancer Patients**

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BODY: This study investigates the recall of information after first oncological consultations in female patients with breast cancer. The main objective is to propose a method to explore the association between the agreement of information recalled by patients and that provided by oncologists. The preliminary data show that the patients recall a mean of 2.5 side effects information (cut score of 4) is given, the less information patients recall. This result is consistent with the literature. Future studies should consider additional factors such as anxiety of the patients, the illness stage, the doctors’ style, the context and when the memory is measured. ACKNOWLEDGEMENT OF FUNDING: None.

P1-100
Assessment of Cancer Outpatient Satisfaction With Care: A Systematic Literature Review of Self-Reported Instruments
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BACKGROUND: Cancer care is increasingly provided in outpatient settings for treatment follow-up or cancer survivors’ surveillance. Patient satisfaction is now recognized as an important indicator of care quality, related to adherence and health outcomes, and providing indications for care improvement. A literature review was performed to highlight the population target, content, developmental process and psychometric performance of patient satisfaction assessment in the cancer outpatient setting, and to highlights needs for improved cancer outpatient patient satisfaction instrument. METHOD: A systematic literature search from the past 20 years using the Medline, PsychInfo, CI-NAHL and Cochrane databases to identify studies that described the development/validation of cancer patient satisfaction questionnaires to be used in the outpatient setting, or that applied patient satisfaction questionnaires in that specific setting (excluding the cancer screening or advanced/EOL cancer care setting) was conducted. A combination of keywords including satisfaction with care OR patient satisfaction, AND determinant OR factor OR predictor AND psychomet* OR validation AND cancer AND ambulatory OR outpatient were used. Reference lists of patient satisfaction reviews and relevant organization websites were also consulted. RESULTS: A total of 146 citations were identified, mostly from the past 10 years. After removing duplicates, analysis of these citations indicated that 13 studies described questionnaires/subscales
specifically designed for the cancer outpatient setting. Among these studies, the population target mainly included any cancer diagnosis type. Domains of care assessed addressed access, availability, choice, communication/interpersonal skills, convenience, continuity, coordination, effectiveness, health promotion, multidisciplinary teamwork, waiting time. Whereas most questionnaires were developed according to a multi-step approach, only 2 questionnaires underwent a (non-simultaneous) cross-cultural validation. Twelve questionnaires underwent at least basic psychometric analyses including construct validity and internal consistency analyses. CONCLUSIONS: The number of studies addressing patients’ perception of the quality of care in the cancer outpatient setting is increasing, reflecting the need to improve cancer patients’ interactions and navigation through long-term, multidisciplinary and multi-setting care. However, there is paucity of studies using psychometrically solid cancer outpatient satisfaction questionnaire. No such questionnaire developed in a cross-cultural setting, taking into the account the characteristics of different cultures, was identified. RESEARCH IMPLICATIONS: There is urgent need to develop a cross-cultural and methodologically sound cancer patient satisfaction questionnaire that could be used in international studies aimed at assessing and comparing results of initiatives for care improvement in the oncology outpatient setting. CLINICAL IMPLICATIONS: During the initial diagnostic-treatment, the metastatic chronic treatment or the surveillance phase of the cancer trajectory, cancer patients or survivors are regularly followed over long time periods in outpatient settings, e.g.: to check for treatment effects, to monitor disease recurrence or evolution, to manage symptoms or adverse effects, or to address psychosocial issues. Assessing patient satisfaction in this context may provide indications for care improvement in the clinical encounter or at the institutional level. ACKNOWLEDGEMENT OF FUNDING: None.

PI-101
Prevalence, Intensity, and Predictors of the Supportive Care Needs of Women Diagnosed With Breast Cancer
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BACKGROUND: The assessment of supportive care needs is a crucial step in the development of appropriate interventions that may improve the quality of life of cancer patients. This review describes and analyzes the prevalence and predictors of the unmet supportive care needs of breast cancer (BC) patients and survivors and suggests paths for further research. METHOD: Multiple databases were searched (CINHAL, PubMed/Medline, PsycInfo), considering only quantitative studies using validated needs assessment instruments and focusing uniquely on women diagnosed with BC, returning 761 hits. After removing duplicates, titles and abstracts were inspected for relevance (439 papers). A remaining fifty-seven were read in entirety, of which thirty-three were rejected as they did not employ validated measures or did not report concrete data regarding frequencies or mean scores. RESULTS: Twenty-four studies answered to all eligibility criteria. Twenty were cross-sectional and the remaining 4 were longitudinal. Most included patients at different moments along the BC trajectory, from diagnosis to decades into survivorship, with the major proportion of patients under treatment. Results clustered around psychological and information needs, with the top concern being “fear of the cancer returning.” Predictors of higher needs included advanced disease stage, greater symptom burden, shorter time since diagnosis, higher levels of distress, and younger age. Prevalence differed between cultures with Asian women reporting greater information needs and lower psychological needs compared to Western women. CONCLUSIONS: To date, studies assessing BC needs are primarily cross-sectional and include women who are at different moments along the BC trajectory, employing different measures, or the same measure scored in different ways, making comparison between studies problematic. The paucity of psychosocial factors assessed in relation to needs thwarts our ability to understand and predict who is at risk for greater needs. RESEARCH IMPLICATIONS: In illustrating what is known so far about the needs of women who have been diagnosed with BC we can move forward and design research protocols to refine our understanding in order to predict who is at risk for greater needs and how needs are likely to change over time. Specifically, future research should delve deeper into individual factors that may influence needs, employ longitudinal designs, and use unambiguous scoring and reporting of needs. CLINICAL IMPLICATIONS: This study is the first step in designing effective care for those women who need it most at the right time, thereby optimally allocating scare resources. Furthermore, meeting the needs of BC patients may promote better health related quality of life. ACKNOWLEDGEMENT OF FUNDING: Institut Cure; Ligue contre le cancer.
P1-102
Validation of the Zarit Scale for Assessment of Caregiver Burden in Mexican Primary Caregivers of Cancer Patients
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BACKGROUND: Being a caregiver of a person with a disability or chronic illness has a diversity of psychosocial consequences. Caregivers often assume the role of assistance without notice and no knowledge in care tasks. Several studies report exhaustion, fatigue, insomnia, weight loss and deterioration of health in caregivers of people with cancer. To determine the psychometric properties of the Zarit Scale on Mexican primary caregivers of patients with cancer. METHOD PARTICIPANTS: Participants were 261 women (72.7%) and 98 men (27.3%) with a mean age of 43.4 ± 13.0 years caregivers of cancer patients at Mexico’s National Cancer Institute. INCLUSION CRITERIA: Family, acquaintance or friend who can read and write, that perform care activities for the patient with cancer (with any diagnosis, stage and treatment), received no financial remuneration. Exclusion criteria Family, acquaintance or friend who can’t read and write who reports receiving financial remuneration for their care activities and has health care training. INSTRUMENTS: Zarit Scale, Beck’s Depression Inventory (BDI), Beck’s Anxiety Inventory and The Goldberg’s General Health Questionnaire (GHQ). RESULTS: Using principal component analysis with varimax rotation set to three factors was determined that the factor structure was similar to the original version. The internal consistency of the overall scale was an appropriate index (α = 0.90). Cronbach’s alphas for subscale had the following values: Impact of caregiver α = 0.90, α = 0.76 Interpersonal Relationship Expectations of self-efficacy and α = 0.67 explaining the 51.65% of the variance. The validity through correlations with concurrent measures showed significant (Pearson’s r): BDI.54, BAI 56 and GHQ .48, (p < 0.05). CONCLUSIONS: The Zarit Scale on Mexican primary caregivers of patients with cancer has adequate construct validity, internal consistency and concurrent validity for use in cancer patients from the Mexican population. The relevance of these results is a cost effective tool to provide timely mental health care early in caregivers for those in need. RESEARCH IMPLICATIONS: In Mexico there was not an adapted and standardized scale for the assessment of burden in primary caregivers of patients with cancer. The results of the study propose The Zarit scale for Mexican primary caregivers of patients with cancer as an instrument with psychometric properties. CLINICAL IMPLICATIONS: Its use will enable an appropriate assessment of caregivers of cancer patients as a first step in developing help manuals and interventions that promote self-care, with the aim of reduce care burnout and promote optimal care of the cancer patient. ACKNOWLEDGMENT OF FUNDING: Detecting of deterioration of health in caregivers of people with cancer through the Zarit Scale may benefit caregivers Mexicans overwhelm in cancer patients, is relevant because it can achieve reliable assessment validity, and thus develop counseling programs in this group of caregivers.

P1-103
Patient Competence in the Context of Cancer: A Contribution to Construct Validation
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BACKGROUND: Patient competence (PC) is a construct that has gained some attention recently as it aims at describing skills and abilities required for patients with cancer when confronting coping tasks arising from this life-threatening chronic disease and its treatment. This study attempts to comprehensively validate a new self-rating measure of PC (published in 2008) in order to further clarify this construct and provide a sound methodological basis for further research on its determinants and outcomes. METHOD: In a longitudinal multi-centre study, a total of 512 patients with breast, colorectal, or prostate cancer will be surveyed at the beginning and the end of their oncological rehabilitation, and 9 months afterwards. In addition to self-rated PC, fear of progression, coping with illness, self-efficacy for coping with cancer, and quality of life will be assessed at all points of measurement as validity criteria. Data analysis will employ structural equation modeling and repeated measures ANOVAs controlling for diagnosis, treatment type (curative vs. palliative), and gender. The factorial validity of the PC measure will be tested via confirmatory factor analyses (CFA). RESULTS: At the time of preparing this abstract,
200 patients have already been recruited into the study. At the congress, we will report on the results of a CFA for the data of the first measurement point for which we expect to have available approximately 400 patients by then. It is assumed that it will be possible to replicate the 8 dimensions of PC (5 problem- and 3 emotion-focused ones) that were found in the original publication. In addition, we will report on the relationships between the dimensions of PC and the validity criteria mentioned above. CONCLUSIONS: The present study will provide a comprehensive basis for determining the validity of the construct of PC as measured by the original questionnaire. If necessary in the light of empirical evidence, it will also help modify and improve its subscales and refine the underlying conceptual model. RESEARCH IMPLICATIONS: Since it has been claimed that PC is crucial for a variety of outcomes in the context of cancer (and other chronic conditions), a thoroughly validated instrument for measuring PC in this field is a prerequisite for testing hypotheses relating PC to, e.g. quality of life, well-being, fear of progression, or even survival of cancer patients. Therefore, this study will help build the methodological basis upon which future research on these hypotheses may proceed. CLINICAL IMPLICATIONS: Having available a reliable and valid measure of PC and its distinct facets will capture the whole range of inter-individual differences that exist with respect to this set of patients’ coping skills and abilities. As such, it will also help develop and evaluate interventions for promoting PC that are sensitive to coping tasks that may be specific for a given type of cancer. ACKNOWLEDGEMENT OF FUNDING: This study is supported by the German Federal Ministry of Education and Research.

PI-104
Survivor Unmet Needs Survey (SUNS) for Hematological Cancer Survivors: A Psychometric Assessment
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BACKGROUND: Addressing the needs of cancer survivors is central to providing optimal supportive care. Relevant and psychometrically sound needs assessment tools are required to accurately assess survivor needs. There is an absence of valid and reliable, multi-dimensional needs assessment tools for use within hematological cancer survivor populations. This study aimed to rigorously assess the relevance, reliability and validity of the Survivor Unmet Needs Survey (SUNS) for use in an adult sample of hematological cancer survivors. METHOD: The SUNS is an 89-item measure of cancer survivor unmet needs across five domains, including, Emotional Health, Access and Continuity of Care, Relationships, Financial Concerns and Information. The SUNS was developed and psychometrically evaluated in a heterogeneous sample of Canadian cancer survivors. In this study, the SUNS was psychometrically evaluated for use with Australian hematological cancer survivors using data collected from hematological cancer survivors, aged 18–80 years at time of study and recruited from four Australian population-based cancer registries. A second survey was completed by a sub-sample of survivors from 2 of the registries to assess instrument test-retest reliability. RESULTS: To date SUNS data from 492 hematological cancer survivors from three registries have been entered and analysed. Preliminary factor analysis using data from 368 survivors who completed all 89 items of the SUNS, illustrates initial support for use of the original five-factor structure of the SUNS in an Australian hematological cancer survivor population. Preliminary analysis also suggests satisfactory levels of internal consistency; and construct and convergent validity. Floor effects were evident for all five domains. CONCLUSIONS: Needs based assessment is a vital step in achieving optimal supportive care. However, no previous multi-dimensional needs assessment tool has been psychometrically evaluated for use in a population-based sample of hematological cancer survivors. Preliminary analysis demonstrates promising findings of the SUNS as a psychometrically sound measure of unmet needs in population-based samples of hematological cancer survivors. However, floor effects may impact on the responsiveness of the scale. RESEARCH IMPLICATIONS: Establishing the SUNS as a valid and reliable unmet needs measure for hematological cancer survivors will allow future researchers to accurately assess the unmet needs of hematological cancer survivors; as well as providing an opportunity to standardise future research practices in this area. Future research should also strive to evaluate the psychometric properties of predictive validity and responsiveness using longitudinal research designs. CLINICAL IMPLICATIONS: This study suggests that the SUNS could potentially be used by health care providers to routinely assess the unmet needs of hematological cancer survivors. Assesing the unmet needs of hematological cancer survivors using a psychometrically rigorous tool will ensure the needs of survivors are accurately identified and appropriate supportive care is provided in a timely
manner. ACKNOWLEDGEMENT OF FUNDING: This research was co-funded by beyondblue and Cancer Australia (Application ID: 569290). Alix Hall was previously supported by an Australian Postgraduate Award and is currently supported by a 2012 Prime Minister’s Australia Asia Endeavour Postgraduate Award. Dr Flora Tzelepis is supported by a Leukaemia Foundation of Australia and Cure Cancer Australia Foundation Post-Doctoral Research Fellowship.

P1-105
Comparing Quality of Life Between Adult Survivors of Childhood Cancer and Siblings: The Role of Post-Traumatic Stress Symptoms

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BACKGROUND: Childhood cancer survivors report more post-traumatic stress symptoms (PTSS) and lower health-related quality of life (HRQOL) compared to siblings. Individuals with high PTSS might endorse response categories of HRQOL items differently compared to those with low PTSS given the same level of HRQOL (differential item functioning; DIF). This study aims to compare HRQOL between adult survivors of childhood cancer and siblings by accounting for mediating effects of PTSS and DIF related to PTSS. This study aims to compare HRQOL between adult survivors of childhood cancer and siblings by accounting for mediating effects of PTSS and DIF related to PTSS. METHOD: 7103 cancer survivors and 390 siblings in the Childhood Cancer Survivor Study (CCSS) completed the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) which measures eight domains of HRQOL. PTSS was measured using the Post-traumatic Stress Disorder Symptom Scale. Items with DIF related to PTSS were identified using a graded response model and HRQOL domain scores were calibrated by accounting for DIF related to PTSS. The extent to which PTSS status mediated the discrepancies in HRQOL between survivors and siblings was tested and the mediating role of PTSS on HRQOL. More than one-third of the SF-36 items demonstrate DIF related to PTSS status in childhood cancer survivors and siblings. Although childhood cancer survivors often report impaired HRQOL compared to siblings, the observed differences may be in part due to DIF related to PTSS that influences perceptions and report of HRQOL items, and the mediating role of PTSS on HRQOL. Without careful consideration of DIF effects related to psychological state such as PTSS and the mediating effects of PTSS on HRQOL, the comparison of HRQOL between cancer survivors and siblings can be misleading. RESEARCH IMPLICATIONS: DIF findings provide insights for psycho-oncology research. If DIF reflects psychosocial adjustment for HRQOL items by cancer survivors, calibrating DIF item scores between survivors and siblings would be a reasonable strategy. Calibration allows item parameters to be separately estimated for the subgroups and these different parameter estimates can be used to estimate HRQOL scores. Further research also is encouraged to use cognitive interviewing techniques to investigate the psychological mechanisms behind the DIF findings. CLINICAL IMPLICATIONS: The significant mediating effects of PTSS on the relation between survivorship and HRQOL provide useful implications for clinical practice. Given that impaired HRQOL between cancer survivors and siblings is chiefly explained by the presence of PTSS, evaluating PTSS status alongside other psychosomatic symptoms such as pain and fatigue in cancer survivors is an important component in survivorship care. Improving survivors’ HRQOL through appropriate psychosocial interventions to treat PTSS is a reasonable strategy. ACKNOWLEDGEMENT OF FUNDING: This work was supported by the National Cancer Institute (NCI) Cancer Center Support (CORE) grant CA21765 (TMB, GTA, LLR, and KRK), by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) grant U01 AR052181 (ICH), and by ALSAC (TMB, GTA, LLR, and KRK).

P1-106
Further Validation of the Symbolic Assessment of Fatigue Extent (SAFE)

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BACKGROUND: Symbolic Assessment of Fatigue Extent (SAFE), developed in 2012, is a 12 item patient rated tool assessing both extent (4 items) and impact (8 items) of fatigue in adult cancer patients. Responses are either symbolic visual representations on a 5 point likert scale (smiley, shape
way for suitable interventions. ACKNOWLEDGEMENT OF FUNDING: None.

PI-107
Outpatient Psychiatric Clinic in a Portuguese Cancer Center, 2013
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BACKGROUND: Data concerning Psycho-Oncologic issues and needs of Portuguese cancer patients are scarce. IPOLFG is the main cancer centre in Portugal: total Outpatient Clinic = 216.500 and Psychiatry Outpatient Clinic = 2.700 pts (2012). For 7 years, Psychiatry Unit is implementing a Psycho-Oncology Program for multidisciplinary teams to improve screening of distress and early intervention upon psychiatric symptoms. This study discloses IPOLFG Psychiatry Outpatient Clinic data: lag-time, rate and accuracy of reference, patients’ medical and psychiatric profile and outcome.

METHOD: Analysis of data from 2.5 months of the IPOLFG Psychiatry Outpatient Clinic (1 Feb–16 April 2013), where 3 senior psychiatrists are part time working. From information system database and patients’ medical files, we obtained: Socio-demographic (gender, age) and scheduled Appointment data (lag-time between request and 1st appointment, type of appointment (First/ Follow-up; Emergency/ General Psychiatry/ OncoSexology/ Tobacco/ Family/ Staff; follow-up period); Oncologic (site and stage of disease, present treatment) and Psychiatric data (diagnosis at 1st evaluation, type of intervention, outcome, referral). Psychiatric diagnosis followed non-structured interviews, DSM-IV-TR and ICD-10 criteria. Statistical procedures included descriptive statistics, frequency accounts and correlations.

RESULTS: Socio-demographic, appointment data 809 scheduled appointments, 604 attended (75%). 73% female; average age: 55 years old (3–96 yo). 1st appointment = 27%, follow-up = 73%; General Psychiatry = 71.8%, Emergency = 16.7%. Mean follow-up time: 20 months. Oncological profile site: breast (29.6%), hematological (24.4%), head & neck (16.9%); no cancer (16.1%); stage: remission (61.5%), metastatic (14.2%), locally advanced (8%); not applied (16.6%); treatment: none (56.9%), chemotherapy (17.1%), hormonal therapy (13.3%). Psychiatric profile (cancer pts) initial diagnosis: Adjustment Disorders (37%), Major Depression (23%), multiple diagnosis (10%); none (3%); Psychiatric treatment: psychotropic drugs (49%); drugs plus psychotherapy (38%); none (2%). Referral: IPOLFG Psychiatry Outpatient Clinic (89.3%), discharged (6.3%). CONCLUSIONS: The typical profile of the cancer patient at 1st appointment of IPOLFG Psychiatry Outpatient Clinic is a female, 57 years old, with breast or head & neck cancer,
Cancer and Non-Cancer Pain – Assessment and Consequences

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BACKGROUND: Lately, studying the psychosocial factors of pain has been a topic of interest from researchers. Many investigators suggesting that regardless of its origin pain is perceived the same way by everyone. Still others claim that pain is perceived differently depending on different factors. The purpose of this study is to compare pain intensity, frequency and its impact on daily functioning in two groups of pain patients - colorectal cancer patients and non-cancer patients. METHOD: Thirty two (32) patients were examined (first group). The mean age of patients was 64.1 years (SD = 10.6), 56% were male, 52% did not know their cancer diagnosis which was related to colon (42%) and rectum (58%). The second research group consisted of twenty eight (28) patients with chronic low back pain. All patients were assessed based on clinical standards (physical examination, laboratory results, histological diagnosis and analysis of medical records). Semi structured interview was conducted with questions about coping strategies, frequency of pain episodes, emotional problems and daily activities. Pain intensity was assessed with VAS (Visual Analog Scale).

RESULTS: There were no significant differences in subjective perception of pain between the two groups. This result confirms the predominant researchers’ idea that there is a similarity in subjective experience of pain in patients with different conditions including cancer. We found significant differences in the preferable coping strategies between the two groups of patients. The cancer patient group shows greater preference for using passive coping strategies, but non-cancer patient group displays mixed coping strategies – passive and active. Coping strategies had been explored considering coping to be a reflecting of motivation for different goals (e.g., pain relief vs. improved function). CONCLUSIONS: The data suggests that regardless of the similarity in experience of pain in different groups of patients, cancer shows greater negative effects on daily functioning than non-cancer chronic pain conditions. Non-cancer patients use variety of coping strategies including active but cancer patients prefer passive coping with pain. In addition, our results suggest that the use of active coping strategies may, through their association with acceptance, result in a better physical, psychological and emotional functioning. The use of passive coping strategies like avoidance, pain-contingent rest, and defensive behavior may result in an increased pain and disability over time.

RESEARCH IMPLICATIONS: Future research should investigate a wider range of affective and behavioral consequences of chronic cancer pain. It is possible that arousing emotions are more effective inhibitors of pain than calm states of relaxation because active coping strategies are adaptive nevertheless intensity of pain. The differences in functional consequences of pain between cancer and non-cancer patients support the view that a cancer diagnosis is a uniquely traumatizing event, producing broad negative impact on survivor’s psychosocial functioning. CLINICAL IMPLICATIONS: Clinically, the results of this study support the continued use of interventions that encourage adaptive coping (e.g., maintaining activity despite pain and acceptance) and that discourage maladaptive coping (e.g., defensive behavior) should be provided to patients who have not yet learned to adequately manage pain. Pain intensity and its behavioral and emotional consequences should be consistently assessed, and, when there are significant findings they have to be clinically elevated and treated appropriately. ACKNOWLEDGEMENT OF FUNDING: We thank the Trakia University, Faculty of Medicine for the financial support of this project. This study was supported by a scientific grant 7/2009.
P1-109
Depression as a Possible Risk Factor for Cancer: A Systematic Review of Prospective Studies
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BACKGROUND: Depression has been proposed as a predisposing factor for cancer as findings of various studies reveal a tendency among patients with depression toward a marginally significant association with the subsequent cancer risk. But results of prospective epidemiological studies have been inconsistent and inconclusive. Through this paper authors evaluated the evidence of depression as a possible factor influencing the development of cancer by reviewing prospective cohort studies.

METHOD: Studies were identified by computerized searches of Medline and Embase with a sensitive search strategy using the keywords as well as manual searches of reference lists of selected publications. As per the protocol and the PRISMA 2009 recommendations articles were retrieved. After the relevance screen, further selection process was conducted based on inclusion criteria: prospective cohort design, population-based sample, structured measurement of depression, focus on depression as a potential risk factor for cancer and report of empirical data. Methodological quality was assessed with a validated checklist. Double-data extraction ensured accuracy. Analysis was by narrative synthesis.

RESULTS: Out of 9 articles assessed for eligibility, 3 studies provided evidence of a relationship between depression and cancer risk. This overview of the evidence suggests a causal relationship between depression and cancer risk. Although chronic and severe depression is found to be associated with elevated cancer risk, results of studies investigating association between less severe depressive episodes and cancer risk were not conclusive of causal association, but suggestive due partly to methodological heterogeneity.

CONCLUSIONS: Having mood disorders been prevalent and disabling in nature, these studies provide support to hypotheses about a common biological pathway between depression and cancer and highlight the need to identify the mechanisms to regulate it. It also emphasizes the deleterious effect that depression can have on lifestyle factors which in turn may predispose the individual to develop cancer.

RESEARCH IMPLICATIONS: Depression may either have a long delayed effect on cancer risk, or it may play a role in combination with known risk factors to increase cancer risk. Future studies can focus on empirical studies to further examine the mechanisms through which emotions and psychological well-being affect our health.

CLINICAL IMPLICATIONS: As depression affects the immune and hormonal system clinicians must be aware about the psychobiological mechanisms under which it operates. Depression may increase the probability that the individual will engage in behaviors that indirectly increase the risk of developing cancer. This awareness should encourage better identification of those at risk and the development of effective interventions to protect them from developing cancer.

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PI-110
Pain and Social Activity in Colorectal Cancer Patients
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BACKGROUND: Colorectal cancer is among the leading causes of cancer related deaths in men and women across the world. This investigation was carried out to examine whether pain is positively correlated to decreased social activity, anxiety and depression in colorectal cancer patients. The purpose of this study is to also compare pain intensity, anxiety, depression and social activity in two groups of pain patients - colorectal cancer patients and non-cancer patients.

METHOD: Thirty two (32) patients were examined. The mean age of patients was 64.1 years (SD = 10.6), 56% were male, 52% did not know their cancer diagnosis which was related to colon (42%) and rectum (58%). The second research group consisted of twenty eight (28) patients with chronic low back pain. All patients were assessed based on clinical standards (physical examination, laboratory results, histological diagnosis and analysis of medical records). The methods used were Visual Analogue Scales (VAS), standardized interviews and self-questionnaires - Back Depression Inventory and State-Trait Anxiety Inventory for Adults.

RESULTS: Twenty nine patients experienced pronounced anxiety because of their pain and 23 patients expressed depressive pain-associated symptoms. Anxiety and depression show significant correlation with pain intensity. There were no significant differences in pain-anxiety and pain-depression correlations between the 2 groups. Most patients reported a decreased activity because of pain. The patients' functioning was examined in the following areas: physical functioning, social functioning, emotional problems and their impact on accomplishments at work or other usual activities and mental functioning. We found significant differences between cancer and non-cancer groups in level of functional activity decreasing especially mental functioning and social activities.

CONCLUSIONS: The results suggest that experience of pain produced marked levels of anxiety and depression in...
both cancer and non-cancer groups. Nevertheless, these patients who had not been diagnosed with cancer had statistically significant higher activity in most areas of life. In the cancer group we found decreased and impaired functioning in every social activity listed in the structured interview (hobbies, seeing friends) and in most cases the decrease correlated significantly with the intensity of the pain. In non-cancer group functional impairment is significant only in respect of physical functioning; nevertheless, there were similar levels of pain intensity in both groups. RESEARCH IMPLICATIONS: Future research should investigate the correlation between chronic cancer pain, social support and coping mechanisms. Creation of reliable scales with good psychometric properties and involving more patients in similar research will improve the accuracy and dependability of the obtained results. CLINICAL IMPLICATIONS: Research on psychosocial factors related to cancer pain would serve as improved assessment of the subjective nature of pain. In addition research on correlations between cancer, pain and social functioning connected to cultural and economic factors as parts of quality of life will provide new insights into the bigger socio-economic scope. ACKNOWLEDGEMENT OF FUNDING: We thank the Trakia University, Faculty of Medicine for the financial support of this project. This study was supported by a scientific grant 7/2009.

PI-112
Assessment of Psychiatric and Psychosocial Problems Among Newly Diagnosed Cancer Patients at the National Cancer Institute - Cairo University
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BACKGROUND: This study aimed to assess psychiatric and psychosocial problems secondary to newly diagnosed cancer patients admitted to at the National Cancer Institute, Cairo University, Egypt. A randomized sample of 280 patients newly diagnosed of cancer in the Oncology Inpatient department was selected. METHOD: A descriptive cross-sectional design was used for this study as a research methodology. Quantitative methods were used in this study through using three tools of data collection. The researcher developed the first two tools, while the last one was a ready standardized tool. These were: (1) the Patient Medical Psychosocial Demographic profile, (2) the Developed Mental Status Examination Inventory, and (3) Anxiety/Depression Scale. RESULTS: This study revealed that more than half of sample were males (58.7%), the highest percentage of the research sample aged (36–40) years and more than 55 years and the highest percentage of them between illiterate and secondary school graduated. Less than two thirds of the research sample were married (62.3%). Two fifths (41%) had psychiatric and psychosocial problems in different levels. In subscale result, 28.9% had mild depression, 40.7% had moderate depression, 26.2% had mild anxiety, while for 14.7% it was moderate, and for only 7.5 it was severe. CONCLUSIONS: This study concluded that nearly two fifths of the study sample had psychiatric-
Exploring the Emotional Impact of Research on the Researcher

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BACKGROUND: In recent years, qualitative methodologies have become very popular and represent a new research paradigm in health care. However, the unique set of demands on people involved in these studies such as building a rapport or witnessing emotional stories have been largely neglected, especially in the context of self-care strategies. They pose a challenge for both practitioners as well as novice researchers who may find themselves in a semi-therapeutic relationship without necessary experience. METHOD: In this presentation, I will reflect on the emotional impact of doing research in relation to my PhD study which focuses on the experiences of cancer patients and their partners when their bowel cancer recurs. First I will explore the potential challenges of conducting research on sensitive topic. Then, drawing on the current literature and ethical guidelines I will provide a framework which allows thinking about the challenges associated with conducting research on sensitive topics. RESULTS: Regardless of previous research experience in cancer care, conducting semi-structured interviews over a period of time with a vulnerable patient group and their partners can be an emotionally difficult task. Challenges such as establishing a rapport with the participant, dealing with physical and emotional suffering while maintaining professional boundaries will be explored. A number of self-care strategies for researchers at individual, managerial and organizational level will be considered such as a reflective diary, peer support and supervision and how they could be incorporated in the practice. CONCLUSIONS: Emotional impact of research on the researcher is an important issue, especially in qualitative research, yet has been largely neglected and needs further attention. Professional guidelines are important in ensuring that research is being conducted in an ethical manner, however, they may not be sufficient in dealing with the demands of the work on day to day basis. These are also important to consider when applying for ethical approvals as these issues are being picked up in the ethics committees more and more. Planning and on-going monitoring of the impact on the researcher is vital in ensuring researcher emotional safety. RESEARCH IMPLICATIONS: Reflecting on the role of the researcher and emotions is important as it may also have an impact on the quality of data obtained. The presence of emotions in the interview context whether coming from participants or researcher can tell us a lot of the nature of the phenomena itself. Research training should include aspects related to self-care and the ethical guidelines related to managing difficult situations in the interview context. CLINICAL IMPLICATIONS: There is a need to acknowledge the potential emotional impact of research on researchers. The well-being of the participant and the researcher are inter-linked and one cannot be considered without the other. Self-care might be a useful concept in thinking about the well-being of researchers in cancer care yet relatively few studies addressed it. Self-care strategies are important to consider and can be easily incorporated into practice. ACKNOWLEDGEMENT OF FUNDING: None.

Health Literacy in Cancer Patients: State of the Art and Future Directions

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BACKGROUND: Adequate health literacy (HL) is important for cancer patients to actively participate in their health care. However, little research has been conducted regarding HL among cancer patients. The objectives of this study were to provide a systematic literature review of instruments used to assess HL in cancer patients and an overview of research questions studied. Furthermore, we propose a framework to measure functional, interactive, critical HL in cancer communication in the process of cancer care. METHOD: A systematic literature search using PubMed was independently performed by 2 authors on 8 April 2013. The search string included literacy, specific HL instruments and cancer. The search resulted in 1869 hits. Studies were excluded if they focused on cancer screening, used qualitative interviews instead of a HL instrument to evaluate HL, did not include cancer patients or were only focused on knowledge. After screening of titles and abstract by two authors, 65 full-text papers were reviewed. Reference lists of selected papers were screened for relevant studies. In total, 17 articles were included in this review. RESULTS: 6 different instruments (REALM, REALM-R, S-TOFHLA, HeLMs, SBSQ, FCCHL) were used to assess HL, mainly among prostate and breast cancer patients. Three instruments measured objective HL and three measured perceived HL. Four instruments could only be administered by a health care provider or researcher, while two could be self-assessed. Of those 2 instruments, one assessed only functional HL and one appeared to have too difficult items for people with low HL. A diverse set of topics in relation to HL was studied, such as effects on disease stage at diagnosis (2 studies) and differential effects of educational interventions (3 studies). CONCLUSIONS: A range of HL measures was used to assess HL among cancer patients. Among these measures was no cancer-specific measure, which might be useful since along the cancer continuum patients may need HL related skills that are specific for cancer patients. Furthermore, no single instrument was currently available that can be used as a self-administered questionnaire assessing objectively all three aspects of HL (functional, interactive and critical). A broad range of research questions was studied, not allowing drawing conclusions on any topic. RESEARCH IMPLICATIONS: A cancer-specific self-administered HL questionnaire might be a valuable enhancement on existing more generic HL instruments. To develop such an instrument we have developed a conceptual framework with on one axis the communication needs along the cancer-continuum and on the other axis the functional, interactive and critical HL requirements. For instance, communication needs might include aspects of accessing care, skills to judge treatment options and communicate about the prognosis with the health care provider. CLINICAL IMPLICATIONS: We showed that the study of HL in cancer research is still in its infancy. No one single instrument is used which decreases the possibility to compare results. However, the HL of patients is likely to be of great importance in the communication between patients and health care providers, which warrants the need for more research. For this, we need a cancer-specific self-report instrument that is sensitive and valid.

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PI-115

Intellectual Disabilities and Cancer: A review of the Current Literature
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BACKGROUND: As the life expectancy of those with an intellectual disability increases, the likelihood of receiving a cancer diagnosis (or, indeed, that of other chronic illnesses) is raised. An evidence base on the psychosocial, informational and supportive care needs of this specific patient group is emerging, though it is still in its infancy. This review aims to synthesise the literature published to date, and to make suggestions regarding the future direction of research in this area. METHOD: A non-systematic, scoping review of the literature exploring the psychosocial, informational and supportive care needs of people with an intellectual disability and cancer was conducted with the view to determining whether a full systematic review was required. A predefined inclusion criteria aided study selection. Databases were hand searched with the view to identifying relevant literature, reference lists were also hand searched to ensure that all relevant literature was included. A total of 24 papers were identified as being relevant to the review. RESULTS: This small literature reports some pertinent findings. Pre-diagnosis, people with an intellectual disability may not report their cancer symptoms to their caregivers, thus potentially delaying diagnosis. Suggested causal reasons for this in women later diagnosed with breast cancer include embarrassment at discussion of intimate and sexual topics. Pictorial aids can enable patients to indicate the location and intensity of pain, though other communication deficits remain. Post-diagnosis, the lack of accessible cancer information explaining symptoms and treatment options for those with an intellectual disability has been shown to increase anxiety and uncertainty. CONCLUSIONS: This study raises important questions about how cancer care is provided to those with an intellectual disability, both prior to, and after...
receiving a diagnosis. Although the results have significant implications, they are based on a small literature base; much of the reported data has been gathered either using proxy reporting or by interviewing people with an intellectual disability who do not have cancer. Psychosocial oncology places high value on talking directly to cancer patients and listening to their needs to inform service provision and policy setting (Macmillan, 2007); similar strategies should be adopted for patients with an intellectual disability. RESEARCH IMPLICATIONS: Studies identified in this review tend to focus on a few single aspects of the cancer experience, for instance communication with healthcare professionals, and there are a number of research gaps relating to cancer experiences in those with an intellectual disability. Future research should collect data directly from the person with an intellectual disability. We would also recommend adopting a more multifaceted approach collecting data from caregivers, family members, and a broader range of clinicians. CLINICAL IMPLICATIONS: As there has been little research in this area, we have little knowledge about how to best support people with an intellectual disability who have cancer symptoms, or later receive a diagnosis; it is a fair assumption, however, that their needs may not be the same as other cancer populations and need discussing with patients in a sensitive manner. Effective communication between oncology and intellectual disability care teams is essential for best practice care. ACKNOWLEDGEMENT OF FUNDING: None.

PI1-116
Psychosocial Screening Program: Decreased of Distress and Increased Quality of Life
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BACKGROUND: Based on scientific evidence, it is undeniable the importance to recognize distress in cancer patients. The routine screening for distress can orient the clinical care to provide adequate support, providing feedback to oncologists on the quality of their psychosocial care, being helpful to identify the need for improvement efforts. We investigate the course and prevalence of distress over the treatment, verifying the correlation with quality of life (QoL), and examine the effectiveness of psychosocial program. METHOD: Two hundred patients answered: (1) Distress Thermometer (DT) and Problem-List (PL) and (2) Functional Assessment of Chronic Illness Therapy-General (FACT-G) at baseline (T1), halfway time point (T2) and at completion of chemotherapy (T3). After each assessment, all results were discussed with the patients’ physician, to establish the best conduct. The conducts ranged from psycho-education, manage the side effects, to referrals. Descriptive analyses were calculated for socio-demographic, illness-related variables, DT, PL and FACT-G prevalence; chi-square and correlation were conducted to explore the effect of the distress course on PL and QoL. RESULTS: Proportion of patients experiencing moderate to severe distress (MSD) decreased (T1. 41.5%; T2. 9.1%; T3. 4.4%), being emotional and physical the most problems reported. The QoL mean scores slightly increased (T1. 85.6; T2. 90.4; T3. 92). There were a main effect of distress decreasing overtime (p = 0.000), of drop in problems reported (p < 0.05), and of QoL increase (p = 0.000). MSD were significant related (p = 0.000) to PL (T1. \( \chi^2 = 77.5 \); T2. \( \chi^2 = 79.1 \); T3. \( \chi^2 = 158.5 \)) and poor QoL (T1. \( \chi^2 = 93.4 \); T2. \( \chi^2 = 311.6 \); T3. \( \chi^2 = 278.4 \)). CONCLUSIONS: Routine screening for distress followed by personalized discussion between psychologist and oncologist (psychosocial program) resulted in reduction of MSD incidence and of problems-related distress reported, as well as, QoL increased, even under chemotherapy side effects. We observed that this kind of supportive feedback helps not only in identifying problems contributing to MSD, as offering appropriate practical and psychological assistance. This routine offers a viable strategy for ensuring that distress is identified and managed in a timely way. Moreover, we could provide more opportunities for connecting patients to adequate support, resulting in more appropriate referrals. RESEARCH IMPLICATIONS: Systematic screening for distress and multidisciplinary discussion was a good way to improve uptake of resources, rather than simplify focusing on screening alone. This routine maybe a key to reduce distress and to improve quality of life, providing equal access to psychological services. Future studies should be conducted to replicate and extend the current finding. As this study recruited patients just from a single cancer center, the study’s generalizability to other settings can be reduced.

CLINICAL IMPLICATIONS: Understanding an individual’s level of distress related to their symptoms and illness-related concerns was fundamental to screening, referral, assessment and treatment. Moreover, this routine helped to determine the severity of distress and the appropriate intervention; let patients know more about the psychosocial services and the program available to take care of them, and mainly to encouraged those distressed patients without sufficient motivation for seek help and adequate active treatment. ACKNOWLEDGEMENT OF FUNDING: None.
P1-117 How is Psycho-Oncological Care Delivered in France: A Nationwide Survey Part 1 - Institutional Care
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BACKGROUND: Despite an increasing attention paid to psycho-oncology, little is known in France about the actual institutional or non-institutional care offering. The over 30 year-old French society of Psycho-oncology (SFPO) has conducted a nationwide survey to identify the psychologists and psychiatrists working with cancer patients and describe their organisation and their missions, including training and research. We present here the findings of this survey for the hospital psycho-oncological care offering, for in and outpatients. METHOD: The target population is the professionals of psycho-oncology (POP), psychologists and psychiatrists, of all the cancer care hospitals and clinics accredited by the National Cancer Care Organisation. In a two-stage approach, organisations were asked to provide a list of the professionals, who then have been sent the survey by post. The questionnaire includes 50 questions, exploring the following fields: number of POP, experience, duration of work, workload, initial and continuous training, links between professionals, traceability, transmission procedures, care offering, training and research activities, funding. RESULTS: 783 care structures answered. 21% had no POP and 41% less than a FTE. 320 of the 1118 identified POP returned the questionnaire (29% response rate). 68% of POP work part time for cancer patients. 15% are initially trained in psycho-oncology but the majority received continuous training. Average time devoted to patients is 80% (20% to families). 66% of POP perform training activity. 21% are involved in research activity, mostly without dedicated time and funding. Links within POP, between POP and supportive care or oncology teams, will be described, as far as transmission of information procedures. CONCLUSIONS: Psycho-oncology has been developing in France for 40 years and appears in this survey well developed and integrated in comprehensive cancer care. Standards of organisation and transmission can be identified and will support national recommendations for the organisation of psycho-oncological care. Significant progress remains to be done considering inequalities of access between the different structures and the lack of initial training in psycho-oncology. RESEARCH IMPLICATIONS: Time dedicated to research in psycho-oncology could be better identified and founded in order to allow psycho-oncological research to improve its ability to be published at national or international levels. CLINICAL IMPLICATIONS: This survey suggests 2 main development perspectives - inequalities of access to psychological care have to be reduced; the SFPO asks for the integration in the cancer care structures accreditation process of a mandatory psychological care offering, with well defined quality criteria. - the next SFPO congress (Paris, 11–13 december 2013) will be dedicated to psycho-oncology training.

ACKNOWLEDGEMENT OF FUNDING: This Survey has received funding from the French National Cancer Care Organisation (InCA).

P1-118 How is Psycho-Oncological Care Delivered in France: A Nationwide Survey Part 2 - Non-Institutional Care
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BACKGROUND: Despite an increasing attention paid to psycho-oncology, little is known in France about the actual institutional or non-institutional care offering. The over 30 year-old French society of Psycho-oncology (SFPO) has conducted a nationwide survey to identify the psychologists and psychiatrists working with cancer patients and describe their organisation and their missions, including training and research. We present here the findings of this survey for the non-institutional psycho-oncological care offering, as organised within cancer care networks. METHOD: The target population is the psychologists of all the French cancer care networks identified by the National Cancer Care Organisation. In a two-stage approach, networks were asked to provide a list of the professionals, who then have been sent the survey by post. The questionnaire includes 28 questions, exploring the following fields: nb of POP, experience, missions, initial and continuous training, links with other professional, traceability, transmission, training and research activities, funding. RESULTS: 57 of the 201 healthcare networks returned the questionnaire (response rate 28%). First part of exploration is about employed psychologist. 21/54 networks employ none, 29/54 0.5 to 1 FTE. Most of the time employed psychologists work both as network coordinators and clinicians (for patient psychological assessment and follow-up). Second part describes private psychologists network that exists in 38/54 networks. Public funding for cancer patient psychological care is available for 29/38, mostly for a limited number of...
Models for Rural Areas: The P-O-LAND Study

Comparison of Two Psychosocial Cancer Care Models for Rural Areas: The P-O-LAND Study
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BACKGROUND: There is some evidence that cancer survivors living in rural areas show greater emotional distress and lower utilization of psychosocial services than urban residents. Therefore, there is an urgent need to implement adequate models of care to remedy urban-rural disparities. Whereas in most states no distinct rural care model exists, in the federal state Rhineland-Palatinate/Germany an area-wide psychosocial care concept was initiated more than ten years ago, but not yet evaluated against usual care. METHODOLOGY: We defined 2 comparable study regions (one in Rhineland-Palatinate and one in the federal state Baden-Württemberg) and assessed all institutions and practices which participate in rural psychosocial care of cancer survivors as well as in the care of their family members in both regions. The survey included all psychotherapists, counselling offices, clinics, hospices and peer-support groups of the study regions. Participants filled in a questionnaire regarding their offers to cancer patients, qualification, number of patients/year, and waiting time. All participants were contacted by mail and reminded up to 4 times. RESULTS: 208 questionnaires were sent to mental health specialists; the response rate was 80% (n = 167). Fifty-nine questionnaires were sent to counselling services; the response rate was 81% (n = 48). Sixty-five percent of the psychotherapists confirmed to be involved in the care of cancer patients with a mean number of 6 cancer patients/year/practice. While the rates of involvement were comparable between both rural areas, the number of treated cancer patients was twice as high in Rhineland-Palatinate (8 vs. 4; p = 0.0205). The same was true for counselling services (p = 0.0109).

CONCLUSIONS: Access to comprehensive care for cancer survivors in rural communities appears to be facilitated by the community-based initiative described and investigated in this study. Area-wide regional counselling offices and timely limited trainings for health professionals may reduce barriers for adequate psychosocial care in terms of improved transition and coordination. RESEARCH IMPLICATIONS: The question of reducing disparities in psychosocial cancer care regarding place of residence has seldom reached scientific attention. Our study shows that it is feasible to determine and compare psychosocial care structures in rural areas. As a next step we will survey all doctors of the study regions regarding transition problems to psychosocial care. In addition, we will assess psychosocial distress and needs in a sample of cancer survivors and their family members. CLINICAL IMPLICATIONS: If results of the P-O-LAND study further confirm positive effects of the Rhine-Palatinate care model, efforts such as these could be replicated in other rural communities and may impact the care and quality of life of survivors with many types of cancers. Findings from this study will inform clinicians as well as health care planners how to succeed in providing better and more comprehensive care to patients in rural areas.

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PI-121
Creating a New Public Psycho-Oncology Service in a Private Hospital
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BACKGROUND: We will describe the development of psycho-oncology, as a public health service in a private hospital. The work with the staff, the initial relationship with the oncologists, nurses and patients, will be described. METHOD: “Assuta” hospital is a private hospital, with a large clinical and radiotherapy departments. Until 2012 no psycho-oncology service was available to meet the patients and staff needs. With the growing awareness for such a service, a preliminary psychological work was initiated. Focus groups were made available for the staff members, patients and families.

RESULTS: After the pilot got good comments from staff and patients the service begun to work and expanded through the year to include groups for patients, group for staff, individual and family intervention and seminars for the group of psychologists. In a short time the psycho-oncology unit became an integral part of the oncology center. Other wards in the hospital are showing interest in the service, and plans for the future are being made.

CONCLUSIONS: Creating a public service of psycho-oncology within a private hospital is not obvious and present many challenges. Describing the needs and searching for the answers are the first step. It follows by consultations, journal clubs and constant feedback to the staff uncertain of relevance of our work. RESEARCH IMPLICATIONS: A psycho-oncology unit is necessary for creating basis for research. One of the plans for the future is to develop a research team. It is pity that no research was done before the entrance of the Israeli culture. ACKNOWLEDGEMENT OF FUNDING: None.

PI-122
Psychiatric Intervention for Hospitalized Patients in a Portuguese Cancer Center - Evaluation & Evolution
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BACKGROUND: The prevalence of distress and psychopathology in cancer patients is consistently estimated in 35–40%. International guidelines recommend the implementation of Psycho-Oncology Programs to achieve better screening and earlier treatment of patients’psychiatric symptoms. IP-OLFG is the main Portuguese Cancer Center (285 beds). Last 7 years, Consultation-Liaison Psychiatry Service (CLP) has been working within multidisciplinary teams to achieve excellence in Psycho-Oncologic care. Authors analyzed CLP data from 2006 to 2011 to evaluate IPOLFG Psycho-Oncology Program. METHODOLOGY: This study analyses data from CLP intervention in 2 periods of 12 months with a 4 years gap: 2006/2007 = 249 patients (pts) versus 2010/2011 = 446 pts. From the information system database, CLP and pts’ medical files, we collected: Socio-demographic (gender, age, marital status, residence), Oncologic (admission ward, site and stage of disease) and Psychiatric data (lag-time between request and 1st psychiatric evaluation, diagnosis, type of intervention, referral). Psychiatric diagnosis followed non-structured interview, DSM-IV-TR and ICD-10 criteria. Statistical procedures included descriptive statistics, frequency accounts and correlations. RESULTS: Epidemiology, lag-time answer, treatment and follow-up showed no significant variation. Psychiatric Referral Rate rose 2.5 to 4%; no. of requests/year rose from 249 to 446.

CONCLUSIONS: The Surgical Departments of Head & Neck, General Surgery and Gynecology have significantly increased their psychiatric referral rate. Wherever the site of cancer and the Service of admission, CLP team has been assessing and treating less severe psychiatric disorders. We acknowledge that we are achieving some of Psycho-Oncology Program main goals: rise of the psychiatric referral rate, accuracy in referral, earlier distress screening whether in medical or surgical Departments, CLP answer lag-time to request less than 24 h. RESEARCH IMPLICATIONS: To better evaluate the efficacy of the Psycho-Oncology Program in the future we will use instrumental screening and diagnosis tools, control pain and compare with a control group. CLINICAL IMPLICATIONS: Last 7 years, CLP has been implementing a Psycho-Oncology Program based on international guidelines although tailored for Portuguese patients’ needs and adapted to professionals knowledge and tradition. The Psycho-Oncology Program bases on intensive side by side CPL work, teaching of Psycho-Oncology key themes and training skills within multidisciplinary teams. The following step will be the routine usage of the Thermometer Distress in our wards in order to assess distress as the 6th vital sign. ACKNOWLEDGEMENT OF FUNDING: None.
P1-123
Quality Treatment for PCa: A Patients’ View
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BACKGROUND: Every year prostate cancer (PCa) is diagnosed to thousands of men around the world. As it happens most often when cancer is diagnosed, fear of death, anxiety, and uncertainty may emerge; moreover, PCa offers several opportunities of treatment with the same level of estimated efficacy, which represents both an opportunity and a burden. The aim of this work is to discuss how the best care path can be defined for each individual and unique patient. METHOD: The challenge to bridge the gap between PCa patients’ needs and biomedical research and clinical practices has been sustained by the advocacy activity of Europa Uomo for many years. The goals of Europa Uomo include: finding ways and means to promote quality of life for PCa patients and their families; promoting the dissemination and exchange of evidence-based and up to date information on PCa; promoting multi-professional care and appropriate medical infrastructure. The arguments here presented are the outcome of the continuous and widespread advocacy work carried on by Europa Uomo which includes discussion tables, expert panels and patients’ feedback. RESULTS: The proposed perspective is centred on the idea that patient care should be redefined by considering the treatment options not only through the doctor’s eyes, but mostly according to the profile of the patient, including: the role that partner or family want to play on his behalf, the minimal quality of life desired, wishes regarding the end of life, cultural background, psychological and social condition. The best treatment option needs to be determined not only based on clinical and physicians’ decisions, but also according to the patient’s profile and priorities in order for the patient to make an informed choice. CONCLUSIONS: Following the proposed care path, the patient dealing with a PCa will have a clear and easy-to-follow care path which starts from the availability of information about the clinical centre with high standards of care, and proceeds with an integrated, multidisciplinary patient management, involving different professionals. The focus on the patient’s profile and priorities, along with good standard quality of treatments, is likely to promote patients’ wellbeing in the short and long term. RESEARCH IMPLICATIONS: The implementation of a high quality treatment model for PCa care opens crucial questions to answer by researchers of different disciplines, mainly concerning the clinical and organizational issues that such a model brings. CLINICAL IMPLICATIONS: The proposed model will strongly impact on the wellbeing of patients with PCa, as it takes into account the patient as a whole, including personal and social aspects, and not only as an individual to treat for cancer. Moreover, the care path described facilitates the patient’s management also from the physicians’ perspective, since it proposes a collegial discussion of each clinical file and promotes a better evaluation of pros and cons of the treatment options. ACKNOWLEDGEMENT OF FUNDING: None.

P1-124
The Patient Oriented Psychosomatic Model for Oncohematology
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BACKGROUND: In the present research we applied stress theory to elaborate a patient-oriented model of disease for use in clinical practice. Specifically, we addressed the case of leukemia which we understood as both psychological and somatic disorder. We hypothesized that psychological and hematological signs in patients are correlated and that for various forms of leukemia different indicators are interrelated. In the conclusion we described our findings using the original concept of psychosomatic harmonization. METHOD: We analyzed data on 78 patients of specialized Hematological Units with chronic myeloid leukemia (CML) or lymphocytic leukemia (CLL) diagnosed within 6 months prior to the study. Among the studied patients, no significant cognitive impairments or symptoms suggesting major psychopathology were found. They received standard chemotherapy and no other treatment during the study. Patients were personally invited to participate in the study, and everyone signed an informed consent. The questions battery for psychological survey consisted of DC, HADS, BDI, SCT, and SFL. Then we conducted statistical analysis using psychological survey data, standard hematological signs, and signs from the IPOS standard. RESULTS: Patients with CLL and CML showed different patterns of psychological symptoms. 51% of CLL patients and only 37% of CML patients were found to be distressed. 46% of CLL patients and only 24% of CML patients were characterized by the increased levels of self-concept. The depression level was higher at CLL patients than at CML. Correlation analysis revealed connections from 0.675 to 0.841 between some psychological and hematological signs. For CLL and CLM groups they were different in magnitude but remained significant. The highest correlation was found between Internality to family and the number of lymphocytes for CLL patients. CONCLUSIONS: Nowadays the concept of psychological stress is often used for the evaluation of psychological status of oncology patients
whereas hematological parameters of physiological stress are used less often. This situation is partly caused by the differences in approaches used by psychologists and hematologists respectively. Our results, however, show high correlations of psychological and somatic signs in oncohematology patients. Such results lend substantial support for the proposed theoretical model which combines psychological and somatic parameters to describe patient's condition. We argue that this model can help psychologists, hematologists, and nurses to design more effective plans for patient-oriented treatment. RESEARCH IMPLICATIONS: As a result of our study, we found empirical support for the hypothesized interrelationship between patients' psychological and somatic parameters. Therefore, we argue that psychological and somatic factors should be addressed simultaneously in order to get complex picture of the disease. For instance, stress theory can be an adequate tool for the interdisciplinary medico-psychological research in oncohematology. We also believe that found relationships between hematological and psychological signs need further research. CLINICAL IMPLICATIONS: Gathering from our results, we suggest that the interrelationship between psychological and somatic factors should be taken into account in clinical practice. We think that this interdisciplinary medicosocial approach can help to better understand patients' conditions. Additionally, it can lead to elaboration of patient-oriented plans combining pharmacological treatment and psychosocial support. ACKNOWLEDGEMENT OF FUNDING: None.

PI-125
Body Image Distress Among Breast Cancer Women on Chemotherapy
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BACKGROUND: Body image distress is common in breast cancer patients resultant from the breast cancer itself and/or the breast surgery. This study aims to explore the level of body image distress among breast cancer women on chemotherapy. METHOD: It is a cross-sectional study conducted in an out-patient Oncology Unit. Every consecutive post-operative breast cancer came for chemotherapy was invited into the study. The socio-demographic and clinical profiles were obtained. Each of them self-rated their level of body image distress using the Breast-Impact of Treatment Scale (BITS) with other questionnaires Hospital Anxiety and Depression Scale (HADS) and Rosenberg Self-esteem Scale (RES). RESULTS: A total of 70 women with mean age of 49.5 ± 8.8 years participated in the study. 10% of the women had mastectomy with reconstruction, 60% had mastectomy without reconstruction and 30% had lumpectomy. The mean duration of post-surgery was 22.0 ± 33.4 months. The mean score for BITS was 22.4 ± 17.1. Of all, 38.6% was categorized as “distress case” where 27.1% had moderate and 11.5% had severe distress levels. BITS was significantly correlated with HADS but not with RES. CONCLUSIONS: One-third of the post-operative breast cancer women on chemotherapy had body image distress. The distress was associated with anxiety and depression. RESEARCH IMPLICATIONS: This study can be expanded to a larger number of subjects and prospectively to follow-up the cohort for 1 to 5 years to see the trend of changes in the level of body image distress. CLINICAL IMPLICATIONS: The high level of body image distress cannot be overlooked. The surgeons and oncologists should be aware the risk of this psychological problem and to work closely with the mental health workers. ACKNOWLEDGEMENT OF FUNDING: None.

PI-126
Health Related Quality of Life (HRQOL) and Side-Effects in the Course of Low-Dose Interferon-alpha Therapy in Malignant Melanoma - in Comparison to a Control Group Without Interferon-alpha
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BACKGROUND: In melanoma patients the reported Health Related Quality of Life (HRQOL) is generally high. A decrease in HRQOL is however often found in association with adjuvant treatment with Interferon-alpha (IFN-α). Although several studies report on IFN-α side-effects and large randomized controlled trials often accompany their effectiveness evaluation with the assessment of HRQOL, the combined analysis of the course of relevant side-effects, i.e. fatigue and depression and HRQOL under low-dose IFN-α therapy is still insufficiently studied. METHOD: The purpose of this study is to investigate whether patients under low-dose IFN-α therapy report an increase in side-effects accompanied with a lower HRQOL than a control group of patients with treatment indication...
but without having received the treatment. For that purpose the course of HRQOL (EORTC QLQ-C30), fatigue (EORTC FA-13) and depression (HADS-D) are assessed over 6 months in consecutively recruited melanoma patients (treatment group $N = 48$, control group $N = 72$). With a generalized linear model (GLM) approach the 2 groups are compared over three assessment points with global HRQOL, fatigue and depression as dependent variables. RESULTS: Unexpectedly, the GLM models showed no global HRQOL deterioration after IFN-α initiation in the treatment group. A significant interaction effect between the groups over the 3 assessment points was however found due to an increase in HRQOL in the observation group. Physical fatigue increased significantly in the treatment group after IFN-α initiation and slightly decreased in the observation group over the assessment period of 6 months. The course of depression symptoms was not significantly different between the groups. CONCLUSIONS: Patients under low-dose IFN-α seem to primarily suffer from physical side-effects including physical fatigue, rather than psychiatric side-effects. This suggests lower psychiatric toxicity of low-dose therapy in comparison to the high-dose regimen, with higher depression rates reported in various studies. Furthermore the hypothesis of a global HRQOL deterioration in the IFN-α treatment group - as found in other studies – was not supported by our data. HRQOL differences between the groups are caused by an improvement of HRQOL over time in the observation group. RESEARCH IMPLICATIONS: Our findings underline the role of physical fatigue in the adjuvant treatment with IFN-α. In further research on IFN-α fatigue should be carefully assessed in distinction to depressive symptoms, which seem to be less prevalent than expected. The absence of a global HRQOL deterioration under IFN-α should be confirmed by further randomized controlled trials. More detailed insight into the association of specific side-effects with HRQOL would be desirable. CLINICAL IMPLICATIONS: Based on our data we believe fatigue to be the biggest challenge for patients’ HRQOL under low-dose IFN-α treatment. Thus patient information on side-effects should educate patients on fatigue and its management and clarify the difference between fatigue and depression. The negative impact of IFN-α on patients’ HRQOL reported in other trials is challenged by our findings, which might indicate that low-dose IFN-α is better tolerated than expected.

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PI-127
Anxiety Symptoms in Hospitalized Haematological Patients
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BACKGROUND: Haematological malignancies are life-threatening situations that could potentiate the emotional deregulation, and psychological suffering. The patients undergo invasive treatments, as chemotherapy and bone marrow transplant, and face a real threat to their lives. Our Aim is to study the prevalence of anxiety symptoms in haematological patients. We also will compare with two control groups (a healthy volunteer group and systemic lupus erythematosus patients).

METHOD: 83 sequential haematological patients were admitted in a general university hospital, with an average age of 43.85, 51.8% were male, 55% had leukaemia diagnosis and 26% had lymphoma diagnosis. SLE patients ($n = 89$) were assessed in a specialized autoimmune consultation, and presented an average age of 40.79. The Healthy volunteer control group was constituted of 31 individuals with a mean age of 39.48. Haematological patients were observed by a psycho-oncology team (NIPSO), and were psychologically assessed by means of TAS-20, HADS and a socio-demographic and clinical questionnaire. The same instruments assessed the other groups.

RESULTS: We found a significant prevalence of anxiety symptoms (36.2%) in haematological patients. However, we did not found a significant difference between the healthy control group. SLE patients exhibit higher levels of anxiety symptoms. For depressive symptoms, we found significant statistical differences between haematological patients and the healthy control group, but we did not find for the SLE group. Anxiety symptoms were positively correlated with alexithymia. We did not find significant statistical differences between anxiety symptoms and stage of the disease, or clinical factors.

CONCLUSIONS: We found a prevalence of anxiety symptoms in hospitalized haematological patients that underline the feeling of threat these patients face. We did not find statistical differences with clinical factors.

RESEARCH IMPLICATIONS: In future research we should deepen our knowledge in this field, to better understand the suffering and psychological trauma lived by these individuals.

CLINICAL IMPLICATIONS: This study underlines the importance of specific tailored size interventions for these patients, who present several challenging problems that need to be taking in consideration when helping to deal the psychic and physical suffering.

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P1-128
The Evidence-Practice Gap in Oncology: Are We Contributing to Implementation Science?
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BACKGROUND: The past decade has seen significant improvements in cancer survival. However, concern about disparities between best-evidence and the care provided to cancer patients persists. Given increased focus on dissemination and implementation research, it would be expected that publications focused on examining evidence practice gaps in oncology would have increased over time. Using bibliometric methods, this review examined the number and type of publications examining evidence-practice gaps in oncology in 2000, 2005 and 2010. METHOD: Medline was searched for the three time points of interest using MeSH headings and keywords. Eligible papers were those that examined evidence-practice gaps in oncology and were published in English. Papers meeting eligibility criteria were coded as data-based or non-data based, with all data based papers were further classified as: (i) descriptive studies documenting an evidence-practice gap or barriers to addressing an evidence-practice gap; or (ii) intervention studies examining strategies to reduce an evidence practice gap. The cancer type examined in all data-based studies and the design used in intervention studies were also coded. RESULTS: 166 relevant papers examining the evidence practice gap in oncology were identified. The number of publications increased over time. The majority were data based publications, however less than 10% of these were intervention studies which examined the effectiveness of strategies to reduce discrepancies between best evidence and clinical practice. Only one study was a randomised controlled trial. The majority of studies examined evidence-practice gaps in breast cancer care. CONCLUSIONS: Effective implementation of evidence into practice necessitates that methodologically rigorous research identifies where evidence-practice gaps exist, then develops and tests interventions to identify optimal strategies to close the gap. Despite significant investment in clinical research, little research effort has gone to measuring and intervening to close evidence practice gaps in oncology over the last decade. There is a clear need for further methodologically rigorous intervention studies, and studies focusing on high burden or under-served cancers. RESEARCH IMPLICATIONS: Developing and implementing research to reduce evidence practice gaps in oncology poses a number of methodological challenges. The involvement of health

behaviour scientists, healthcare providers and policy makers is imperative if high quality and relevant research is to be produced. CLINICAL IMPLICATIONS: Bridging the evidence practice gap represents a feasible, timely and effective method of improving important outcomes for cancer patients. Misuse, underuse and overuse of treatments will continue unless there is greater commitment to research which focuses on the translation and implementation of advances in clinical oncology science.

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P1-129
Irrationality and Response Expectancies: Impact on Chemotherapy Induced Side Effects and Quality of Life in Breast Cancer Patients
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BACKGROUND: Postchemotherapy grade 2–3 gastrointestinal and fatigue side effects continue to be common and may affect compliance to cancer treatment in spite of antiemetics. The aim of the present study was to investigate the predictive value of expectancies in above cited chemotherapy side effects, catastrophizing chemotherapy side effects, irrational beliefs regarding the intensity of chemotherapy side effects, emotional distress, general wellbeing and quality of life in breast cancer patients. METHOD: The study was prospective, performed on 32 women receiving neoadjuvant chemotherapy for breast cancer hospitalized in MEDISPROF Oncology Day-hospital- Cluj Napoca. Chemotherapy was anthracyclines and taxane based and antiemetics used were according to recent ASCO/ESMO guidelines for these drugs. The patients completed questionnaires (QLQ-C30, QLQ-BR23, POMS, ABS II, VAS, CSSCS) for each variable described above before / after each cycle of chemotherapy and weekly home. RESULTS: Response expectancies about chemotherapy side effects (grade 1–3 nausea, vomiting, fatigue, emotional distress) significantly predict their presence after chemotherapy (p < 0.05). General irrational beliefs significantly predict the presence of emotional distress before chemotherapy (p < 0.05). Catastrophizing secondary symptoms significantly predict the presence of chemotherapy side effects (p < 0.05). CONCLUSIONS: Response expectancies in breast cancer patients undergoing neoadjuvant chemotherapy regarding chemotherapy grade 1–3 induced side effects (nausea, vomiting, fatigue and emotional distress) and general distress prior to chemotherapy predict levels of functionality, symptomatology and side effects.
The results suggest that psychological intervention focused on response expectation and irrational beliefs might be effective in reducing emotional distress and chemotherapy induced side effects. ACKNOWLEDGEMENT OF FUNDING: None.

P1-130
International Variation in Breast Surgeons’ Attitudes Towards Prophylactic Surgeries and Intensive Screening- Comparison Between France, Germany, The Netherlands and The UK
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BACKGROUND: Different options may be discussed with a woman with a BRCA mutation to manage her increased risk for breast/ovarian cancer, consisting of either intensive surveillance or prophylactic mastectomy (PM) and/or prophylactic oophorectomy (PO). After they have learned about their high risk, women are counseled on risk reducing strategies by, amongst other professionals, breast surgeons (BS). In a study amongst BS in France, Germany, the Netherlands and the UK we investigated their attitudes towards prophylactic surgeries. METHOD: In order to examine differences in attitudes, we have analyzed data from a European survey of cancer risk communication (InCrIsC-study). The InCrIsC study was a postal survey with a self-administered questionnaire carried out in 2009–2010 amongst BS in 4 European countries (UK, France, The Netherlands and Germany). In total, 1221 BS (37%) completed the questionnaire. RESULTS: French and German BS reported less positive attitudes towards PM as compared to BS from the Netherlands and the UK. Similarly, approximately 47% of the German and 79% of the French BS were of opinion that PO should be an option for an unaffected BRCA1/2 mutation carrier from the age of 40 years, as compared to 98% and 92% of the BS in the Netherlands and the UK, respectively. Furthermore, French and German BS were more likely to perceive access to increased surveillance and screening and increase of life expectancy due to screening as a benefit of predictive testing. CONCLUSIONS: These results demonstrated international differences in breast surgeons’ attitudes towards prophylactic surgeries and screening in unaffected female BRCA1/2 mutation carriers from the age of 40 years. This finding might reflect that different policies are adopted regarding the counseling of prophylactic surgeries and screening. As the clinical evidence should be the guiding principle in care, it would be interesting to know the survival rates associated with each combination of preventive strategies. RESEARCH IMPLICATIONS: Although there may be cultural differences in professionals’ attitude towards prophylactic surgeries, the clinical evidence should be the guiding principle. Consequently, it would be interesting to know the survival rates associated with each combination of preventive strategies, which would help to give women all the information required for their decision making to be autonomous and well informed. CLINICAL IMPLICATIONS: In the context of the uncertainty about the effectiveness of intensive screening, non-directive counselling and informed decision making about prophylactic surgeries and screening is essential. ACKNOWLEDGEMENT OF FUNDING: The international study was supported by the German Bundesministerium fuer Bildung und Forschung (BMBF, Federal Ministry of Education and Research), contract number 01GP0617.

P1-131
Factors Influencing Functioning at Work After Cancer: A Focus Group Study With Cancer Survivors and Health Care Professionals
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BACKGROUND: Due to earlier diagnosis and improved treatment, an increasing number of adult cancer survivors (CSs) are living with cancer as a chronic disease. Although 30% to 90% of those diagnosed with cancer return-to-work (RTW) following treatment, the risk of unemployment and early retirement is increased in the years after cancer treatment. To date, little is known about the factors influencing health-related work functioning (WF) over time among CSs who returned to work. METHOD: Four focus groups were conducted to get more insight into WF in the post-RTW phase: three with CSs who resumed work after cancer diagnosis (n = 22, in various stages of re-integration) and one with (occupational) health care professionals (HCP, n = 7). Research questions...
were (1) Which factors influence functioning at work? and (2) Did the meaning of work change after cancer? RESULTS: Physical (e.g. fatigue), cognitive (e.g. concentration) and psychological aspects like coping style, acceptance, insecurity regarding work and health were mentioned by CSs and HCPs as factors affecting WF. Moreover, social support (from colleagues, employer, occupational physician, partner) and work-related factors (e.g. job control and work accommodations) were considered important for WF. CSs also mentioned that feelings of guilt towards colleagues influenced their WF. Although work has a different meaning in terms of changed priorities after cancer diagnosis, work still remains a very important factor for many CSs. CONCLUSIONS: This focus group study identified factors related to WF in employees after cancer diagnosis, both from the CSs' and the HCP perspective. Factors that were mentioned as most impairing WF were work-related, psychosocial and/or medical. Having had a cancer diagnosis influenced WF, but work remains an important aspect of life. The results provide direction for actions to improve WF and to maintain stay-at-work. RESEARCH IMPLICATIONS: The results can be used to elaborate a comprehensive model for “Work functioning among CSs”, based on the Cancer & Work model by Feuerstein et al. 2010. Future research should aim at examining the relative importance of these factors. It is also important to investigate whether and how these factors change when CSs have returned to work for an extended period of time. CLINICAL IMPLICATIONS: In this study, we identified factors for clinical practice. These factors include fatigue and cognitive problems, insecurity and maintaining contact with colleagues and supervisor during treatment. As indicated above, evidence for the importance of these factors for WF at a group level should be established in future research, as are effective strategies to address these factors. ACKNOWLEDGEMENT OF FUNDING: This study was supported by the Alpe d’HuZes Foundation, as part of the research program ‘Living (together) with cancer’. The study contributes to the mission of the Dutch Cancer Society ‘To enhance the quality of life in people with cancer’. The study is conducted in collaboration with 365/ArboNed, a large Occupational Health Service.

P1-132
Dispositional Optimism in Breast Cancer: Relations with Disease-Related Quality of Life
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BACKGROUND: Quality of life in cancer is influenced by many medical and psychosocial variables. From the point of view of the positive psychology, optimism could be considered as a personality or reaction/coping variable. This study assesses the possible relationship between optimism and quality of life in breast cancer patients. Our purpose is to know which aspects of quality of life are more related to dispositional optimism, to improve, when necessary, the adaptation to the medical situations.

METHOD: 50 women with breast cancer between 30 and 67 years (mean age 50.6 years) answered individually about their current state in 27 different quality of life aspects (with the QL-CA-Afex questionnaire) and a dispositional optimism/pessimism test (LOT-R of Craven et al.) in a non-profit cancer organization setting. All participants signed a previous agreement. Results show that 90% got chemotherapy after a mastectomy (60%) or tumorectomy (30%) procedure. In free-disease interval were 44% and 56% in a treatment phase of the disease, predominating the complementary treatment after surgery (14 patients). A trained psychologist applied the instruments. RESULTS: Findings revealed a negative relationship between optimism and all the 27 aspects of quality of life. Mean comparisons of quality of life and optimism taking into account socio-demographic and medical variables (T-tests), provided no significant differences between groups. Correlations (Pearson) between dispositional optimism and quality of life suggest that women with a higher total score of dispositional optimism displayed significantly ($p < 0.05$) less physical symptoms and emotional difficulties. Furthermore, pessimism significantly correlated with loss of quality of life in the family and social subscale ($p < 0.05$) and in emotional subscale ($p < 0.01$).

CONCLUSIONS: In congruence with previous reports, optimism is significantly related to many aspects of quality of life. Women with breast cancer with high dispositional optimism feel less anger, less pain, have less difficulties in their movements, feel less tired, sleep better, go on with their home tasks, feel more illusion and less fear. But in some aspects, like social function or fatigue, it seems more important not being pessimistic than being optimistic. Moreover, objective conditions, e.g., of being or not in a certain active stage of illness and related treatment do not alter the tendency of being optimistic or pessimistic. RESEARCH IMPLICATIONS: The results indicate that the relationship between dispositional optimism and quality of life is complex. It appears that optimistic patients are less vulnerable to the consequences of the disease, but it is also possible that optimists perceive more opportunities to receive support and to use resources and therefore recover before the loss of quality of life associated with disease conditions. Future research needs to examine the relationship between dispositional optimism and optimism as coping strategy. CLINICAL IMPLICATIONS: Dispositional optimism appears to protect the
quality of life of women with breast cancer. Pessimism seems to facilitate the loss of quality of life related to health status. Since these are not always mutually exclusive aspects, in the clinical practice it is necessary to evaluate both optimism and pessimism. A strategy based on evaluating both trends would facilitate to identify preventively and help patients at the different phases of the disease. ACKNOWLEDGEMENT OF FUNDING: None.

P1-133
Relation Between Perceived Threat and Depression Among Cancer Patients: The Moderating Role of Health Locus of Control
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BACKGROUND: Depression has been studied as a major psychological reaction to cancer. There is ambiguity in the literature concerning the relation between levels of depression among cancer patients and objective aspects of the illness (e.g. stage). The goal of the current study was to investigate the relation between levels of depression and both objective and subjective aspects of the illness and to assess the role of health locus of control and social support in these relations. METHOD: 59 cancer patients were recruited from a major cancer center in Israel. Participants were evaluated on standardized instruments measuring: Depression, Perceived threat of the illness, health locus of control and social support. RESULTS: Levels of depression were found to have positive significant correlation to perceived threat of the illness and significant negative correlation to both social support and internal health locus of control. There was no correlation between depression and objective aspects of the illness. Internal locus of control was found to be a significant moderator of the relation between perceived illness threat and depression: relation between depression and perceived threat was weaker given higher levels of internal locus of control. CONCLUSIONS: Subjective aspects of the disease are highly relevant in understanding psychological distress among cancer patient. These aspects are not directly correlated to objective aspects of the illness but rather to subjective psychological factors. Internal health locus of control might have negative impact upon both depression and perceived illness threat and the relation between these two variables. Patients with internal locus of control might be more able to utilize social support then patients with external locus of control even though social support might be considered as an external resource. RESEARCH IMPLICATIONS: There is a need to understand the relation between personal and inter-personal aspects of the patients and perceived illness threat. Based on further research the notion of perceived threat might be incorporate into a larger model of coping. More research is needed in order to understand the relations between different aspects of health locus of control (internal, external, destiny/faith) and psychological distress. CLINICAL IMPLICATIONS: Both physicians and psycho-oncology teams need to consider perceived illness threat and not only objective factor of the illness while consulting patients. Encouraging patients to find social support resources might have both direct impact upon depression and indirect impact through changes in the perceived threat of the illness. ACKNOWLEDGEMENT OF FUNDING: None.

P2-1
Depressive Disorder in Adult Cancer Patients Referred to Psycho-Oncology Service in a Tertiary Care Cancer Institute in a Developing Country: Clinical Profile, Interventions Used and Outcome
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BACKGROUND: Studies report prevalence of major depressive disorder between 5–15% in cancer patients. There are few reports of outcome studies of depressive disorders in cancer patients in developing countries. The purpose of this study is to identify the demographic and clinical profile, severity of depressive disorder, interventions used and outcomes in those adult cancer patients diagnosed with depressive episode/disorder following referral to psycho-oncology service in a tertiary care cancer institute in a developing country. METHOD: A retrospective analysis of case records of all new patients referred to the in-house psycho-oncology service of a tertiary care oncology hospital from 1 January 2011 to 31 December 2012 and diagnosed with Depressive Episode or Recurrent Depressive disorder (by clinical interview for patient assessments using International Classification of Diseases Version 10 Chapter V) was undertaken. Patient characteristics, cancer diagnosis, past and family psychiatric history, severity of depression, interventions used and outcome (using Clinical Global Impression scales, CGI) were recorded. Relevant statistical analysis using Statistical Package for Social Sciences version 18 was done. RESULTS: Of 770 new adult cancer patients referred, 59 were diagnosed with Depressive Episode or Recurrent Depressive disorder (7.7%), including 37 females and 52 outpatients. The most frequent cancer sites were breast (19), gastrointestinal (12) and head and
neck (10). Half the patients had a past history but only 8 had a family history of psychiatric illness. Psychological interventions were used in all patients. Psychopharmacology was required for 45 patients of whom 37 were prescribed an antidepressant. Of 45 patients whose follow up data were available, there was improvement on CGI in 31 versus no change in 14 patients ($p < 0.001$). CONCLUSIONS: Depressive episode/disorder was seen in 7.5% of adult new cancer patients referred to our service. Breast and head and neck cancers were the common sites of cancer diagnosis, as has been seen in other studies. There were more female patients diagnosed with depressive episode in our practice, which may be a referral bias. Psychopharmacological interventions were required in most patients. There was positive outcome noted in most of our patients on follow up and this was statistically significant. RESEARCH IMPLICATIONS: There is a need for research to evaluate efficacy of various antidepressants used in cancer patients for positive outcome of depression. There is also need to evaluate specific psychotherapies in different groups of cancer patients diagnosed with depressive disorder. CLINICAL IMPLICATIONS: Development and audit of Clinical Practice Guidelines keeping in mind socio-economic challenges faced in developing countries need to be done. The burden of economic adversity adding to physical illness impacting on development, treatment and outcome of depressive disorder in cancer patients should be evaluated. ACKNOWLEDGEMENT OF FUNDING: None.

P2-2
The Topic Complementary Medicine Within The Doctor-Patient-Discussion - A Qualitative Study
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BACKGROUND: In German-speaking areas around 40% of all cancer patients use complementary medicine (CM) and the number of users is increasing. Especially in the internet exists a multiplicity of information about CM and yet patients have only limited access to quality-controlled information about CM. The “Competence Network Complementary Medicine in Oncology” (COCON) aims to improve this lack of information. The evaluation of the patients’ information and consultation needs and behaviour is one research project of COCON. METHOD: In a qualitative cross sectional design, 87 cancer patients ($\varphi = 51; \varphi = 36$) in various therapy situations agreed to participate in a semi-standardized interview. Topics of the interview were the previous and current use of CM, the information and consultation behaviour as well as the information and consultation needs. The doctor-patient-dialogue regarding CM is one aspect of the previous consultation behaviour. The interview length varied between 9:10 and 58:30 minutes. The code plan was developed inductively in exchange with 2 expert groups and was validated in 4 double coding sessions. RESULTS: In our sample most patients regard their physician as the main consultation partner for all medical issues and this includes CM. The mistle therapy and dietary supplements are even often recommended by physicians. Only a few patients who mentioned their CM use experienced a dismissive attitude. An advice against CM is given especially during ongoings chemotherapy or radiotherapy. Patients interested in CM who did not mention their CM use or interest assume that their physicians have not enough time to discuss CM, think that physicians from oncology-focused fields are not qualified in CM or expect a dismissive attitude. CONCLUSIONS: There is still restraint by patients to approach their physicians about CM. However, the treating physicians seem to be the desired consultation partner for CM. The advice given are somewhat various but not generally dismissive. RESEARCH IMPLICATIONS: In previous studies a predominant part of the patients state that they do not discuss their CM use or their interest in CM with their treating physicians. Our results contradict these findings and will be evaluated in a broader based questionnaire survey in the context of COCON. CLINICAL IMPLICATIONS: The results show that there is a need for information and consultation about CM. Therefore a quality-based standard of information and consultation about CM should be developed. COCON aims to satisfy these needs by implementing a CM information platform, a medical consulting expert service and CM education programs for healthcare professionals and self-help group leaders in Germany. ACKNOWLEDGEMENT OF FUNDING: This study was supported by the German Cancer Aid (Deutsche Krebshilfe e.V.).
BACKGROUND: In the psycho-oncology literature, the interest in such classical negative psychological outcome as depression and anxiety has been broadened to the assessment of positive outcomes such as post traumatic growth (PTG), hope and meaning. Consistent with this approach that stresses the importance of addressing possible positive outcomes for patients with cancer, the current study reports a preliminary examination of the relationships between agents and types of social support and PTG among women with breast cancer.

METHOD: 80 married women who were diagnosed with breast cancer completed social support (CPASS; Goldzweig et al., 2010) and post traumatic growth (PTGI; Tedeschi & Calhoun, 1996) self-report measures. Correlations and regressions analyses were conducted in order to assess the relationships between various agents (spouse, family, friends, belief based) and types (emotional, cognitive, instrumental) of social support and PTG.

RESULTS: All agent of support (family, friends, belief based) excluding spouse support, were found to be related to post traumatic growth various dimensions. Regression analysis revealed that support provided form friends and believes base support contributed significantly to the prediction of PTG over the other agents of support. With regard to types of support, all types of social support were found to be related to PTG sub-scales. Regression analysis revealed that only cognitive support, and not emotional and instrumental support, significantly predicted PTG total score over the other types of social support.

CONCLUSIONS: Various agents of support play different role in the process of PTG. It seems that married women coping with breast cancer rely on other sources of social support than their spouse in order to promote PTG. In addition, all three types of support are related to these women' PTG, with cognitive support having a unique contribution over emotional and instrumental support.

RESEARCH IMPLICATIONS: The current research results support the importance of addressing social support as a construct that consist both different types of support and various agents that provide these types of support. Additional longitudinal studies are needed in order to further validate the relations between agents and types of social support and PTG.

CLINICAL IMPLICATIONS: Although preliminary, the current study findings demonstrate the importance of friends and belief system as sources of growth for women coping with breast cancer. In addition, the importance of cognitive support should also be taken into account. These may lead for tailoring interventions that aim to increase the efficient use of these sources.

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P2-4

Myth or Reality: Are Head and Neck Cancer Patients at Increased Risk for Suicidal Thoughts and Gestures? Preliminary Results

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BACKGROUND: While head and neck cancer patients (HNC-P) are reportedly at increased risk for completed suicide (H&N-CP 50.5/100,000 vs. general cancer population 33.6/100,000 versus general population 13.8/100,000; JAMA, 2006), suicidal ideations and attempts have yet to be investigated in this population. Suicide risk factors found in a general oncologic population may not entirely correspond to those associated with HNC, since these patients face unique challenges (e.g., disfigurement, difficulties speaking, eating, and breathing). METHOD: This ongoing funded study aims to identify psychological QoL trajectories in H&N-CP, including investigating suicidal ideations and attempts measured pre-HNC diagnosis (lifetime), at baseline (<2 weeks post diagnosis), and at 3, 6, and 12 months post diagnosis. Patients completed the Beck Scale for Suicidal Ideation (BSSI) and questions covering suicidal ideations and attempts (lifetime and since last questionnaire). Patients also completed self-reported measures of QoL (FACT-G & HN), depression (BDI-II), body image (BIS), alcohol and drug misuse (RAPS4-QF and DAST-10), social supports (SSQ-6), sociodemographics/illness/treatment information, and past psychiatric history. Our aim is to present preliminary analyses of the frequencies and variables associated with suicidal ideations in HNC-P recruited thus far. RESULTS: Forty-six newly diagnosed HNC-P completed both baseline and 3 month follow-up measures. Lifetime pre-cancer and 3 months suicidal ideations were 10.8% and 8.5%, respectively; suicidal attempts were 2.4% and 0%; and 2.2% committed suicide <3 months (during the course of treatment). Suicidal thoughts at 3 months were related to: lifetime pre-HNC suicidal ideations (p = 0.034) or past psychiatric diagnosis (p = 0.001), higher levels of anxiety/depression (p = 0.001) and body image concerns (p = 0.001), lower quality of life functioning (p = 0.0009) and for H&N-specific issues (p = 0.01; especially difficulties breathing p = 0.001, alcohol p = 0.002, pain in mouth/throat/neck p = 0.01). Physical wellbeing...
P2-5
Which Health-Related Quality of Life Outcomes Should be Discussed During the Initial Follow-Up Consultation After Surgery for Esophageal Cancer? Preliminary Findings of a Delphi Survey
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BACKGROUND: Esophageal cancer surgery has a detrimental and long-lasting effect on health-related quality of life (HRQL). Therefore, clinicians need to systematically inform patients about the course of important outcomes. The aim of this study is to identify outcomes deemed important by patients and health-care professionals (HCPs; surgeons, nurses, and dieticians) to address in the initial follow-up consultation. METHOD: A two-round Delphi survey. The initial list for the first round contained 49 outcomes (29 HRQL). We invited patients and HCPs to rate each outcome on a scale of 1 (not important) to 9 (absolutely important) by either a postal or web-based questionnaire. Ratings were categorized as low (1–3), moderate (4–6), and high importance (7–9). We considered an outcome to be of high importance if >70% of participants rated the outcome as high AND if <15% rated the outcome as low. These outcomes will be included in the second round for which the same patients and HCPs will be resurveyed. RESULTS: We report the preliminary findings of round one of the Delphi survey, which was completed by 104 patients and 56 HCPs (21 surgeons, 20 dieticians, 16 nurses). A top 10 list of most important outcomes to be discussed revealed that patients and HCPs only shared 4 outcomes: removal of cancer, eating and drinking, recovery period, and swallowing problems due to scar tissue. HCPs, and not patients, considered the discussion of global quality of life, physical functioning, and weight loss to be a top 10 topic. Patients, and not HCPs, wanted to discuss survival, cancer recurrence, vitamin B12, and food supplements. CONCLUSIONS: Preliminary findings suggest that patients and HCPs hold different views on the topics that need to be discussed in the initial follow-up consultation after esophageal cancer surgery. Whereas clinicians focus on broader concepts of quality of life (e.g., global quality of life, physical functioning, eating and drinking), patients focus on specific issues related to prognosis (e.g., disease recurrence), and eating and drinking (e.g., supplements, vitamin B12). We expect to report the results of the completed Delphi survey at the conference. These findings will then provide the topics that need to be included in a (web-based) information package for HCPs. RESEARCH IMPLICATIONS: The outcome as low. These outcomes will be included in the second round for which the same patients and HCPs will be resurveyed. RESULTS: We report the preliminary findings of round one of the Delphi survey, which was completed by 104 patients and 56 HCPs (21 surgeons, 20 dieticians, 16 nurses). A top 10 list of most important outcomes to be discussed revealed that patients and HCPs only shared 4 outcomes: removal of cancer, eating and drinking, recovery period, and swallowing problems due to scar tissue. HCPs, and not patients, considered the discussion of global quality of life, physical functioning, and weight loss to be a top 10 topic. Patients, and not HCPs, wanted to discuss survival, cancer recurrence, vitamin B12, and food supplements. CONCLUSIONS: Preliminary findings suggest that patients and HCPs hold different views on the topics that need to be discussed in the initial follow-up consultation after esophageal cancer surgery. Whereas clinicians focus on broader concepts of quality of life (e.g., global quality of life, physical functioning, eating and drinking), patients focus on specific issues related to prognosis (e.g., disease recurrence), and eating and drinking (e.g., supplements, vitamin B12). We expect to report the results of the completed Delphi survey at the conference. These findings will then provide the topics that need to be included in a (web-based) information package for HCPs. RESEARCH IMPLICATIONS: The final list provides an overview of outcomes most patients and HCPs consider important to discuss in the initial follow-up consultation. Hence, high-quality evidence-based information needs to be available to inform patients about these outcomes. As such, our list may guide the selection of outcomes for future trials and observational studies. In addition, future research also needs to focus on ‘translating’ the evidence-based information, derived from studies, in a manner that is understandable to patients. CLINICAL IMPLICATIONS: The outcomes identified in the final list need to be addressed in the initial follow-up consultation after esophageal cancer surgery. However, since time is limited, and several outcomes do not belong to the expertise of surgeons, multidisciplinary teams need to determine which HCP (surgeon, nurse, or dietician) addresses which outcome. As a result, patients receive information by the HCP most knowledgeable about the specific outcome. ACKNOWLEDGEMENT OF FUNDING: Rhiannon C Macefield, Natalie Blencowe, and Jane Blazeby are funded by the MRC ConDuCT Hub.
P2-6
Goal Adjustment Strategies Operationalized and Empirically Examined in Patients With Cancer
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BACKGROUND: Adolescents facing cancer are likely to experience goal disturbance. Goal disturbance is related to psychological distress, which can be alleviated by goal adjustment. Relevant theories have identified several goal adjustment strategies (GAS), but their use has not been empirically tested. Therefore, this study aims to operationalize and empirically test the use of GAS in adolescents with cancer using characteristics of goals.

METHOD: Adolescent cancer patients listed their goals 3 and 12 months post-diagnosis. All goals were scored on goal characteristics (importance, attainability and effort by patients; life domain and level of abstraction by authors). The following 6 GAS were operationalized: (1) Continue to pursue disturbed goals, (2) Give up effort to attain the goal but remain committed, (3) Scale back goals in the same life domain, (4) Reprioritize goals, (5) Form new goals, (6) Give up goal commitment without turning to a new goal. The operationalization of all GAS was based on the scores of the goal characteristics using mathematical formulas. RESULTS: All GAS could be feasibly operationalized using relevant goal characteristics. Cancer patients (N = 32, 56.3% female) used all strategies, except for (6) Give up goal commitment without turning to a new goal. The use of an additional strategy was found in the data: (7) Scale up goals in the same life domain. CONCLUSIONS: Goal adjustment strategies can be feasibly determined using mathematical formulas based on goal characteristics. Over the next couple of months, we will investigate the use of these strategies in a larger sample of adults with cancer and compare their use over both samples. These results will be presented at the congress in addition to the results stated in this abstract. RESEARCH IMPLICATIONS: Future research could investigate which strategies are most adaptive for cancer patients. CLINICAL IMPLICATIONS: Once clinicians are aware which goal adjustment strategies are most adaptive for specific patients, they should be able to help patients signal goal disturbance and find appropriate ways for distressed cancer patients to adjust and alleviate their distress. ACKNOWLEDGEMENT OF FUNDING: Preparation of this abstract was funded by the Dutch Cancer Society (RUG 2009-4461).

P2-7
The Generic and Stoma-Specific Quality of Life of Cancer Patients With a Colostomy, Ileostomy or Urostomy
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BACKGROUND: Studies in cancer and non-cancer patients with a colostomy, ileostomy or urostomy have repeatedly reported limitations in patient-reported quality of life (QoL). However, few studies have focused on factors associated with impaired stoma-specific QoL in colorectal and bladder cancer stoma patients. In addition, it is not known whether the generic and stoma-specific QoL differs between patients with a stoma due to cancer and patients with a stoma due to other causes.

METHOD: All patients with a colostomy, ileostomy or urostomy participating in the Stomapanel of the Dutch Ostomy Association in August 2012 were asked to complete a generic (RAND-36) and stoma-specific QoL (stoma-QoL) questionnaire. The association of different socio-demographic (gender, age, education level and employment status) and clinical variables (type of stoma and time elapsed since stoma-operation) with the stoma-QoL of cancer stoma patients were assessed using backward linear regression analyses. RESULTS: In total, 379 cancer patients (81% colorectal, 18% bladder and 1% other) and 289 non-cancer patients (37% Colitis Ulcerosa, 23% Crohn’s disease and 40% other) were compared with all non-cancer stoma patients using linear regression analyses. The association of different socio-demographic (gender, age, education level and employment status) and clinical variables (type of stoma and time elapsed since stoma-operation) with the stoma-QoL of cancer stoma patients was significantly associated with female gender (β = −0.304, age ≥65 years (β = 2.33), higher education (β = 2.99) and being employed (β = 2.26) (R² = 0.07). Adjusted for gender, age, type of stoma and time elapsed since stoma-operation, cancer stoma patients scored higher on stoma-QoL (β = 2.12) and all RAND-36 domains (8.46 ≤ β ≤ 19.06) except on mental health, compared to non-cancer stoma patients. CONCLUSIONS: Gender, age, education level and employment status were associated with stoma-specific QoL in colorectal and bladder cancer stoma patients. Compared to patients with a stoma due to non-cancer causes, cancer stoma patients reported a better generic and stoma-specific QoL. RESEARCH IMPLICATIONS: Some socio-demographic factors were associated with the stoma-specific QoL in cancer stoma patients, however, this
accounted only for a small amount of variance in QoL. In order to improve health care and QoL in stoma patients, further studies should investigate which other factors are associated with the generic and stoma-specific QoL in cancer stoma patients. In addition, further studies should analyze which factors account for the difference in QoL between cancer and non-cancer stoma patients. CLINICAL IMPLICATIONS: Awareness of factors associated with QoL and of differences in QoL between cancer stoma patients and non-cancer stoma patients is important. Results of this study may help to identify patients with low QoL and who may benefit from supportive care. ACKNOWLEDGEMENT OF FUNDING: This study was funded by the Dutch Ostomy Association.

P2-8
Predicting Optimal Cancer Rehabilitation and Supportive Care (POLARIS): Meta-Analyses of Individual Patient Data of Randomized Controlled Trials Evaluating the Effect of Physical Activity, Exercise and Psychosocial Interventions on Health-Related Quality of Life in Cancer Survivors
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BACKGROUND: The primary aim of Predicting Optimal cAncer Rehabilitation and Supportive care (POLARIS) is to: (1) conduct meta-analyses based on individual patient data (IPD) to evaluate the effect of physical activity, exercise and psychosocial interventions on health-related quality of life of cancer survivors; (2) identify important sociodemographic, clinical, personal, or intervention-related moderators of the effect; and (3) build and validate clinical prediction models identifying the most relevant predictors of intervention success. METHOD: We will invite principal investigators of randomized controlled trials evaluating the effects of physical activity, exercise or psychosocial interventions on health-related quality of life compared with a wait-list, usual care or attention control group among adult cancer survivors to join the POLARIS consortium and share their data for pooled analyses to address the proposed aims. Eligible randomized controlled trials were identified through literature searches in four databases. RESULTS: To date, we have identified 132 eligible and unique trials. At the moment, eighteen principal investigators already agreed with sharing their data in the POLARIS database (n = 5223). CONCLUSIONS: The POLARIS consortium will conduct IPD meta-analyses, with the ultimate goal to effectively target physical activity, exercise or psychosocial programs to cancer survivors. Insight into the moderators of the effectiveness of physical activity, exercise or psychosocial intervention is an essential step towards personalized care for individual cancer survivors. Further, this study allows us to build a clinical decision rule supporting evidence-based decision making about which intervention would be most effective for a given outcome and a given patient group. RESEARCH IMPLICATIONS: We will ask study collaborators to supply raw data. We will examine these data for completeness and consistency with the original publications. To harmonize the data variables, data will be imported into a data warehouse. Subsequently, the data will be prepared for transformation of original studies, including variable checking. Finally, transformation of the data labels of the original studies into the POLARIS coding scheme and integration into the data warehouse will be performed. CLINICAL IMPLICATIONS: The POLARIS consortium tries to generate evidence essential to target physical activity, exercise and psychosocial interventions to the individual survivor’s characteristics, capabilities, and preferences. ACKNOWLEDGEMENT OF FUNDING: The POLARIS study is supported by the ‘Bas Mulder Award’ granted to L.M. Buffart by the Alpe d’HuZes Fund, part of the Dutch Cancer Society.

P2-9
Quality of Life Trajectory and its Sub-Patterns in Newly Diagnosed Advanced Lung Cancer Patients During the First 12 months of Being Diagnosed
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BACKGROUND: Relatively few studies have examined the longitudinal QOL changes and potential QOL-sub patterns in newly diagnosed non-operable advanced lung cancer patients (Stage IIIB & IV). Factors related to the changes are also important to be identified. The aims of this study were to (1) explore the overall QOL and QOL sub-patterns in advanced lung cancer patients during the first 12 months of diagnosis, and (2) identify factors related to the changes. METHOD: A
A prospective longitudinal study was conducted in a medical center in Taiwan. A total of 160 newly diagnosed advanced lung cancer patients were recruited and completed 5 assessments (before first treatment, and 1, 3, 6, 12 months from receiving first treatments) (T1–5, respectively). The QOL was measured by the overall QOL item in the EORTC QLQ-C30 (0–100 scoring, higher is better). The QOL sub-patterns and factors related to the patterns were analyzed by Latent Class Growth Analysis (LCGA). Factors the models (independent variables) included the changes of physical function, selected symptoms, emotion distress, and self-efficacy (on coping with cancer). RESULTS: Generally, patients perceived moderate levels of QOL across the 12 months. Three QOL sub-patterns were identified. In the pattern I (more than 50% subjects), patients reported moderate to good levels of QOL (scoring around 70–80) across the 12 months. In the pattern II (around 45% of subjects), patients reported moderate levels of QOL (scoring around 50–70 QOL). In the pattern III (<10% subjects), patients reported poor levels of QOL (scoring around 40 or less). Overall, factors significantly related to the changes of QOL included physical function, fatigue, emotion distress, and self-efficacy. CONCLUSIONS: This study provides a relatively more comprehensive evidence about the overall and sub-patterns changes of QOL in newly diagnosed advanced lung cancer patients in first 12 months of cancer diagnosis. Timing and tailoring interventions are needed to improve QOL in patients with different QOL sub-patterns. RESEARCH IMPLICATIONS: Brief, tailoring and clinically feasible tailoring interventions should be further developed based on the findings in sub-patterns. These interventions should be examined of their effectiveness on QOL improvements in advanced lung cancer patients. CLINICAL IMPLICATIONS: Clinically, systematic QOL assessments would be suggested by using brief tools to reflect patients’ QOL related problems or needs. Timing and appropriate interventions are suggested to be delivered based on the assessments. For those with very poor QOL, health care professionals should be particularly cared.

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academic community uniquely positioned to foster learning, networking, collaboration, “healthy” competition, social, and financial support. Through the reliance on information technology, face-to-face exchanges, dedicated workshops and research internships, PORT’s program offers varied and innovative research skills building activities which have been throughout the years instrumental in shaping the developing career of its trainees.

RESEARCH IMPLICATIONS: In a field as competitive as research, an excellent training experience is invaluable in building capacity. Research training programs such as PORT enhance the development of skills and competencies to enable fellows to design and carry-out innovative, high quality, person-centred, and feasible studies. CLINICAL IMPLICATIONS: Supporting aspiring young researchers to think outside the box, design timely studies, innovate in their field, and proactively disseminate their results can directly contribute to enhancing clinical practice. The knowledge gained through such training programs set the conditions and contexts that most favorably launch junior researchers into an exciting career. ACKNOWLEDGEMENT OF FUNDING: Julie Lapointe is currently a postdoctorate CIHR Fellow in PORT a Strategic Training Initiative in Health Research (STIHR) funded by the Canadian Institutes of Health Research (CIHR). Fay Strohschein has received funding from the FQ-S; the Quebec Network for Research on Aging, the PORT Program; the McGill University Faculty of Medicine; and the Jewish General Hospital Department of Nursing. Shannon Groff is funded through the Alberta Cancer Foundation, the PORT Program, Knowledge Translation Canada and the CIHR.

P2-11
Coping Profiles of Patients With Different Functional and Psychosocial Status: A Person-Oriented Approach
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BACKGROUND: Due to medical-technical progress, cancer became a treatable, even curable disease and cancer patients have to deal with their disease and its consequences sometimes over many years. Hence, psychosocial support of cancer patients becomes more and more essential. To understand the growing need for psychosocial care of cancer patients, assessment of patients' coping behavior is necessary. The present study investigated coping profiles of cancer patients from France with different functional and psychosocial status. METHOD: The study followed a quantitative cross-sectional design. We assessed 99 non-hospitalized cancer patients attending ambulant radio- and/or chemotherapy with different health status and age (15–82). The patients filled out a questionnaire assessing sociodemographic and disease-related variables, illness perception (using the French version of the IPQ-R-Brief), subjective well-being (using the French version of the FACT-GP) and coping styles (using the French version of the Brief-COPE). Five persons had to be excluded from the analysis due to too many missing values or outliers. Data of 94 persons was analyzed using hierarchical and non-hierarchical cluster analyses, ANOVAs and Chi-Squared tests. RESULTS: We found 4 groups with different functional and psychosocial status. The biggest group (39 persons) indicated overall well-being. One group (29 persons) showed only physical and functional burden, the third (19 persons) reported social burden and lack of support. The smallest group (7 persons) showed the highest ratings of physical, functional and emotional burden. This last group used significantly more dysfunctional coping strategies such as self-blame and less “positive” strategies as acceptance, positive reframing and humor. The groups with highest ratings of physical and functional impairments reported significantly more pain. No pronounced differences were found regarding demographics and disease-related parameters. CONCLUSIONS: Our study identified four clusters with different profiles of functional, physical, social and emotional well-being that interestingly did not differ with respect to disease progression indicators. The groups differed however concerning their coping behavior. Especially, persons reporting the highest emotional burden showed less “positive” but more self-blaming coping behavior as the other groups without such emotional strain. These findings thus indicate different coping profiles for patients with specific disease burden that may require different psychosocial interventions. RESEARCH IMPLICATIONS: The study emphasized a differential approach to well-being and coping behavior in cancer patients. In order to provide effective interdisciplinary care and treatment, it is evident to detect patients who are highly affected by their disease. Interventions should always be tuned to the differential needs of patients in a given life situation. One step in this direction clearly lies in the development and use of screening instruments in oncological settings. CLINICAL IMPLICATIONS: Especially the cluster with the highest burden used less so-called “positive” coping strategies such as acceptance, positive reframing and humor. If one considers these strategies as threat minimization strategies this finding may indicate that in case of heightened burden a positive appraisal of one’s situation may be difficult to achieve. The concept of “depressive realism” may...
be used here to describe this phenomenon and its clinical-therapeutic implications. ACKNOWLEDGEMENT OF FUNDING: The study presented above took place within the framework of the Tempus (Trans-European Mobility Program for University Studies) Program JEP-26029-2005 with funding by the European Commission and the participating universities (Luxembourg, Strasbourg, France, and Omsk, Russia). This project emphasized the development of teaching in oncology in the oblast of Omsk and was carried out from 2006 to 2009.

P2-12
Dance Movement Therapy for Patients Undergoing Radiotherapy: A Qualitative Investigation of Motivation, Needs and Benefits
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BACKGROUND: Radiotherapy often leads to a multitude of physical side effects leading to psychological distress and impaired quality of life. Focusing on mind-body connection, dance-movement therapy (DMT) can potentially bring upon both physical and psychological healing through its creative movement processes. This presentation will comprehensively explore patient needs during radiotherapy, motivation to participate in body-mind interventions, changes as a result of DMT, and attitudes after radiotherapy, which is little known for Chinese breast cancer survivors. METHOD: 105 Chinese breast cancer patients who were undergoing or just completing radiotherapy were recruited from hospitals in Hong Kong. The qualitative study design complements a larger randomized-controlled trial to provide in-depth understanding on the needs and experience of patients. Upon completing the 6-session DMT (9 contact hours), participants commented (in writing) on how the intervention benefited them (or not), what helped them get through the 5 week radiotherapy, and what was now most important to them. Comments were coded using content analyses. Resultant themes were verified and detailed via focus groups with 8 participants conducted once before and once after DMT. RESULTS: Participants agree that radiotherapy is time to resume participation in groups so as to resume normality. DMT was attractive compared with other psycho-social groups for its physical benefits. Patients were motivated to resume exercise appropriate for them and overcoming the side-effects of preceding chemotherapy; despite painful arms and fear of sweat affecting radiotherapy sites. Patients appreciated both physical and psychosocial benefits of DMT. Physical improvements counteracted side effects of treatments, leading to better sleep and increased willingness to exercise at home. Psychosocial benefits included released emotions through movement, enhanced cancer coping particularly through radiotherapy, changed attitudes, feeling less alone, etc. CONCLUSIONS: For breast cancer patients, radiotherapy is typically a period when they battle with residual side-effects from chemotherapy or surgery compounded by fears of other side-effects arising from radiotherapy. Yet, seeing an impending end to frequent hospital visits, their budding desire to resume exercise renders body-mind interventions particularly appealing to patients at this stage. Understanding their needs and motivations at unique treatment periods enable the design of appropriate interventions. Nonetheless, patients' motivation is dampened by not knowing the intensity and type of exercise deemed appropriate. DMT is recommended for patients undergoing radiotherapy for its extensive mental, physical and social therapeutic elements. ACKNOWLEDGEMENT OF FUNDING: This study is part of a randomized controlled trial funded by the Hong Kong Research Grants Council's General Research Fund (HKU745110H). We would also like to thank the Hong Kong Cancer Fund, Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital, but most of all, participating survivors in this study.

P2-13
In the Name of God the Compationate the Merciful – Psychodynamic of Psychiatric Problems of Head and Neck Cancers Comparing with other Cancers
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BACKGROUND: Psychological problems of cancer are affecting prognosis and therapeutic process of diseases. Different psychiatric disorders can complicate diagnosis and therapy, so to know these disorders can help the therapist and patients. Even if different types of cancers might have all types of psychiatric disorders, but some of psychiatric problems see more in some types of cancers (e.g., suicide and depression). METHOD: Objective: Compare psychiatric problems in cancer of head and neck and other parts of the body in psychodynamic view. Methods: Using 2 types of studies, retrospective (review 200 psychiatric consultations) and self-filling questionnaire by 20 pts. with head and neck cancers and 20 pts. with other types. One of questioner was Beck, and another was suicidal ideation questionnaire. RESULTS: This study has proven that suicide and depression are more
common in individuals with head and neck cancer rather than in other kind of cancer. Psychodynamic interpretation of this phenomena is that because of H&NCA affects appearance and beauty and causes low self esteem, which ends in suicide, that discussed in main essay, with statics. CONCLUSIONS: To know having H&N cancer pt. therapist concern high risk of suicide, so consult with psychiatrist, and start psychotherapy and drug therapy as soon as possible. ACKNOWLEDGEMENT OF FUNDING: None.

P2-14
Patients’ Perspectives on Adherence to Treatment in Chronic Myeloid Leukemia
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BACKGROUND: Medication adherence is a vital issue when treating cancer patients requiring prolonged therapy. Imatinib is an oral drug that prolongs life in patients with chronic myeloid leukemia (CML). Evidence suggests that one-third patients are non-adherent to treatment and this has adverse consequences. Non-adherence is a complex issue when treating a potentially life-threatening illness, the reasons for which are poorly understood. The present study explored psychosocial issues of adherence to treatment in CML patients prescribed Imatinib. METHOD: A qualitative method using a semi-structured in-depth interview was used for the study. Thirty CML- Chronic Phase (CP) patients (19 male and 11 female) receiving Imatinib (free of cost under the Glivec International Patient Assistance Program) for a minimum period of 6 months were enrolled. Patients having cancer in another site, those who had undergone bone marrow transplant were excluded. After informed consent was obtained the interview was conducted which was audio recorded. Level of distress and fatigue were obtained the interview was conducted which was audio recorded. Level of distress and fatigue were assessed using the Distress Thermometer (NCCN) and the Symbolic Assessment of Fatigue Extent (SAFE) scale (validation under progress). RESULTS: Content analysis revealed seven major themes: individual perception about illness, interaction with healthcare provider and system, issues with side-effects of Imatinib, logistics issues, significance of social support, psychological issues and understanding of adherence to treatment. Psychological issues, side-effects and logistics affected adherence to an extent, yet individual perception about illness was a major determinant of treatment adherence. Significance of social support and interaction with healthcare provider and system was good and could be factors that improved adherence. Although majority (76.7%) reported experiencing fatigue, 80% were found to have only mild fatigue on assessment. Mild distress was found in 50% patients. CONCLUSIONS: Individual perception about illness emerged as a prominent factor to understand treatment adherence in chronic myeloid leukemia. The resultant sub-themes included awareness about diagnosis and treatment, attitude towards illness, significant changes in day to day functioning and worry with regard to the future of their family. Hence, through an in-depth inquiry into the patient’s perception of their illness keeping in mind their socio-economic and educational background, further adherence interventions can be implemented. RESEARCH IMPLICATIONS: Future research warrants for a prospective study to understand the level of adherence in this patient population using quantitative assessments. The development of a theoretical model on treatment adherence for this patient population. Psychosocial intervention studies can be undertaken to study the effect of adherence to treatment with different socio-demographic groups. Finally, conducting specific intervention studies to highlight the importance of adherence using flip charts, educational pamphlets and psychological counselling services. CLINICAL IMPLICATIONS: From this study, clinicians can be made aware of the specific psychosocial factors affecting adherence and thereby help to identify and address issues at the commencement of treatment. A holistic psycho-educational intervention can be implemented into the system for improving adherence. Regular documentation of patient’s progress with a tool to objectively measure adherence can aid to quantify levels of adherence. Further, patients need to be consistently followed up regarding difficulties faced in adhering to treatment. ACKNOWLEDGEMENT OF FUNDING: None.

P2-15
Pilot Study on Diagnosis Communication and Patient’s Rights in an Eastern European Country
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BACKGROUND: Current Romanian medical legislation is centered on patient’s autonomy. In medical practice persists a “traditional” care model, approaching the patient as part of a family which filters medical information that reaches the patient, interferes in decision-making process, producing ethical dilemmas and diminishing patient’s autonomy. Many physicians let themselves involved into “silence conspiracy” by the families and some doctors are asking the psychologists for the characteristics of patients that want their autonomy to be respected. METHOD: Transversal study, 40 cancer patients were administered a semi-structured interview based on: knowledge of the diagnosis,
knowledge of patient’s rights, the manner of diagnosis communication, possible interference from the family in doctor-patient communication and in the decision-making process. Inclusion criteria: age of over 18, signing informed consent, malignant diagnosis. Exclusion criteria: patients that refused to participate. The subjects included were randomly chosen from the patients admitted and treated in a national cancer institute. The methodology of the study was approved by the Medical University Ethics Comitee. The data was processed both qualitatively (phenomenological approach) and quantitatively using SPSS.16. RESULTS: 90% of the patients wanted to know the diagnosis, this wish wasn’t statistically associated with patient’s gender, sex, age, environment, marital status, education (Fisher’s Exact Test, \( p > 0.05 \)) or age (Mann-Whitney Test, \( p > 0.05 \)). The patient’s wish to know details about disease and treatment is associated with the environment the patient came (Fisher’s Exact Test, \( p = 0.005 \)) and the level of education (Fisher’s Exact Test, \( p = 0.027 \)). Younger patients consider that the diagnosis should be disclosed, the older patient believe that silence conspiracy should be adopted (Mann-Whitney Test, \( p = 0.017 \)). The paper presents also a phenomenologic analysis of patient’s opinions about disclosing the diagnosis. CONCLUSIONS: The majority of the patients wanted to know the truth about their disease considering this fair. 10% didn’t want to learn the diagnosis, but their doctors have told them without asking, infringing their rights. Some families found out medical details about their ill relative from the doctors before the patient and without patient’s consent- a fact that breaks the law, but is according to the medical communication custom in our country. The patients consider this humiliating and diminishing their dignity. The patients’ approach and communication manner must be individualised and adapted to patient’s specific preferences. RESEARCH IMPLICATIONS: There are few studies in Romania concerning doctor-patient communication and patient’s rights. We propose to extend the study, to interview more patients including ethnic minorities in order to search for their preferences in medical communication and protection of patient’s rights. We also want to include in the study families to study their preference of interference in doctor-patient relationship and doctors to study the causes of persisting the paternalistic attitude, contrary to current legislation. CLINICAL IMPLICATIONS: As in other ex-communist countries, many doctors (especially older ones) don’t have communication and ethics knowledge, infringing patient’s rights. The majority of the patients wanted to know the truth, but their opinion could differ. On the basis of this study, there can be conceived seminars for physicians to further the knowledge and application of patient rights in practice and informational campaigns for patients regarding their rights. ACKNOWLEDGEMENT OF FUNDING: None.

P2-16
Prevention Research in the Field of Psychosocial Oncology: A Golden Opportunity?

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BACKGROUND: Over the past 30 years, the field of psychosocial oncology has established itself as a specialized discipline that examines the psychological, behavioural, and social aspects of cancer. The field addresses two dimensions: (1) the emotional impact of cancer and its treatment by patients, families, and health care professionals, and (2) the psychological and behavioral factors that influence the disease process. Overall, mainstream psychosocial oncology research has been limited in addressing primary & secondary prevention issues. METHOD: The objective was to examine the place of cancer prevention research in the field of psychosocial oncology. We conducted a content analysis of articles related to cancer prevention published in Psycho-Oncology, the major journal that reflects the development of science and practice in psychosocial oncology. We examined the prevalence of prevention studies in Psycho-Oncology, and then determined the specific content areas of these articles. The 20-year lifespan of the journal (1992-2012) permitted a reasonable overview to study this issue. RESULTS: We identified numerous primary and secondary prevention strategies related to reduction in cancer incidence or mortality related to (1) smoking; (2) Occupational exposures; (3) Air pollution (4) Sun exposure/UV light; (5) alcohol; (6) Exercise; (7) Vaccination against viruses and infectious agents; (8) Oral contraception reduction; (9) Selective estrogen receptor modulators (SERM); (10) mastectomy/oophorectomy; and (11) screening (e.g., mammography). Using a predetermined selection criteria, we identified if the articles primary focus was on interventions, attitudes, knowledge and beliefs, theoretical analyses or factors associated to any of the aforementioned primary and secondary prevention strategies. CONCLUSIONS: Only 17/1775 (1.2%) articles focused on primary prevention, while 72/1775 (4.1%) articles focused on secondary prevention. Thirty-one articles focused on specific screening practices, 27 on genetic testing/counseling and 14 were classified as “other”. The majority of primary prevention articles examined psychosocial factors influencing prevention strategies such as decrease or avoidance of sun exposure. (e.g., High-and average-risk individuals’ beliefs about, and perceptions of, malignant
melanoma) RESEARCH IMPLICATIONS: Prevention does not occupy a predominant place within the journal Psycho-Oncology, and by implication, perhaps within the field. At the beginning of the new millennium, Holland (2002) restated many of the remaining questions in psycho-oncology research. But there continued to be major gaps in primary and secondary prevention, as they related to psychosocial issues. CLINICAL IMPLICATIONS: The burden of cancer mortality can be reduced through an increased focus on prevention, which offers the most logical/cost-effective long-term strategy for cancer control. Increased attention should focus on other modifiable risk factors such as diet, physical activity, exposure to viral/bacterial infections. Greater psychosocial oncology research needs to consider the factors affecting both primary/secondary prevention strategies, (e.g. the importance of testing interventions aimed at altering modifiable risk factors and lifestyle behaviors such as HPV vaccine uptake). ACKNOWLEDGEMENT OF FUNDING: Supported by an operating grant from the Canadian Institutes of Health Research to Zeve Rosberger and Fellowship support from the Fonds du Recherches en Santé du Québec to Samara Perez.

P2-17
Quality of Life in Indian Breast Cancer Patients After Breast Conservation Surgery or Modified Radical Mastectomy
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BACKGROUND: The increase in incidence of breast cancer has spawned new trends in research but the parameter of Quality of Life (QOL) remains relatively unexplored in India. With patients considering post treatment QOL as a decisive factor when opting for Breast Conservative Surgery (BCS) or Modified Radical Mastectomy (MRM), examining differences between these groups became imperative. This study assesses the differences in QOL and its sub categories across Indian patients based on BCS / MRM status. METHOD: These interim findings are based on the data collected from 56 breast cancer patients who have undergone either BCS (N = 26) or MRM (N = 30) with Chemotherapy and Radiation. Patients were assessed using the Functional Assessment of Cancer Therapy – Breast (FACT - B) Version 4 QOL scale. The assessment was conducted 6 months post treatment on women who had been treated for Stage I, II or III breast cancer patients. RESULTS: The Mann Whitney – U test showed that the patients who underwent a BCS experienced a significantly better quality of life overall with a p-value of 0.042 on the FACT – B assessment. The Trial Outcome Index (TOI) was significantly better in the BCS group with a p-value of 0.026. The Physical Well Being (PWB) and Functional Well Being (FWB) subscales showed improved QOL for BCS patients with p-values of 0.020 and 0.016 respectively. There was no difference found across Social Well Being (SWB), Emotional Well Being (EWB), the Breast Cancer Subscale and across age at diagnosis. CONCLUSIONS: The study showed that overall QOL was significantly better in the case of patients who underwent BCS as compared to those who underwent MRM. The areas of physical and functional well being were significantly better in the BCS group. QOL did not vary significantly in the areas of emotional and social well being and did not show any variation with age. RESEARCH IMPLICATIONS: This study has the potential to drive QOL research to investigate the impact of diagnosis at different stages on QOL in the context of BCS and MRM. It could provide a basis for analysis of any temporal variation of post treatment QOL lending greater insight into patient care. These findings will also encourage intervention based studies and approaches which can target the specific difficulties faced by patients of BCS and / or MRM. CLINICAL IMPLICATIONS: The study lends new ground and evidence that has the potential to alter the decision making process for patients being offered a BCS or MRM. Providing credence via quantifiable proof that a BCS is favourable with regard to QOL will lend impetus to newer techniques and innovative methods focused on conservation. It would provide a basis for psycho-education and psychotherapy using a more patient centric approach as opposed to a disease focused approach. ACKNOWLEDGEMENT OF FUNDING: The Ruby Hall Clinic – Kamalnayan Bajaj Cancer Centre, Pune provided the infrastructure and material resources required for the study.

P2-18
Biowave Assay for Distress Interaction Between Advanced Cancer Patients
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BACKGROUND: Psychologic stress affects treatment effect for advanced cancer patients. Kendall research showed worry and emotional concerns, the most common problems with the DT, BSI, checklist, questionnaires etc. These traditional methods
may be accompanied with the newly experimental technique, Biowave Assay possessing some advantages as real-time surveillance for distress. In this paper we repost experimental data about origin of patient distress in order to explore the represents of worry and emotion variation as interaction between patients. METHOD: We used the experimental method called Biowave Assay can be referred to LDCC test. Determining two patients LDCC as follow procedures:

1. To collect specimens of 50 microliter peripheral blood.
2. To separate neutrophil with density gradient centrifugation.
3. Laying up 51°C for 0, 5, 10, 12, 14, 16, 20, 25 minutes respectively.
4. Added to staining solution in 37°C, the time of staining reaction based on Set Up a Criteria test.
5. Microscopy determined and recorded positive cells.
6. Basis statistical analyze on positive rate, obtained the LDCC index as LDCCI. According to the reference range of distress it used to determine the degree.

RESULTS: The 2 advanced cancer patients, Yao and Zhang received medical service of Biowave in same ward. Yao’s state of illness was more severity than Zhang’s, even if their LDCCI were in the range of physiology as general condition. Clearly this represent can be viewed Yao’s LDCCI was stable as the Zhang’s consolation effect. Through the clinical experiment for the consolation, when Zhang left the ward for some days the Yao’s LDCCI would be ascending. Then Yao’s state appeared exacerbation, when her symptom companied by LDCCI raised the Zhang’s increased soon. Zhang’s LDCCI won’t descend until went back home for remission. CONCLUSIONS: The newly-developed Biowave Assay test frequently applied for evaluation of distress as LDCCI variation reflects the degree. It is regarded as efficient for evaluation of distress, as well as suitable in experiment of the cause. The LDCC test we have built seems appropriate for surveillance of the variation about advanced cancer patient distress, as excluding pain factors. This newly Biowave Assay test would be used as experimental supplement for traditions. It includes the Distress Thermometer, a self-administered scale from 0 to 10 to rate. Collecting sociodemographic characteristics from patients’ clinical files completed the BSI and the PCL during outpatient registration. RESEARCH IMPLICATIONS: Using the Biowave Assay we made LDCC debt constraint test. The biowave dominance originated in CNS in brain makes the biowave network formation throughout the body. Their dynamic structure shows the ascendant of CNS that reflects the reactive sensitivity to environment stimulus in vitro or in vivo. So that the higher of the ratio of the positive the lower sensitivity of CNS. In the condition the biological activity of CNS appeared not well, vice versa. CLINICAL IMPLICATIONS: In the LDCC test of biological abnormal variation results in the neurobiological experiment basis for a neuroses and psychoses. That is the diagnostic standard for the diseases above. The difference between all figures are smaller, it is always in physiological range calling “tending equally” as potential distress standards. The other is temporary distress, as a standard called simple distress. Severe form the highest occurs closely to the maximum regularly and along with the tending equally.

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reporting fatigue had significantly higher levels of psychological distress compared to the non-fatigued and also according to role function, vitality, age and income. RESEARCH IMPLICATIONS: All women with a diagnosis of gynecological cancer, should be screened for fatigue and symptom management from the time of diagnosis, throughout the treatment trajectories and during aftercare. Both somatic and psychological aspects, must be focused. These findings also reveal a need for good interventions related to symptom management and patient education. CLINICAL IMPLICATIONS: Health personnel should pay more attention to cancer-related fatigue in their dialogue with patients. Sufficient screening instruments exploring fatigue should be used routinely in clinical settings. Furthermore, in cases of fatigue, healthcare personnel should provide education and self-care suggestions that include the most appropriate intervention to alleviate fatigue. ACKNOWLEDGEMENT OF FUNDING: None.

P2-21
Music as a Therapy for Cancer Patients
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BACKGROUND: Music therapy in oncology has not a long clinical tradition in Poland. The purpose of this presentation is to show the music therapy techniques in the context of cancer care and to present the integration of music therapy program into continuum supportive care for inpatients at a leading oncology hospital in Poland - the Greater Poland Cancer Centre in Poznan. METHOD: Music therapy can be a part of the complementary medicine program in cancer care - it can accompany medical treatment. There are many benefits of music therapy for cancer patients. Interactive/active - as well as receptive/passive music therapy techniques can be easily introduced into clinical situation. Techniques are selected from a variety of options based on patients' needs, preferences and music therapist's assessment. They include listening to the live and recorded music, playing the instruments, relaxation techniques with music, movement with music. RESULTS: Music therapy is an effective form in supporting cancer patients during the treatment process. Music therapy can be used to promote relaxation, reduce anxiety and stress, relieve discomfort, reduce patients experience of pain, and offset some of treatment related symptoms. Music therapy offers opportunities for self-expression and brings positive experiences. CONCLUSIONS: Experience of cancer generates a number of physical, emotional and social and existential needs. The music therapy program is applied to meet patients needs during diagnosis and treatment process, and it can be practiced with both - individual and patients group. Music can address many of them by offering a wide range of benefits - promote wellness, improve physical and emotional well-being, to improve the quality of life. RESEARCH IMPLICATIONS: Many studies presented in the literature indicate that music therapy is applied to relieve symptoms such as anxiety and pain, difficulty in breathing, high level of stress, fear or lonelines. Music therapy in cancer should be focus on the needs of patients arising from the experience of disease as well as from side effects of treatment. CLINICAL IMPLICATIONS: Music therapy may be an effective method of support for cancer patients at various stages of cancer disease. Music therapy interventions may be applied in conjunction with other standard medical treatment such as surgery, chemotherapy and radiation. A wide variety of music therapy activities can take a place in cancer care settings. ACKNOWLEDGEMENT OF FUNDING: None.

P2-22
Social Connotations of Prostate-Cancer: Work in Progress
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BACKGROUND: Prostate cancer is the most common cancer of the man, with currently about 60,000 new cases per year in Germany. Despite this fact, little is known about the social connotations of the disease and about patients’ subjective perceptions of their illness. Patients’ concepts about aetiology, prevention, treatment and prognosis of their cancer as well as their notion of the controllability of the disease have decisive impact on the individual’s health behaviour and disease management. METHOD: Patients’ subjective concepts about prostate cancer are assessed in this cross-sectional study. 89 prostate-cancer patients of the University Hospital Münster (primary disease or relapse) aged 48-80 years (mean = 65, 35; median = 67) were included. The following instruments were used for assessment: Brief Illness Perception Questionnaire (B-IPQ), Hospital Anxiety and Depression Scale (HADS), General Self-Efficacy Scale (SWE), European Quality of Life Questionnaire (EQ-5D with EQ-VAS). The study was approved by the Ethics Committee; all patients gave their informed consent prior to inclusion into the study. RESULTS: Data of the study will be presented at the meeting. The sample will be divided into subgroups, comparing the outcome scores. Associations between the patients’ subjective perception of disease, anxiety/depression, general self-efficacy and health-related quality of life will be assessed by correlation analysis (Spearman’s rho), univariate and multivariate
BARriers to Help-Seeking Amongst Obese Women With Symptoms of Gynaecological Cancers: A Healthcare Professionals’ Perspective

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BACKGROUND: Obese women are reported at higher risk of developing some gynaecological cancers (i.e. endometrial and ovarian) than non-obese women. Weight-related barriers contribute to delay in general healthcare utilization; however, specific factors that contribute to late presentation for gynaecological cancers have not been examined. The aim of this study was to explore healthcare professionals’ perspectives of the potential barriers, to prompt help-seeking amongst obese women presenting with symptoms of gynaecological cancers.

METHOD: Qualitative interviews were undertaken with 15 UK based healthcare professionals specialising in gynaecological cancer services (gynaecologists, radiographers, oncologists, psychologists and specialist nurses). Semi-structured interviews explored healthcare professionals’ perceptions of obese women with symptoms of gynaecological cancers, barriers to help-seeking amongst these women (including potential weight and ethnicity related barriers) and potential interventions to improve help-seeking behaviour amongst obese women. Interviews were transcribed verbatim and data was analysed using the “framework” method.

RESULTS: Three main themes emerged as barriers to help-seeking for obese women presenting with symptoms of gynaecological cancers: (a) embarrassment of the examination process, (b) lack of awareness of gynaecological cancer symptoms, and (c) sociocultural barriers (i.e. accessibility, language, discomfort in discussing sex-related topics). Community education interventions were suggested to build public knowledge of gynaecological cancer symptoms (e.g. through media broadcast and dissemination of information in primary care settings) and the importance of effective general practitioner patient communication in addressing the increased risks associated with obesity and the possible emotional and sociocultural barriers which may affect help-seeking for gynaecological cancers.

CONCLUSIONS: This study utilized an innovative approach informed by help-seeking literature, to explore barriers for women who may be at higher risk of presenting with more advanced stage gynaecological cancers due to delays in help-seeking. The study highlighted a mix of individual and cultural factors (i.e. emotional barriers, symptoms and risk-factor knowledge, and sociocultural influences) that may influence help-seeking for symptoms of gynaecological cancer. Future research should investigate barriers to help-seeking from the patient perspective to develop an informed intervention aimed at improving time to help-seeking for diverse populations.

ACKNOWLEDGEMENTS: This research is timely given the current obesity public health concern and its association with increased risk, morbidity and mortality for some cancers. Although reducing levels of obesity is preferable, the current situation demands a focus on improving help-seeking behaviour amongst obese women to improve survival outcomes. This study builds foundation for larger patient focused research to explore sociocultural factors in more depth (i.e. across ethnicities/cultures) and develop predictors of delay in this population.

CLINICAL IMPLICATIONS: Findings from this study provide a first step in a plan of work to inform the development of a culturally sensitive intervention to improve help-seeking amongst obese women. Interventions have been suggested by healthcare professionals to target community and primary care settings and will be further explored in future research investigation the patient perspective of help-seeking amongst obese and overweight women with symptoms of gynaecological cancers.

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P2-24
A Large Cohort Study Evaluating Quality of Life in Patients With Head and Neck Cancer, is it Feasible? A.J. van Nieuwenhuizen1, L.M. Buffart2, R.H. Brakenhoff1, J.H. Smit3, R. Bree1, C.R. Leemans1, I.M. Verdonck-de Leeuw1,4
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BACKGROUND: To evaluate the feasibility of a comprehensive baseline assessment of a cohort study evaluating the course of quality of life (QoL) and its association with survival, taking into account cancer-related, personal, biological, psychobehavioural, and lifestyle-related factors. METHOD: Newly diagnosed head and neck cancer (HNC) patients were asked to participate. Assessments consisted of questionnaires (635 items), home visit (interview, physical tests, blood and saliva collection), and tissue collection. Feasibility was evaluated by representativeness of the study sample and achievability of the assessments. Representativeness of the study sample was evaluated by comparing demographics, clinical factors, depression, anxiety, and QoL between responders and non-responders using independent t-tests or Chi-Square tests. Achievability was evaluated using 4-point Likert scales covering the number of questions, time investment, intimacy and physical burden. RESULTS: During the inclusion period (4 months), 15 out of 26 (60%) patients agreed to participate. Less women participated, 13% in the responders group versus 63% in the non-responders group (p = 0.008). Furthermore, no differences were found in demographic and clinical characteristics, emotional distress and QoL between participants and non-participants. Responders completed more than 95% of the questionnaires items, and rated the number of questions, time investment and intimacy as feasible, and the physical and psychological burden as low. It took on average 3 hours to complete the questionnaires and 1.5 hours for the home visit. CONCLUSIONS: The comprehensive baseline assessment in patients with HNC was considered feasible and participation rates were sufficient. The study sample was representative and achievability was high. RESEARCH IMPLICATIONS: This study reveals that a comprehensive assessment including various questionnaires, physical measurements and biological assessments is feasible according to patients with newly diagnosed HNC. The research infrastructure as developed in this feasibility study can be used as a framework for future large cohort studies targeting other cancer populations. A large prospective cohort study will start in 2013 aiming to include 739 HNC patients and their informal caregivers in the Netherlands. CLINICAL IMPLICATIONS: Results of the planned large cohort study will guide future research to improve treatment and supportive care for cancer survivors. ACKNOWLEDGEMENT OF FUNDING: None.

P2-25
The Perceived Severity of Chemotherapy Side Effects: A Comparative Study Between Cancer Patients and Non-Patients
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BACKGROUND: Chemotherapy treatment is often associated with its side effects. As side effects are seen not only just as physical experiences, but also as psychological and perceptual experiences, this study aims to gain a better understanding of the perceived severity of the side effects and the differences in perceptions between chemotherapy patients and non-patients (i.e. potential new patients). Also, based on the Common Sense Model, we tested if pre-existing knowledge is a determinant of perceived severity. METHOD: A total of 2993 respondents completed our online survey. Respondents were (1) (former) cancer patients that are or have been treated with chemotherapy (n = 999), (2) non-patients that are or have been highly involved with a significant other who has been treated with chemotherapy (n = 823), or (3) non-patients that have never been highly involved with a significant other who has been treated with chemotherapy. RESULTS: For 9 out of the fifteen measured side effects we found that chemotherapy patients reported a significant lower perceived severity than both groups of non-patients would expect. We found this result for the side effects “infection and fever”, “nausea and vomiting”, “constipation and diarrhea”, “hair loss”, “mouth and throat sores”, “nerve and muscle effects”, “bleeding”, “concentration and short term memory changes”, and “anxiety and depression”. Chemotherapy knowledge significantly predicted the perceived severity of chemotherapy side effects for non-patients, but we did not find this effect for chemotherapy patients. CONCLUSIONS: The result that for most side effects non-patients have a higher perceived severity than chemotherapy patients can
be explained by the Social-Cognitive Transitions of Adjustment theory, which holds that patients learn to adapt on the basis of changes that are associated with the illness and its treatment. Also, we found evidence for the Common Sense Model: non-patients form their perception on the basis of their pre-existing knowledge, where chemotherapy patients base their perceptions on their own experience. RESEARCH IMPLICATIONS: Previous research shows that the perceived severity of chemotherapy side effects may change in the course of decades. This study builds upon these previous studies by giving insight into the present perceptions of the side effect of chemotherapy. Furthermore, this study gives a theoretical foundation, which was still missing in this area of research. Future studies should consider other possible determinants of perceived severity and possible outcomes that can be predicted by perceived severity.

CLINICAL IMPLICATIONS: The results of this study can be used to improve provider-patient communication. By understanding how patients form perceptions of the side effects of chemotherapy, clinicians can give realistic expectations to new chemotherapy patients. Clinicians should tailor their communication differently to new and experienced patients. Especially for new patients, effective information provision is very important as new patients have no previous experience to base their perceptions on and rely on their knowledge. ACKNOWLEDGEMENT OF FUNDING: This study is commissioned by Public eyes and was supported with an unrestricted grant from AMGEN and the Dutch Cancer Society (KWF).

P2-26
Current Status of Psycho-Oncology Services in India: A Survey Study
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BACKGROUND: In India, every year 1 million people are diagnosed with cancer and the trend is increasing. There are 26 Regional Cancer Centers (RCC) and more than 300 tertiary cancer treatment centers in India. Though psycho-Oncology is an essential service in the oncology team, it remains an isolated field in India. This study aims to understand the current status of Psycho-oncological services in India. METHOD: Survey method was adopted for the study. Through an online search, RCCs (26) in India were identified. All the RCCs were contacted over telephone and they were briefed about the study. Among the twenty six RCCs sixteen RCCs consented to provide information as requested by the researcher. A telephonic interview was carried out by using a semi-structured interview schedule. The interview focused on the availability and accessibility of psycho-oncology services, referral systems and support groups. The responses were documented and analyzed using descriptive statistics. RESULTS: Of the RCCs interviewed 43% (7) reported having Psycho-oncology services whereas 56% (9) do not have such services. Psychiatrist (1), Psychologist (7), Social Workers (2) and volunteers (1) are offering Psycho-oncology services. While 18% of the RCCs refer patients to other hospitals, 54% refer them to psychiatric departments of the same hospital. Service providers reported that more than half of the cancer patients experience moderate to severe psychological distress. Of the RCCs interviewed only 38% have support group and 50% do not have any support group. CONCLUSIONS: More than half of RCCs in India do not have any form of Psycho-oncology Services. Psychiatrist, Psychologist, and Social Workers are providing such services to cancer patients. The number of professionals available in the RCCs is not adequate to meet the psychosocial needs of cancer patients. The Psychological burden of cancer is huge as reported by service providers. Half of the RCCs in India do not have any support groups for patients and family members. RESEARCH IMPLICATIONS: Further research can explore the psychological or Psycho-oncological services in other tertiary level cancer treatment centers or hospitals. Research in the quality of psychological interventions rendered in these RCCs and other tertiary cancer treatment centers also need to be undertaken. The oncologist perspective about the need for Psycho-oncological services can also be explored. CLINICAL IMPLICATIONS: There is a clear need for more professionally trained Psycho-Oncologists who can identify and address the Psycho-Social problems experienced by the Cancer Patients and their family members during their cancer journey. ACKNOWLEDGEMENT OF FUNDING: None.

P2-27
Living With Untreated Prostate Cancer: A Longitudinal Study on the Impact of Active Surveillance on Anxiety and Distress Levels
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BACKGROUND: Patients with potentially indolent prostate cancer (PC) can be managed with
active surveillance (AS) in the Prostate cancer Research International: Active Surveillance study (PRIAS). The goal of our study was to analyze anxiety and distress in men living with “untreated” PC while being on AS. METHOD: Prospective, longitudinal cohort study including 129 Dutch patients on AS. Treatment was chosen in discussion by patient and physician. Participants completed questionnaires with validated measures on anxiety and distress at inclusion (t = 0), 9 and 18 months after diagnosis (t = 9 and t = 18, respectively). Changes in scores on depression (CES-D), generic anxiety (STAI-6), PC specific anxiety (MAX-PC), self-estimated risk of progression and decisional conflict (DCS) about patients treatment choice were assessed between t = 0, t = 9 and t = 18 using repeated measures analysis (SAS). Changes in physical health (SF-12 PCS) between t = 0 and t = 18 were assessed using a paired t-test. RESULTS: Nine patients (9/129) between t = 0 and t = 9, and 33 patients (33/108) between t = 9 and t = 18 stopped AS; 86% on protocol basis. Response rates for patients still on AS at t = 0, t = 9 and t = 18 questionnaire were 86%, 90% and 96%, respectively. CES-D, total MAX-PC, self estimated risk of progression and DCS scores did not change significantly (p < 0.05) when comparing t = 18, t = 9 and t = 0 scores, but generic anxiety (STAI-6) (p = 0.033) and fear of disease progression (sub-score of the MAX-PC) (p = 0.007) did decrease significantly. Men who switched to active treatment were not invited to fill-out quality-of-life questionnaires after they received treatment. CONCLUSIONS: After 18 months on AS, average levels of anxiety and distress remained favourably low for men who remained on AS; generic anxiety and fear of disease progression decreased. RESEARCH IMPLICATIONS: Our study was one of the first initiatives to assess anxiety and distress among AS participants during a period with 18 months of follow-up. Our results need to be validated by future research. Furthermore, we recommend the comparison of our outcomes on quality-of-life of AS participants to outcomes of alternative treatment options for low risk PC. CLINICAL IMPLICATIONS: Urologists should take into account when discussing treatment options with patients the potential psychological discomfort men may experience from living with “untreated” prostate cancer. Our study has shown positive results, however, that may not be the case for all men choosing AS. ACKNOWLEDGEMENT OF FUNDING: Prostate Cancer Research Foundation (SWOP), Rotterdam, The Netherlands.

P2-28
Understanding Health and Health Behaviors Among People who are Confronted With Cancer
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BACKGROUND: The mentality of modern man (mentality of the right thumb) is based on rationalism, individualism and hedonism. It follows that the pursuit of clear purposes: fast, easy and often enjoyable. Meanwhile, the disease is not part of this specification. In addition, distress associated with the situation of the cancer makes that the implementation of health behavior becomes difficult and ambiguous. METHOD: The aim of the study was to determine the relationship between the understanding of health, distress, and health behaviors among people confronting the cancer. The study included 50 cancer survivors, 50 family members of cancer patients and 50 of people who belong to the personnel working in oncology and palliative medicine wards. There used 4 questionnaires: Understanding Health Questionnaire, The Distress Thermometer, HADS and Health Behaviors Questionnaire. RESULTS: The study has shown significant relationships between subjective understanding of health and distress, and the implementation of health behaviors. People with a severe tendency to select the purpose of easy, clear and quick exhibited higher levels of distress and anxiety, and less likely to take health behaviors. CONCLUSIONS: The mentality of the right thumb (fast, clear, easily) in a situation of confrontation with cancer leads to making temporary behaviors aimed at reducing emergency stress. This means a greater tendency to engage in non-healthy behavior (for example: smoking, overeating) and less frequent engagement in health behaviors. RESEARCH IMPLICATIONS: It is important to take further longitudinal studies on different health behavior models with regard to the mentality. CLINICAL IMPLICATIONS: During the clinical practice focused on lifestyle changes, pay attention to the goals that are associated with the satisfaction of hedonistic needs and assimilation methods of dealing with distress. Also important is implementation of new health behaviors in a simple and unambiguous way (for example by action in different stages). ACKNOWLEDGEMENT OF FUNDING: None.
P2-29
Social Connotations of Breast Cancer-Work in Progress
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BACKGROUND: A high number of tumour patients experience their disease as stigmatizing. Social connotations and subjective theories about the illness affect patients’ perception of their disease and can thus indirectly affect the coping process. The study assessed in a sample of breast cancer patients, social connotations about the disease as well as anxiety, distress and self-perceived personal control over the illness.

METHODOLOGY: 94 breast cancer (primary or secondary disease) patients took part in the cross-sectional study at the University Hospital Münster, Germany. The age range was 32–86 years (mean: 53; median: 52.5). The following instruments were used for assessment: Brief Illness Perception Questionnaire (B-IPQ), Hospital Anxiety and Depression Scale (HADS), general self-efficacy scale (SWE), European Quality of Life Questionnaire (EQ-5D with EQ-VAS). The extent of disease control was measured by the item 3 of the B-IPQ. The study was approved by the Ethics Committee; all patients gave their informed consent prior to inclusion into the study.

RESULTS: Patients’ perceived controllability of their disease has significant influence on the outcomes. Patients with perceived disease control (n = 23) scored lower in the B-IPQ (p = 0.001) and the HADS-anxiety-scale (p = 0.043) compared to patients without disease control (n = 70). Participants with perceived disease control scored higher in the EQ-5D (p = 0.010) and the EQ-VAS (p = 0.033) than participants without perceived disease control. Univariate linear regression analysis confirms the effect of perceived disease control on the B-IPQ outcome-scores (B = 10.86, p = 0.001), EQ-5D (exp.B = 0.89, p = 0.016) and EQ-VAS (exp.B = 0.78, p = 0.025). CONCLUSIONS: Medical advances in cancer therapy lead to prolonged life expectancy, but might also cause additional medical and psychosocial problems. Understanding social connotations of cancer may offer new approaches to improve patient’s quality of life and coping. Until now, social connotations of breast cancer have been insufficiently researched. The first analysis of our data shows that self-perceived control over the disease has high impact on patients’ disease-management and their subjective quality of life.

RESEARCH IMPLICATIONS: The results of our study show breast cancer patients with perceived personal control over their disease have a better quality of life and a better state of health. These findings can help to optimize health education and prevention for this group of patients. The study can also provide information about the effectiveness of health education in breast cancer patients in the past and how it could be modified more effectively in the future.

CLINICAL IMPLICATIONS: Patients with carcinoma are exposed to a lot of psychological strain during their illness. This psychological strain is often underestimated. A better understanding of the subjective illness perceptions and the emotional implications of the disease may help to improve patients’ compliance, coping strategies and the general doctor-patient relationship in cancer treatment.

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P2-30
Oncologists’ Recognition of Depressive Symptoms in Advanced Cancer Patients: What Symptoms do they Accurately Detect and How?
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BACKGROUND: Research suggests that oncologists may be inaccurate in their ability to recognize distress in cancer patients and that depression often goes undetected. The aim of this study was to examine oncologist-patient agreement on specific depressive symptoms, and to identify potential predictors of this accuracy. These included sadness, pessimism, sense of failure, dissatisfaction, guilt, self-dislike, suicidal ideation, and holding a negative body image.

METHODOLOGY: 201 adult advanced cancer patients self-reported depressive symptoms with an 8-item version of the BDI which has been validated for use amongst the somatically ill. Their oncologists (n = 28) answered the same questionnaire in a perspective-taking task.

RESULTS: Intra-class correlations for individual BDI-8 items varied around a median of 0.30 (Min–Max = 0.14–0.52). Sensitivity varied around a median of 41.6% (Min–Max = 20.6–73.5%) and was highest pessimism, negative body image, and sadness, while specificity varied around a median of 71.5% (Min–Max = 40.0–94.6%) and was highest for suicidal ideation, self-dislike, and guilt. When controlling for prevalence, detection was most accurate for sadness, pessimism, guilt and suicidal ideation. Linear regression analyses identified similarity in gender, physician compassion, and quality of the patient-physician relationship as predictors of accuracy on various symptoms. Additional analyses concerning the recognition of symptoms are discussed.

CONCLUSIONS: The findings suggest that oncologists have difficulty discriminating between patients who...
experience depressive symptoms and those who do not. This is especially true for symptoms that are less visible. Moreover, relational variables may play an especially important role as facilitators of patient-physician agreement on less visible symptoms. RESEARCH IMPLICATIONS: Future longitudinal or experimental research is needed to better understand the skills that allow for accurate detection. CLINICAL IMPLICATIONS: Considering that oncologists are an important source of referral to psychosocial services, additional training is needed. This could focus on key depressive symptoms in this population and on the development of rapport with patients.

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P2-31
Medical End-of-Life Decisions at the University Hospital of Brussels (UZ Brussel, Belgium)
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BACKGROUND: This descriptive research explored which medical end-of-life decisions were taken in every event of death at UZ Brussel (Belgium). The incidence of medical end-of-life decisions, the characteristics of this decision process, the characteristics of the doctors involved in this process and the patient demographics were prospectively recorded. This research was carried out in the specific context of a university hospital. The sample was drawn between 1 September 2011 and 30 November 2011.

METHOD: Using the death certificate method, the doctor (participant) whose patient was deceased was traced. Participants were asked to cooperate by reporting the end-of-life decisions they made, with their patient, through a standardized face-to-face post-mortem questionnaire. Inclusion criteria were that a patient had died at UZ Brussel and that the doctor knew the patient before dying. Exclusion criteria were that the doctor who signed the death certificate simply took note of the death or the interview couldn’t take place within 14 days after a patient’s death and cases of perinatal death. The Ethical Review Boards of UZ Brussel granted permission.

RESULTS: Medical end-of-life decisions were common practice (92.3%) but most of the time this was without explicit request/knowledge of the patient. In most of the cases only family of the patient was consulted. Penultimate end-of-life decisions were in 51.9% of the cases decisions that concerned withholding or withdrawing potentially life-prolonging treatment. Last end-of-life decisions were rather decisions of adapting or alleviating pain by using opioids (48.1%). Cases of euthanasia were more frequent compared with general numbers of the Belgium population. It was also more common to take medical end-of-life decisions in cancer patients. Doctor-doctor consultation was the most common interdisciplinary communication. CONCLUSIONS: These findings conclude that the process of medical end-of-life decisions is a difficult task that requires attention. Timely and realistic communication with patients, their family and a multidisciplinary team were a crucial element in end-of-life care. RESEARCH IMPLICATIONS: Follow-up studies are useful and necessary to compare these results with other hospital contexts (and hospital cultures). Further qualitative research can be important to explore potential needs and perceptions of doctors, patients and relatives in end-of-life situations. However practical, ethical, deontological and methodological difficulties may complicate this research. CLINICAL IMPLICATIONS: Medical end-of-life decisions are common practice, but communication with patients, family and colleagues about this topic is not so simple and can elevate emotional pressure. In the future an increase in importance of medical end-of-life decisions due to different social evolutions can be expected. Training in communication with patients, family and other care takers will be a point of interest for doctors who opt for qualitative end-of-life care.

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P2-32
Psychological Distress and Quality of Life of Cancer Patients and Their Caring Relatives
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BACKGROUND: While an increasing number of palliative cancer patients receives home care with family caregivers providing a high level of care and support, there is little psychological support for both patients and family caregivers. One reason for this shortcoming is the lack of knowledge about the level of psychological distress and quality of life in palliative patients and their family caregivers.

METHOD: In order to assess psychological distress and quality of life, interviews were conducted with palliative cancer patients and their family caregivers. Quality of life was assessed using the EORTC QLQ-C15-PAL (cancer patients) and the SF-8 questionnaire (family care givers). The level of psychological distress was evaluated using the Hospital Anxiety and Depression Scale (HADS) and the extent of social support with the Oslo Social Support scale (OSS).

RESULTS: 120 palliative patients (42.5% female, age: M = 69 years) and 106 family caregivers (67.9% female, age:
BACKGROUND: Early palliative care has reached high international attention since the seminal work of Temel (2010). She showed in lung cancer patients that starting with palliative care (PC) already at the time a person is diagnosed with metastatic cancer, can be favourable to improve quality of life and survival. As a consequence, further trials on early PC in different cancer groups have been initiated recently. However, currently there exists now systematic quantitative overview of these trials. METHOD: We will conduct a systematic review within the Cochrane Pain, Palliative and Supportive Care (PaPaS) Review Group. The goal of the review is to assess and summarize all randomized controlled trials and controlled trials on early PC. All types of PC will be included, if interventions were aiming at at least two components of quality of life (e. g. bodily symptoms and depression). Interventions evaluating the impact of only one component of PC (e.g. medication on pain or psychological interventions) will be excluded. Outcomes of interest are quality of life, symptom intensity, distress, and survival time. RESULTS: After title registration with the Cochrane Collaboration two reviewers independently drafted a highly sensitive search strategy in close cooperation with the group’s Trial Search Coordinator. The consecutive search in MEDLINE yielded 5,244 potentially relevant records. Our database search is still ongoing with EMBASE, PsycINFO, Cochrane Central Register of Controlled Trials, CINAHL, LILACS, SIGLE, and clinical trial registries being searched for completion. So far, we have found eight randomized controlled trials meeting inclusion criteria. Final results will be presented in the upcoming Cochrane Review. CONCLUSIONS: Early PC has been increasingly subject to efficacy research with quality of life being the most important primary outcome. Several primary studies now allow for compilation and integration within a meta-analysis. The Cochrane Collaboration has endorsed early PC to be an important clinical issue and will further support our work to prepare a review based on the highest levels of quality.

RESEARCH IMPLICATIONS: Besides results on efficacy of early palliative care the systematic review will also provide information on methodological quality of trials (risk of bias) and research deficits. This can be used to set standards for further studies on this topic and to highlight areas in need for future research. CLINICAL IMPLICATIONS: The aim of this Cochrane review is to summarize all trials on early PC and help people to understand the evidence. The results will guide people (clinicians as well as patients) to make practical decisions about using early palliative care in cancer. As a Cochrane review the evidence will be regularly updated. ACKNOWLEDGEMENT OF FUNDING: None.
P2-34
Using Ritalin & Ketamine in Depressed Cancer Patients
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BACKGROUND: Advanced cancer is a depressing life limiting situation, depression in turn worsens or even destroys the quality of already limited life. Since almost all antidepressants take no <3 weeks to act, finding rapid acting antidepressants is of crucial importance. The aim of this review is to look into randomized controlled trials that used Ketamine and Ritalin in treating depression to draw a conclusion/evidence. METHOD: Two separate retrospective PubMed searches using A-Ritalin-Ketamine together with the words depression were done. The retrieved publications were filtered by “Randomized Controlled Trials” for Ketamine and Ritalin. Randomized clinical trials that looked into the antidepressant effect of Ketamine and Ritalin were identified and separated, then analyzed. RESULTS: Filtered by “clinical tails” search, retrieved 100 clinical trial for Ritalin, and 107 for Ketamine. Most of the trial showed significant antidepressant effect within 4 hours–1 day. CONCLUSIONS: Both Ritalin and Ketamine are safe and effective “Antidepressants” with rapid onset of action, however there are controversies about duration of improvement. RESEARCH IMPLICATIONS: A randomized clinical trial comparing methylphenidate and Ketamine for depression in cancer inpatients King Hussein Cancer Center has been processed. CLINICAL IMPLICATIONS: Using Ketamine and/or Ritalin as antidepressant is Justified in certain groups of patients especially suicidal, and patients with limited time and terminal cancer or other end of life situations, however long term use needs further evaluation. ACKNOWLEDGEMENT OF FUNDING: None.

P2-35
Current-Situation Survey Regarding the Way of Presenting Information for End-Of-Life Care in Japan After Enactment of Basic Anticancer Law
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BACKGROUND: In Japan, a Basic Anticancer Law was legislated in 2007, and The Ministry of Health, Labor and Welfare then released the Anti-cancer Measure Promotion Plan based on this law. The plan advocates the improvement of physicians’ communication skills, as they require special sensitivity for patients in disclosing unfavorable diagnoses and prognoses to them. The aim of this study was to survey the current situation of the way of presenting information for end-of-life care in Japan. METHOD: A mail survey was conducted in 5376 hospitals of 8843 hospitals throughout Japan, where cancer patients at the end of life likely get inpatient or outpatient treatments. The questionnaire consisted of 7 major categories. The results were compared with data from a previous survey conducted in 4911 hospitals in 2006, before the Basic Anticancer Law. In this report, questions were focused on confirmations of treatment courses among patients in end-of-life care. The bioethics research center at Tokyo Medical and Dental University formally stated that the present study could be conducted without official approval of the ethics committee. RESULTS: The response rate was 22.8% compared to 30.5% in the previous survey. The cancer diagnosis disclosure rate was 73.5 ± 29.0%, confirmation of changing therapeutic measures from curative to only palliative treatment was 68.6 ± 32.3%, confirming requests of life-prolonging treatment was 60.2 ± 35.9%, and disclosure of life expectancy was 32.5 ± 28.0%. Regarding confirmation of treatment courses at end-of-life care, results of the two studies were compared. The rates of “confirming wills of patients and their family members” increased from 48.6% to 60.9% (p < 0.0001). The rates of “discussing the situation with patients’ families first, and confirming the will of families” decreased from 45.0% to 34.5% (p < 0.0001). CONCLUSIONS: Cancer is the leading cause of death among Japanese, and more than 300,000 people die from cancer every year. To improve the current situation, the Basic Anticancer Law was enacted in 2007. The results showed that the rate of disclosing unfavorable diagnoses and prognoses to patients themselves decreased with the increasing seriousness of the clinical situation. However, with the enactment of the Basic Anticancer Law, autonomy of the patients themselves has become more respected, although the will of family members still exerts a great influence on clinical decision-making in Japan. RESEARCH IMPLICATIONS: The present nationwide study was significant for revealing the current situation regarding the way of presenting information for end-of-life care. More analyses and further studies are expected to increase our understanding of the details of area differences. After the enactment of Basic Anticancer Law, the Japanese Psycho-Oncoogy Society has actively organized communication skill workshops for physicians in cancer practice. More individualized studies would be helpful for determining more specific
issues during daily clinical practice. CLINICAL IMPLICATIONS: The autonomy of patients had become more respected, as was entrusting the will of family members in the process of decision-making for end-of-life care. In the Japanese cultural context, families' preferences are respected as well as patients' own thoughts. Then, there are high expectations for physicians to have communication skills with the actual Japanese circumstances. Further strengthening and deepening of educational activity are needed to support physicians' clinical practice centered in designated cancer care hospitals.

ACKNOWLEDGEMENT OF FUNDING: None for the study conducted in the present study. Regarding the previous survey in 2006 was supported by Health Labour Sciences Research Grant.

P2-36
Cognitive-Behavioral Therapy for Depression and Anxiety in Advanced Cancer: A Literature Review
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BACKGROUND: Anxiety and depression are the most prevalent emotional problems in patients with advanced cancer. Both have been associated with the exacerbation of physical symptoms in this population. It is still unclear the effect of cognitive-behavioral therapy on anxiety and depression in advanced cancer. The aim of this work is conduct a literature review for identifying and describing the effectiveness of CBT on depressive and anxious symptoms burden in patients with advanced cancer. Both have been associated with the exacerbation of physical symptoms such as fatigue, pain and anorexia. It is still unclear the effect of cognitive-behavioral therapy on anxiety and depression in advanced cancer. The exacerbation of physical symptoms in this population are needed to support physicians' clinical practice centered in designated cancer care hospitals.

RESEARCH IMPLICATIONS: We need more CBT research with Randomized Control Trials in order to assess the overall effect of this therapy in anxiety and depression in patients with advanced cancer. Also we need to develop new techniques for treating depression in this population.

CLINICAL IMPLICATIONS: Cognitive behavioral therapy is an option for treating anxiety in patients with advanced cancer. Cognitive restructuring of real and unreal thoughts different kinds of relaxation and patient's education are very useful techniques.

ACKNOWLEDGEMENT OF FUNDING: None.

P2-37
Anxiety and Depression are Related to Physical Symptoms Burden in Mexican Patients With Terminal Cancer
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BACKGROUND: Anxiety and depression are the most prevalent emotional problems in patients with terminal cancer. Both have been associated with the presence and intensity of physical symptoms such as fatigue, pain, and anorexia. It is still unclear the association of anxiety/depression mood and physical symptoms burden in Mexican patients. The aim of this research was assess the relationship among anxiety, depression and the presence and intensity of physical symptoms burden in patients with...
P2-38
Change of Uncertainty and Related Factors in Patients with Advanced Lung Cancer - A 12 Month Longitudinal Follow-Up Study

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BACKGROUND: Novel anticancer agents effectively prolong the length of survival for advanced lung cancer patients, but the 5-year survival rate remains at 13–16%. Thus, lung cancer patients live with continual uncertainty that jeopardizes their quality of life. The purpose of this study was to examine changes in the level of uncertainty and its related factors during the 12-month period following a new diagnosis of advanced lung cancer.

METHOD: For this longitudinal study we recruited advanced lung cancer patients from a leading medical center in Northern Taiwan. Patients were assessed for their levels of uncertainty, symptoms, and depression before treatment, and at 1, 3, 6, and 12 months after treatment initiation by using the Mishel uncertainty in illness scale, the symptom scales of the EORTC QLQ C30, and the depression scale of the hospital anxiety and depression scale. We used generalized estimating equations models to examine the change of uncertainty and its related factors. The inverse probability weighting method was employed to manage the non-ignorable missing data.

RESULTS: Of the 129 patients who were recruited, 75 completed the 5 assessments. The patients reported the highest uncertainty level before treatment and remained at steady levels from treatment initiation to 6 months since treatment. The level of uncertainty significantly decreased at 1 year. Patients who perceived more uncertainty and a better Karnofsky performance scale score at the pretreatment stage had greater uncertainty during the follow-up period. Moreover, patients with high levels of depression and symptoms including pain, dyspnea, and poor appetite had significantly higher levels of uncertainty across the 12 months.

CONCLUSIONS: Advanced lung cancer patients experienced continual uncertainty about their disease and the effects of treatment during the 12 months after treatment began. These findings show that uncertainty arises when patients experience symptom aggravation. Pain, dyspnea, and appetite loss were the most distressing symptoms, which triggered unpredictable feelings for patients. Higher levels of depression during the follow-up period led to greater reported levels of uncertainty. Moreover, the pretreatment uncertainty level and performance status were significant signals for the increase in uncertainty during the 12 months following diagnosis.

RESEARCH IMPLICATIONS: Structuralized interventions tailored to lung cancer subgroups must be developed for uncertainty management. Based on our findings, we suggest that uncertainty reduction interventions comprise symptom management training, symptom monitoring, individualized counseling services, and cognitive process exchange training to address patient concerns. Further components of the interventions and their dose and intervening duration required for managing persistent uncertainty in lung cancer patients must be tested.

CLINICAL IMPLICATIONS: Health care professionals should conduct systematic assessments for lung cancer patients at the pretreatment phase to identify patients with a high risk of uncertainty and pro-

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The Sights and Sounds of Palliative Care: Caregivers’ Experiences at the Deathbed

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BACKGROUND: Within the literature on palliative care, the possible occurrence of PTSD as part of the spectrum of complications of grief seems to have gone largely unrecognised. Nonetheless our clinical experience suggests that trauma symptoms and possibly PTSD may contribute significantly to bereavement morbidity in this population. This is an exploratory paper examining responses to the death of a loved one who has had cancer, with a focus on possible trauma/PTSD responses.

METHOD: Consecutive care-givers participating in the Australian Ovarian Cancer Quality of Life Study and who were bereaved during this study were invited to participate in a follow-up study. Approximately five months post-bereavement, caregivers were sent a letter of condolence inviting them to participate in semi structured telephone interviews. Questions were developed for the following domains: preparation for death, information and decision making, emotional and communication issues, the last weeks of life, end of life care, and the death itself. Interviews were tape recorded and transcribed verbatim. Caregivers’ recollections of their end of life experiences were coded and analysed.

RESULTS: The patients whose death was the subject of these interviews were in contact with palliative care services, yet these interview transcripts describe trauma associated with these expected deaths. Highlighting the sub-structural emotional tone within these interviews reveals that the expressions of distress and shock identified, even though some phrases are in common usage, are repetitively present in this setting. All interviewees used language consistent with some degree of traumatisation. Whilst there was evidence suggestive of resilience and resolution, a number of interviewees describe intrusive memories associated with the physical sights and sounds that they witnessed at the deathbed.

CONCLUSIONS: These findings are not diagnostic, nor can prevalence of PTSD be estimated from this material, nonetheless the language used is very suggestive of these interviewees having undergone a profoundly traumatic experience. Palliative care practice focuses on relief and prevention of suffering, and preparation for death - for both patients and loved ones. The skillful care of caregivers requires an understanding of the nature of their experience, especially if we are to reduce traumatisation of vulnerable individuals. Identifying the true significance of PTSD in palliative care caregivers is therefore an important future topic of research.

RESEARCH IMPLICATIONS: Unlike deaths in ICU, or sudden deaths, traumatic experiences have not previously been considered as an important aspect of the bereavement experience for expected deaths in palliative care. As far as we are aware no information is currently available on the true prevalence or likely outcome of such problems. The extent of PTSD in this population should be further investigated with longitudinal studies using appropriate assessment tools.

CLINICAL IMPLICATIONS: Our initial hypothesis for these findings is that expected death has an inherent trauma within it, no matter how well families are prepared, or symptoms managed. Our study demonstrates the phenomenon of the “shocked caregiver” with evidence suggestive of PTSD symptoms. If trauma symptoms are present in bereaved carers in palliative care it has implications for the provision of palliative care including preparation for the death and for the provision of bereavement counselling.

ACKNOWLEDGEMENT OF FUNDING: The AOCS QoL study was funded by the Cancer Councils of New South Wales and Queensland (grant number RG 36/05 New South Wales). Financial support for the parent study (AOCS) was provided by the US Army Medical Research and Materiel Command (grant number DAMD17-01-1-0729), the National Health and Medical Research Council (NHMRC; grant numbers 400413, 400281) and the Cancer Councils of NSW, Queensland, South Australia, Tasmania, Victoria and Western Australia.
P2-40
Psychosocial Impact of Fungating Wounds on Cancer Patients
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BACKGROUND: Fungating malignant wounds develop when tumour cell infiltrate and erode through the skin. The term “fungating” is used to describe the development and progression of the wound which may be proliferating and / or ulcerating. They have a major psychosocial impact and negatively affect the patients quality of life (QOL). METHOD: Patients’ QOL was evaluated using the Functional Scale, which assess the following QOL domains: Physical wellbeing, Social/family wellbeing, Functional wellbeing and Spiritual wellbeing. RESULTS: Patients reported many significant needs across all QOL domains, others reported difficulties in securing financial support for disease treatment and wound management. Low mean score in physical wellbeing meant the quality of symptom management for terminally ill patients remain poor. Although participants reported finding comfort and strength in their faith and spiritual belief, they were at risk of spiritual distress. The functional wellbeing was poor and suggests that patients are particularly in need of financial support because of expensive treatment and their inability to continue working. CONCLUSIONS: Good psychological support should be emphasized to help patients to accept their illness. The findings suggest that, once patients accept their illness, their QOL can be greatly improved. Patients who had good family support and acceptance tend to have good quality of life. RESEARCH IMPLICATIONS: This study included patients with wound only and also patients with different type of cancer, so the results cannot be generalized to all terminally - ill patients in Kenya. Further studies should be conducted to explore wound care and QOL in other illnesses compared to cancer. CLINICAL IMPLICATIONS: Effective evidence based management for malignant fungating wounds should be incorporated into existing wound care protocol. Development of wound clinics in hospices and palliative care units as well as in outreach/mobile palliative care units in order to reach patients and families in the remote and rural regions of the country. ACKNOWLEDGEMENT OF FUNDING: Research funding: The Diana Princess of Wales Memorial Fund. KNH PCU, Nairobi Hospice and KEHPCA.

P2-41
Recognition of the Patient Before Medical Treatment Affects the Reduction of Pain in Cancer Patients (PartII)
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BACKGROUND: Pain is among the most common symptoms of cancer. There is much research about the patient’s amount of pain using the Numerical rating scale (NRS), or in respect to emotions using the Hospital anxiety and depression scale (HADS). However, little is known about the influence of individual cognition and individual view of pain. Therefore, the objective of this study is to investigate the effect of cancer patient’s individual cognition and individual view to pain. METHOD: We prospectively analyzed 100 patients (male 50) experiencing pain as a result of cancer. The subjects of this study were cancer patients who went to our hospital regularly or were hospitalized between 2009 and 2011. Morphine treatment was performed according to the standard method including titration (NCCN Guidelines™, Adult Cancer Pain). We investigated if the recognition of the patients before medical treatment affects the reduction of pain in cancer patients. RESULTS: Patients who thought their pain would lessen in the future on Day1 had a chance of pain reduction on the NRS on Day 8 (p = 0.001). We also examined the relation between “the mental condition before medical treatment” and “a chance of their pain lessening”. In the correlation matrix created in advance, there were mild correlation coefficients (r = −0.335, p < 0.01) between “the recognition of getting better on Day1” and “HADS-D high score on Day 1”, and also mild correlation coefficient (r = −0.285, p < 0.01) between “the recognition of getting better on Day 1” and “the HADS-A high score on Day 1”. CONCLUSIONS: Our results suggest that the patients who think their pain would lessen in the future could experience a reduction of pain by Day 8. ACKNOWLEDGEMENT OF FUNDING: None.
BACKGROUND: Palliative mobile team are specialist consulting services in the field, out of hospital, aimed to support GP in whole palliative treatment. Its role is organizational, educational and professional. The team participates in creation of a network that connects the primary and secondary health care, educates patients, families and health professionals, but also takes part in the treatment itself. It has a major role in shaping a group matrix and in opening dialogues on specific issues.

METHOD: The frame of group work was supportive, from which some important issues to consider stemmed: “You know, doctor, it is increasingly difficult for me to find gratification in a treatment when I see that patient is dying anyway, where is my medical boundary?” “I often find myself in a situation that apart from medical treatment, I am asked some other questions, about life, about death, about the meaning of all, of heaven or about the meaning of illness, so sometimes I am taken aback by such queries.” How psychodinamically approach such emotional issues in team?

RESULTS: Work with severely ill person opens a complex dimension for which we are poorly prepared by our medical education. The group work raised awareness of some important points:

2. Awareness of counter-transference issues in somatic therapies.
3. Taking work home and realization of an infantile desire in dreams.
4. Situations in which a paramedical part plays an important role, which becomes part of treatments.

CONCLUSIONS: A psychiatrist has the task of opening questions that involve emotional sphere of a doctor, which shows specificity compared to conventional treatment. Answers are not necessarily given, but opening of a group itself allows channeling the anxiety and finding more adequate forms of emotional response. RESEARCH IMPLICATIONS: The questions arise working on field on what somatic doctors could not detect as a problem on field and what limited their work. This shows how emotional level of palliative doctor has a significant role play in treatment and personal satisfaction. CLINICAL IMPLICATIONS: To answer the questions:

How to (medically) treat where the effect of treatment is minimal and mutual expectations are high?

How to find personal gratification in cases when we know that our role is limited?
Where is the border line between empathic capacity and our personal emotions?
How far to go in talks with patients about topics that are not medical, but are part of the overall healing process?

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P2-43
Psychiatrist in a Mobile Palliative Team
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BACKGROUND: Palliative mobile team are specialist consulting services in the field, out of hospital, aimed to support GP in whole palliative treatment. Its role is organizational, educational and professional. The team participates in creation of a network that connects the primary and secondary health care, educates patients, families and health professionals, but also takes part in the treatment itself. It has a major role in shaping a group matrix and in opening dialogues on specific issues.

METHOD: The frame of group work was supportive, from which some important issues to consider stemmed: “You know, doctor, it is increasingly difficult for me to find gratification in a treatment when I see that patient is dying anyway, where is my medical boundary?” “I find myself in a situation that apart from medical treatment, I am asked some other questions, about life, about death, about the meaning of all, of heaven or about the meaning of illness, so sometimes I am taken aback by such queries.” How psychodinamically approach such emotional issues in team?

RESULTS: Work with severely ill person opens a complex dimension for which we are poorly prepared by our medical education. The group work raised awareness of some important points:

2. Awareness of counter-transference issues in somatic therapies.
3. Taking work home and realization of an infantile desire in dreams.
4. Situations in which a paramedical part plays an important role, which becomes part of treatments.

CONCLUSIONS: A psychiatrist has the task of opening questions that involve emotional sphere of a doctor, which shows specificity compared to conventional treatment. Answers are not necessarily given, but opening of a group itself allows channeling the anxiety and finding more adequate forms of emotional response. RESEARCH IMPLICATIONS: The questions arise working on field on what somatic doctors could not detect as a problem
BACKGROUND: Fatigue is an important symptom lowering the quality of life (QoL) in patients with advanced cancer (AC). Graded exercise therapy (GET) and cognitive behaviour therapy (CBT) have shown to be effective in reducing fatigue in cancer survivors, but the effectiveness for patients receiving systemic palliative treatment has not been demonstrated. We started a study to test the effects of both interventions in patients with AC. Mediators of the expected reduction in fatigue will be determined. METHOD: TIRED is a prospective randomised, controlled, multicentre intervention trial with 3 conditions (GET, CBT, and care as usual). GET consists of weekly sessions of 2 hours resistance and aerobic training with a physical therapist during 12 weeks. CBT consists of 10 individual 1 hour sessions with a cognitive behavioural therapist over a period of 12 weeks. A treatment protocol for CBT has been developed consisting of 6 modules aimed at factors that are thought to perpetuate fatigue. Both interventions are designed to reduce fatigue in patients with advanced breast or colorectal cancer. Secondary endpoints are functional impairment and QoL.

RESULTS: Two-hundred-nineteen adult patients diagnosed with advanced breast or colorectal cancer will be recruited and randomised between one of 3 groups. All patients who have been severely fatigued for at least 2 weeks without known and treatable somatic cause (other than cancer related), and scheduled to receive first line of palliative cancer treatment are eligible. Recruitment of participants began in January 2013. At present, four hospitals are participating. Post-treatment measures are expected to be completed in December 2015. The results of this study will provide insights in whether GET and CBT are effective in reducing severe fatigue in patients with AC. CONCLUSIONS: This study will evaluate the effects of two interventions designed to reduce severe fatigue and functional impairment, and improve QoL compared to care as usual. To the best of our knowledge, this is the first controlled intervention study specially designed for severely fatigued patients with AC receiving the first line of palliative cancer treatment. In addition to effectiveness, mechanisms of the expected reduction in fatigue are explored. More specifically, are (a) an increased level of physical activity and/or physical fitness; or (b) a change in fatigue related cognitions, mediators for the reduction in fatigue brought on by the 2 interventions? RESEARCH IMPLICATIONS: The TIRED study will provide insight in the effectiveness of GET and CBT specially designed to target severe fatigue in patients with AC. Identifying the mediating factors for both interventions will enable us to improve future interventions for fatigue in this patient group. CLINICAL IMPLICATIONS: Fatigue has proven to be one of the symptoms significantly lowering the quality of life. Until now there is no evidence-based or generally accepted intervention to treat fatigue during the palliative trajectory. When GET and CBT are effective, the best or if equally effective both interventions can be implemented in the care for patients with AC. ACKNOWLEDGEMENT OF FUNDING: The TIRED study is funded by the Dutch Cancer Society, The Netherlands.
- Mental health professionals generally are not part of the palliative home care team.
- Research question: what is the relationship between intensity of symptoms and unbearability?

**METHOD:**
- 44 general practitioners during 3 years recruited cancer patients estimated to die within 6 months.
  • comprehensive design: physical, psychological, social and existential aspects.
  • 5 domains: medical signs and symptoms - loss of function - personal aspects - environment - nature and prognosis of disease.
  • assessment of overall unbearable suffering.
  • five-point rating scale, range: 1 (not at all) - 5 (hardly can be worse).
  • additional quantitative questions addressing unbearability.
- Interviews: bimonthly, sooner if condition deteriorated.
- Analysis: scores 4 and 5 indicate either high intensity or unbearability.

**RESULTS:**
- Participation: 76 out of 148 (51%) patients.
- Follow up until death: 64 patients.
- High intensity symptoms most frequently unbearable: pain (92%), loss of control over one’s life (92%), fear of future suffering (89%).
- Low intensity symptoms most frequently unbearable: loss of control over one’s life (80%), vomiting (73%), not being able to do important things (52%).
- For overall unbearably suffering patients the median number of unbearable symptoms was 16 (range 6–38), compared to 6 (range 0–24) for patients for whom the suffering overall was bearable.
- The qualitative experience included physical suffering, processes of loss and existential suffering.

**CONCLUSIONS:**
- Unbearable suffering is characterized by variable relationships between intensity of symptoms and unbearability, and variations in numbers of unbearable symptoms per person resulting in overall unbearable suffering.
- Symptoms may be unbearable without resulting in overall unbearable suffering.
- Overall unbearable suffering is related to higher numbers of unbearable symptoms, yet there is large overlap with overall bearable suffering.

**RESEARCH IMPLICATIONS:**
- The demonstrated distinction between intensity of symptoms and bearability in cancer patients dying at home indicates for research investigating also in palliative cancer home care the additional effects of psycho-oncologic interventions to provide relief of suffering additionally to interventions directed at symptom control.
- A multi-setting primary care study organization may provide patients numbers sufficiently large to evaluate effect outcomes.

**CLINICAL IMPLICATIONS:**
- The intensity of symptoms is an important, but not sufficient, indicator of unbearable suffering.
- Patients should be asked directly about the intensity of their symptoms and about their judgment of unbearability.
- Health professionals responsible for the care of patients dying from cancer require to be trained in assessment of the multiple dimensions of suffering.
- To understand the overall suffering of a patient requires comprehensive assessment.

**ACKNOWLEDGEMENT OF FUNDING:** None.

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**P2-46**

**Evaluation of Advanced Cancer Patients’ Most Important Concerns: The Italian Validation of the Concerns Checklist and the Cancer Behaviour Inventory-Brief Version**

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**BACKGROUND:** Due to the lack of specific instruments in Italian for the evaluation of concerns and the paucity of questionnaires on the coping methods in advanced cancer patients, the present study intends to translate and validate in Italian the Concerns Check-list (CCL) and the Cancer Behaviour Inventory brief version (CBI-b).

**METHOD:** The research design is multicentric, observational and cross-sectional and patients will...
be enrolled from December 2012 to December 2014. For the purpose of validation, the following instruments will also be used: EORT Quality of Life Questionnaire (C-30), Hospital Anxiety and Depression Scale and the Mini Mental Adjustment to Cancer Scale. The questionnaires will be administered to a minimum of 210 advanced stage cancer patients who attend the symptom control and palliative care clinic. Participants are eligible for this study if they are at least 18 years of age, diagnosed with incurable cancer and able to speak and read Italian fluently. RESULTS: Currently the CCL and the CBI-b questionnaires have been translated into Italian and back translated, and a pilot study has been conducted involving 5 patients representative of the target population. In the light of the information gathered from the pilot phase, we have prepared the final version of the 2 instruments to be validated in the present study. The partial results will be presented at the conference. CONCLUSIONS: The Italian version of the CCL and CBI-b may be useful for research and the clinical practice in the field of palliative care in Italy. RESEARCH IMPLICATIONS: With regard to the experimental context, it is crucial to have specific instruments with sound psychometric properties; in this way it is possible to have available appropriate measures to conduct rigorous studies focused on patients in advanced stage of cancer. CLINICAL IMPLICATIONS: In order to improve the clinical practice in the end of life care, it would be useful to identify the specific problems that affect patients receiving palliative care. This could be an important resource both in the identification of patients needs and in structuring specific psychosocial interventions. ACKNOWLEDGEMENT OF FUNDING: None.

P2-47
Abstract withdrawn

P2-48
The Experience of a Son “Cancer”: Reflections of a Study in Portugal
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BACKGROUND: The diagnosis of malignant disease in childhood, assumes specifics relations to the characteristics of the stage of life (developmental tasks, processes of socialization, education, etc.) interfering with personal and family life organization and causing intense pain and suffering in the family, redefining demands of the emotional standpoint carers / family. METHOD: It’s a cross-sectional study that was designed primarily to characterize how the experience of malignant disease of a child, may compromise the health and well-being of parents inquiring how attachment style interfered in this process. We used the following instruments: the WHOQOL-Bref, the EVA-Bonding Scale Adult, the 23 QVS -Vulnerability to Stress Questionnaire, and finally, the BSI-Psycho-pathological Symptoms Inventory. RESULTS: The paranoid ideation, anxiety and interpersonal sensitivity were the most present psychopathological symptomatology in these parents. The perfectionism and intolerance to frustration, the drama of existence, inhibition and functional dependence and subjugation factors contribute more to vulnerability to stress, with 58% of parents met criteria for emotional disturbance, and 47% of vulnerability to stress. Parents of children with cancer who have secure attachment experience levels of perceived quality of life and higher levels of psychopathological symptoms below those of parents of children with cancer who have insecure attachment. CONCLUSIONS: Parents of children with cancer who have a secure attachment style seem to have more resources to cope with all conditions of suffering that pass along the illness of their children. The way they manage emotions and stress seems to be so adjusted and then commit less your own health. RESEARCH IMPLICATIONS: The results suggest that secure attachment style may be a protective factor for the health of these parents, the interventions approaches with these families should have this aspect as a reference providing the possibility of a secure attachment figure throughout the disease process. ACKNOWLEDGEMENT OF FUNDING: We thank UNIDEP-ISMAI the support given to the execution of this work.

P2-49
Psychological Reactions of Children and Adolescents to Malignant Disease and Treatment and Their Parents’ Reactions - Assessment and Support
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BACKGROUND: Can psychological reactions such as: anxiety, depression and fatigue during the treatment be properly estimated with existing instruments and how they affect the quality of life and efficiency of the prevalence in children and adolescents aged 7 to 19 who are treated from different malignant diseases. Is it possible to construct a model for providing adequate psychological and psycho-social support. METHOD: Determine if there are any differences: (1) in the level of anxiety, depression, fatigue experience, perception of the quality of life and the way of prevalence depending on age sex, diagnosis and the degree of damage to the primary illness (2) in the quality of life, fatigue and prevalence from the perspective of affected
children and adolescents and the perspective of their parents, who are present during treatment and giving the assessment (3) if there is a connection between the levels of anxiety, depression, fatigue, quality of life and prevalence on affected children and adolescents and levels of parental stress.

RESULTS: Will be presented. Anxiety will be tested by The Revised Children's Manifest Anxiety Scale (RCMAS). Depression will be tested by The Children's Depression Inventory (CDI). Quality of life will be tested by The Pediatric Cancer Quality of Life Inventory (PCQOL - 32). Fatigue will be tested by The Pediatric Functional Assessment of Chronic Illness Therapy Fatigue scale (FACIT - F scale). Prevalence will be measured by KIDCOPE scale. Parental stress will be measured by PSI/SF - Parenting Stress Index shor form. Cohesion and stability of the family (from the aspect of a parent present during the treatment of the child) will be tested with FACES IV.

CONCLUSIONS: The Sample of this research will include all children and adolescents aged 7 to 19 who are affected by various malignant diseases during the treatment at Department for Pediatric Oncology of the Institute for Oncology and Radiology of Serbia. Since the instruments that will be used in this research have been adjusted to children and adolescents who are tested, the children patients will be allocated into two groups: The first group - children aged 7 to 12, the second group - adolescents aged 13 to 19.

RESEARCH IMPLICATIONS: The main goals of research are checking different instruments, providing assessment of different psychological reactions and constructing the model of psycho-social help for children, adolescents and their parents during oncological treatment at the pediatric oncology department.

CLINICAL IMPLICATIONS: Psycho-social model of help for children, adolescents and their parents during oncological treatment at the pediatric oncology department will be constructed depending on results and cultural specific of the pediatric oncology department.

ACKNOWLEDGEMENT OF FUNDING: This study is based on the MOS Social support survey and adapted by the clinicians to reflect paediatric cancer conditions. Data were analysed using descriptive statistics and analysis of variance.

RESULTS: Mother was the most important source of social support for both research groups, while perceived social support from father was bigger in the childhood cancer survivors. No differences between research groups were found in social support from mother. Despite lower or equal number of friends, childhood cancer survivors reported higher amount of perceived social support obtained from friends. Further analyses revealed also some gender and age differences in the structure of social support. Grandparents and siblings appear to be other relevant sources of social support for both research groups.

CONCLUSIONS: This study identified important sources of social support for paediatric cancer survivors and healthy children. Although the results do not establish any essential differences in the structure (sources) of social support between this 2 research groups, the types and amount of social support provided by these sources may differ depending on the state of health, age and gender of the childhood support recipient. However, results of this study are based only on the objective evaluation of perceived social support from the perspective of children (support recipients) and the perspective of relevant sources of social support was not included.

RESEARCH IMPLICATIONS: Further research is needed to confirm possible explanations of identified differences. In this respect a qualitative methodology or study design combining measuring of perceived social support with measures of actually received support could be useful.

CLINICAL IMPLICATIONS: The results of this study imply the importance of analyzing social network and social support of childhood cancer survivors in order to be able to provide appropriate care in case of atypical structure or unavailability of usual sources of support.

ACKNOWLEDGEMENT OF FUNDING: This...
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P2-51
Pathways Linking Childhood Cancer Late Effects to Anxiety and Depression in Adult Survivors: A Report From the St. Jude Lifetime Cohort Study
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BACKGROUND: Subgroups of adult survivors of childhood cancer are at-risk for emotional distress. Sociodemographic variables, cancer diagnosis, and cancer treatments have been associated with symptoms of anxiety and depression in survivors. Yet, the mechanisms underlying emotional distress many years after treatment completion are not fully understood. We investigated the impact of adverse late effects on long-term survivors' emotional health. METHOD: Participants included 1863 adult survivors of childhood cancer (median 32 years of age at follow-up) who completed a comprehensive medical evaluation at St. Jude Children’s Research Hospital. Symptoms of anxiety and depression were assessed using the Brief Symptom Inventory-18 (BSI-18) with elevated distress many years after treatment completion being defined as T-scores ≥63. Survivors self-reported cancer-related pain and learning/memory problems. Odds ratios (OR) and 95% confidence intervals (CI) were calculated using multivariable logistic regression models to quantify risk factors for distress. Path analysis was used to examine associations among socioeconomic variables and reported late effects. RESULTS: Anxiety was reported by 11.7% of survivors and 15% reported elevated symptoms of depression. Cancer-related pain was associated with elevated distress (anxiety: OR 5.8, 95% CI, 3.5–9.8; depression: OR 4.5, 95% CI 2.8–7.4) as was moderate learning/memory problems (anxiety: OR 2.3, 95% CI, 1.5–3.5; depression: OR 4.0, 95% CI 2.7–5.9). Path analysis suggested that cancer-related pain has a direct effect on symptoms of distress (anxiety: β = −0.22; depression β = −0.15). Similarly, learning/memory problems evidenced a direct effect on emotional distress (anxiety: β = −0.09; depression β = −0.19). Cancer-related pain and learning/memory problems showed an indirect effect on distress through socioeconomic status. CONCLUSIONS: Consistent with previous reports, the majority of survivors in our sample did not report elevated symptoms of anxiety or depression, suggesting largely positive emotional adjustment several decades following diagnosis and treatment for childhood cancer. Our study extends previous reports by demonstrating that perceptions of cancer-related pain and learning/memory problems were directly and indirectly associated with elevated symptoms of anxiety and depression in long-term survivors. RESEARCH IMPLICATIONS: These data highlight the need to consider the complex interplay between cancer-related late effects and socioeconomic factors when considering survivors’ emotional health. Future studies may consider a more comprehensive assessment of emotional health in adult survivors of childhood cancer as well as evaluation of interventions targeting distress symptoms. CLINICAL IMPLICATIONS: Screening for emotional distress in adult survivors is warranted, especially for survivors who present with pain and cognitive morbidities. Intervening on factors that contribute to emotional distress may have the potential to reduce the burden of distress symptoms in survivors, though future research will need to explore such associations. ACKNOWLEDGEMENT OF FUNDING: This work was supported by the Cancer Center Support (CORE) grant CA21765 at St. Jude Children’s Research Hospital and by ALSAC.

P2-52
Comparisons of Fatigue Reported by Children With Brain Tumor Versus Other Forms of Childhood-Onset Cancer
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BACKGROUND: Fatigue is one of the most common complaints for cancer patients and its impact on survivors could extend even years after completion of cancer treatment. Yet, very few studies have addressed this issue in pediatric survivors of cancer, especially the differences between children with brain tumors (BT) and those with other types of cancer (non-BT). This study aims to compare fatigue reported by BT and non-BT. METHOD: 515 patients (53% BT; 47% non-BT) aged 7–21 (mean = 14 years; 56% males) were recruited. 34% received radiation therapy, 72% chemotherapy, and 71% surgery. Years since last treatment (mean = 3.3) was divided into 3 categories: <1 year (n = 34.3%), 1–2 years (12%), and ≥2 years (53.4%). Health-related quality of life was measured using PedsQL-generic. Fatigue was measured using PedsQL-Fatigue, which has three sub-scales: general, cognition, and sleep fatigue. T-tests and ANOVA were used to compare fatigue between BT versus non-BT and years since last treatment. Regression analysis was used to compare fatigue between cancer types adjusted by years since last treatment. RESULTS: There were no differences (p > 0.01) between BT and non-BT in physical, emotional, and school functioning; BT reported...
worse social functioning. BT reported more cognition fatigue than non-BT \((t = -4.11, p < 0.001)\) but not general \((t = -0.68, p = 0.497)\) or sleep fatigue \((t = -0.38, p = 0.706)\). Patients treated within 1 year reported more general \((p < 0.01)\) and sleep fatigue \((p < 0.01)\) than other 2 categories. No significant differences between groups were found in cognition fatigue. In regression, BT remained a significant predictor of cognition fatigue \((p < 0.001)\) after adjusting for years since last treatment. Years since last treatment was only significant predictor \((p < 0.001)\) of general and sleep fatigue. CONCLUSIONS: Using pedQL, we found that children experienced more severe general and sleep fatigue within one year of their last treatment, regardless of type of cancer. However, the same conclusion could not be made for cognition fatigue, for which type of cancer (BT vs. non-BT) was the primary predictor regardless of years since the last treatment. This may be due to similarities between cognition fatigue and self-reported cognition and cognition is known to be a primary concern for children with brain tumor. General and sleep fatigue are non-specific to cancer type and their impacts seemed to diminish after completion of treatment. RESEARCH IMPLICATIONS: Our analysis showed BT reported more cognitive related fatigue than non-BT group regardless of years since last treatment. Yet general and sleep related fatigue seemed to lessen overtime. Literature suggest childhood cancer survivors reported fatigue and sleep disturbance even in their adulthood. In the future a longitudinal study monitoring fatigue over time more comprehensively, such as by using a fatigue item bank, is needed. CLINICAL IMPLICATIONS: Results showed that BT reported more cognitive fatigue, which was not a surprise due to their cognitive decrements - a primary concern for children with BT. However they also reported more problems in social functioning than non-BT, which indicated appropriate and timely intervention is needed for this group to help them adapt to their social environment better. ACKNOWLEDGEMENT OF FUNDING: This project was supported by National Cancer Institute of the United States (R01CA125671, PI: Jin-Shhei Lai).

**P2-54**

**Corticosteroids–Induced Neuropsychiatric Episodes in Acute Lymphoblastic Leukemia Adolescent Patients**

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**BACKGROUND:** Systemic corticosteroids, prednisone or dexamethasone (PRED or DEX), are an important component of acute lymphoblastic leukemia (ALL) treatment protocols. Prolonged, and high dose admitting of corticosteroids can cause some neurotoxic effects, which can display some behavioral changes, especially in young children. We evaluated an incidence of acute neuropsychiatric episodes in ALL adolescent patients receiving PRED (1–28 days: 60 mg/m\(^2\)/day) and DEX (1–21 days: 10 mg/m\(^2\)/day), according to ALL-IC 2002 Protocol. METHOD: 37 consecutive adolescent patients (64.9% boys) with ALL diagnosis entered the study. Patients were diagnosed between Jan, 2007 – March, 2012 in pediatric onco-/hematology ward in Lublin, Poland. Mean age at the diagnosis was 14.1 years and mediana 16.2 years. During intensive treatment patients were provided with planned psychosocial support program. Additionally, within first 2–3 weeks of treatment, evaluation of FIQ, VIQ and PIQ of patients were performed. Behavioral side-effects and neuropsychological help in clinical practice of pediatric neuro-oncology there is lack of the verification of cognitive disorders. METHOD: 30 children in the age 5–14 with recurrent head brain tumors and their mothers were tested For children we used Luria’s method of complex psychological diagnostics, projective drawings, Children Apperceptive Test. For mothers – partly formalized interview, questionnaire of parental attitude, Spilberger anxiety scale. RESULTS: Parental attitude towards the children’s mental disorders, their education and other developmental sources depends rather more on the cancer induced somatic effects and prognosis than on the reality of the neuropsychological status. The patient’s psychological well-being depends on the type of the parental attitude and has negative correlation with the anxiety level of mother. CONCLUSIONS: Patients’ mental development has got more impact of parent’s predisposition regarding children’s state than primary cognitive disorders. RESEARCH IMPLICATIONS: This approach let us to learn more about the psychological retardation in mental development in children with the head brain tumors. ACKNOWLEDGEMENT OF FUNDING: The psychological diagnostics and correction is necessary in both – children with brain tumors and their families.

**P2-53**

**Mental Disabilities in Children With Head Brain Tumors - Reality or Parents' Predisposition**

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**BACKGROUND:** The complex psychological consequences of the brain tumor - neuropsychological and affective disorders; retardation of mental development, adjustment difficulties - need psychological help. In clinical practice of pediatric neuro-oncology there is lack of the verification of cognitive disorders.

**METHOD:** 30 children in the age 5–14 with recurrent head brain tumors and their mothers were tested. For children we used Luria’s method of complex psychological diagnostics, projective drawings, Children Apperceptive Test. For mothers – partly formalized interview, questionnaire of parental attitude, Spilberger anxiety scale. **RESULTS:** Parental attitude towards the children’s mental disorders, their education and other developmental sources depends rather more on the cancer induced somatic effects and prognosis than on the reality of the neuropsychological status. The patient’s psychological well-being depends on the type of the parental attitude and has negative correlation with the anxiety level of mother. **CONCLUSIONS:** Patients’ mental development has got more impact of parent’s predisposition regarding children’s state than primary cognitive disorders. **RESEARCH IMPLICATIONS:** This approach let us to learn more about the psychological retardation in mental development in children with the head brain tumors. **ACKNOWLEDGEMENT OF FUNDING:** The psychological diagnostics and correction is necessary in both – children with brain tumors and their families.
Psychiatric episodes were rated using clinical interview.
RESULTS: Mild intensity of behavioral side effects during corticosteroids therapy were observed in 29.7% of studied patients. The most frequently diagnosed symptoms were: anxiety, sleepiness, decreased mood and withdrawal. In the study, 5.7% of patients received antidepressant treatment. Remaining patients with symptoms of behavior disorders received only hydroxyzine, that was adduced to individuals on the different level of frequency. 4/37 adolescent patients (10.8%) revealed acute neuropsychiatric episodes (with high anxiety, with seeing and hearing things, lack of consciousness) when corticosteroids were reduced. 2 boys revealed acute neuropsychiatric symptoms twice: when both PRED and DEX were reduced.
CONCLUSIONS: 1. Symptoms of mild intensity behavioral corticosteroids side effects were observed in one third of adolescent cancer patients. 2. ALL adolescent patients are at risk of neuropsychiatric episodes at the moment of corticosteroids reduction. 3. Neuropsychiatric effects during active treatment of ALL in adolescence needs further studies. ACKNOWLEDGEMENT OF FUNDING: Grant DS408/13. Sponsored by Ass. for Children with Blood Disorders, Lublin, Poland.

P2-55
Abstract withdrawn

P2-56
Reliability and Utility of the Dutch Translation of the Psychosocial Assessment Tool (PAT)
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BACKGROUND: Yearly, 550 children are diagnosed with cancer in the Netherlands, which means a confrontation with several stressors. Over time most families adjust well to these stressors, but a substantial part of the families lacks adequate adaptation, which can lead to severe psychosocial problems. The use of the Psychosocial Assessment Tool (PAT) makes it possible to screen families for their risk of psychosocial problems. The current study describes the reliability and utility of the Dutch PAT.
METHOD: Families of newly diagnosed children with cancer (age 0–18) from four Dutch pediatric oncology centers (AMC/RUMCN/ SKZ/VUmc) participated. During a one year period 219 children were diagnosed with cancer of which 128 were eligible (excluded: language problems, relapse, palliative treatment). Of the 128 eligible families, 90 agreed to participate (response rate 70%). At diagnosis one parent completed the PAT and PAT utility scale among other questionnaires online (www.hetklikt.nu). General utility of the Dutch PAT was assessed on a 100 mm VAS-scale after completing the questionnaire. Data of 85 families (59% female caregiver N = 50, 31% male caregiver N = 35) were available for pilot analyses.
RESULTS: PAT total score (possible range 0.00–7.00) is the sum of seven subscales (possible range 0.00–1.00). Total scores 0–1.0 are considered “universal”, 1–1.9 “targeted”, and ≥2 “clinical”. Analyses showed that distribution of PAT risk categorizations in the Netherlands was comparable to the United States (68.2% universal, 28.2% targeted, 3.5% clinical). Internal consistency of the total PAT score was satisfactory (α = 0.66) and of most subscales acceptable, however 3 scales need further consideration. Mean of the total PAT score was M = 0.77 (range = 0–2.63), mean scores of the subscales ranged M = 0.06–0.22. Parents rated the utility positively: comprehensibility M = 78.25, clarity M = 79.68, unpleasantness M = 19.51, and appropriateness M = 62.82. CONCLUSIONS: Reliability of the Dutch total PAT score is satisfactory, however on subscale and item level there is a need for closer examination. Parents rated the utility of the questionnaire positively. For the Dutch situation, the best applicable item distribution has to be investigated before it can be implemented in Dutch clinical pediatric oncology practice. RESEARCH IMPLICATIONS: The distribution of PAT risk scores in the Netherlands are comparable to previous research in the United States and Australia. However, internal consistency of some subscales need further examination on item level to give more insight in the applicability of the Dutch PAT. Results on this will be presented.
CLINICAL IMPLICATIONS: The Dutch PAT has proven to be a feasible instrument to complete during the beginning of treatment and was rated by parents as a comprehensible, clear, and appropriate questionnaire. The distribution of the PAT risk scores in the Netherlands is comparable to the United States, however on item level further examination is needed. In the second period of our study the feasibility of the clinical use of the Dutch PAT will be investigated. ACKNOWLEDGEMENT OF FUNDING: The IMPROVE study has been funded by the Dutch Cancer Society.
P2-57
A Longitudinal Case-Control Study on Goal Adjustment in Adolescents With Cancer

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BACKGROUND: Severe illnesses may disturb the attainment of personal meaningful goals. Being able to adjust one’s goals to what is possible is an adaptive way to deal with goal disturbance. The study examined whether: (1) the goals of adolescents with cancer (3 and 12 months post-diagnosis) differed from those of healthy controls with regard to value-orientation and abstraction level, (2) the value-orientation and abstraction level of the goals of adolescents with cancer changed over time.

METHOD: Thirty-three adolescents with cancer (age median = 14 years, 55.9% girls, all types of cancer) and 66 matched controls completed the Personal Project Analysis Inventory. Participants were asked to generate their personal goals for the upcoming year and to rate them on goal-importance. All goals were coded by two independent raters on goal content and abstraction level.

RESULTS: Significant between-group effects (at baseline and follow-up) were found for value-orientation and goal abstraction. Compared to controls, adolescents with cancer showed an intrinsic rather than extrinsic value-orientation (i.e. reporting more intrinsic than extrinsic goals, assigning higher ratings of goal-importance to intrinsic than extrinsic goals). Furthermore, adolescents with cancer reported their goals on a lower level of abstraction than controls. Despite small changes, there were no significant differences in patients’ goals over time.

CONCLUSIONS: Group differences in value-orientation and goal abstraction indicate that adolescents with cancer use the flexible structure of the goal system to deal with changing circumstances to goal pursuit. The lack of change over time suggests that goal adjustment begins early in the disease trajectory and continues over time. More research with a longer follow-up is needed to determine whether these shifts in value-orientation and goal abstraction level are permanent or not.

RESEARCH IMPLICATIONS: This study has enhanced understanding of goal adjustment in adolescents with cancer. Not known however, is whether the shifts in value-orientation and goal abstraction, are permanent or not. This might be addressed in future research. Other venues for future studies with a longer follow-up period include the influence of late effects of cancer treatment (which may become apparent at a later point in time) on patients’ goal system, and the relationship between goal adjustment and well-being.

CLINICAL IMPLICATIONS: Notwithstanding our results that on the average the adolescents with cancer adapt relatively well to goal disturbance, there might be individuals who are less able to adjust their goals appropriately. For those, targeted support (e.g. information about the timeline of health related constraints to goal pursuit, advice on alternative routes to goal achievement,) should be available in order to facilitate adaptive disengagement and reengagement. ACKNOWLEDGEMENT OF FUNDING: None.

P2-58
Neuropsychological Follow-Up of Children With Acute Lymphoblastic Leukemia

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BACKGROUND: Acute lymphoblastic leukemia (ALL) is the most common malignancy in children. Decades ago childhood ALL was a largely fatal disease. However, nowadays, thanks to improved treatments, children with ALL have a great chance to survive. The purpose of this study is to evaluate the impact of possible risk factors (gender, age at diagnosis, risk stratification and parental educational level) on the development of intellectual functioning in a group of Chemotherapy-Only-Treated children for ALL. METHOD: Between 1990 and 1997, a group of 94 patients (median age at first assessment: 6.4 years) treated with chemotherapy were included in a multi-center prospective-longitudinal study. All children were treated according to the EORTC 58881 protocol. CNS prophylaxis consisted of HD-Methotrexate IV (4 × 5 g/m²/24 h) and IT-Methotrexate, without cranial irradiation. Inclusion criteria were: age at onset <12 years, primary disease, low or standard risk, no CNS invasion. Intellectual functioning was evaluated at 3 timepoints, with a 3-year interval,
using the Dutch adaptation of the Wechsler Intelligence Scale for Children Revised. RESULTS: The results of the multiple regression analysis showed that IQ increased more strongly over time for PIQ than for VIQ (Increase per year is 1.2 points more for PIQ, p = 0.0002). Age at diagnosis and parental educational level were significantly related to intellectual functioning. Children of which at least one parent finished higher education (p < 0.0001). Additional, increasing age at diagnosis led to higher IQ scores (p = 0.04). Further, no significant differences were found between boys and girls and low or standard risk. CONCLUSIONS: Parental educational level and age at diagnosis are significant prognostic factors for IQ. Despite potential neurotoxic effects of chemotherapy in the treatment of children with ALL, no negative late effects on intelligence were found in this prospective longitudinal study. RESEARCH IMPLICATIONS: Evaluation of neuropsychological long-term effects of treatment for ALL is extremely important. The methodology of the present study encompasses some important strengths: multi-centric and longitudinal design using same cognitive assessment tool. However, a more broaden neuropsychological battery and ecological valid instruments are needed to fully understand potential risk factors on cognitive functioning in children treated for ALL. CLINICAL IMPLICATIONS: Despite the absence of intellectual decline in Chemotherapy-Only-Treated children for ALL it cannot be concluded that a neuropsychological follow-up of this group is not necessary. In clinical practice it is recommended to be alert for signals of neuropsychological problems in daily life of this group. When signals of neuropsychological problems are present it is crucial to assess a neuropsychological battery that encompasses more than a measure of intellectual functioning. ACKNOWLEDGEMENT OF FUNDING: None.

P2-59
The Use of Psychodrama in Teaching Oncology Nurses Death Awareness Through Confronting Their Own Death
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BACKGROUND: Oncology Nurses work reminds them of their own mortality, challenging their use of denial; and forces the awareness of death upon them in a way that they may be unprepared for. This study describes the use of psychodrama as a technique to help oncology nurses confront their own mortality and develop a sense of death awareness in a protected environment, outside of the clinical setting, in order to reduce stress when working with dying patients. METHOD: This study was conducted with a cohort of 36 oncology nurses. Psychodrama techniques and methods were used to help nurses confront their own mortality and feelings around their own eventual deaths. The nurses were asked to estimate their life expectancy and predict their age and/or the dates of their anticipated death. Participants organized anticipated deaths in a room. The Psychodramatist made approached them step by step to anticipated death ages and asked a second life on the end day. Study assessments consisted of qualitative data analyzed by the researchers from observations of the psychodrama exercises transcriptions of nurses’ statements. RESULTS: The majority of nurses in this study accepted their deaths, while the death of a loved-one was more likely to be denied or unacceptable. More than half of the nurses were determined to be accepting of death when the time comes (average mean 70 years). A majority of the nurses death estimated that they would live very long lives and thus death was in the very distant future. Most did not want to consider living a second life suggested by psychodramatist. This wanting was correlated with perceptions of locus of control, and perceptions of death. CONCLUSIONS: Nurses’ attitude of denial of death, ignorance and isolation are observed. The majority of nurses acknowledge that death is inevitable, they have death awareness about themselves; they see themselves living to 70–75 years of age. However, they rarely mention the possible death of parents or spouse. Approaching death, the choice to consider living a second life after this life ended was correlated with thinking, (a) there is no chance to change, (b) they want to do something different with their lives, (c) those who felt a sense of acceptance of the life they lived and peace of mind. RESEARCH IMPLICATIONS: Death is a very difficult issue to be addressed. As Yalom says, “to look at the sun is to face death.” The psychodrama method can more enable this confrontation. Unlike other methods of therapy, psychodrama is here and now to solve the problem and of the past as well as future concerns, including offers to work on a multi-dimensional reality. CLINICAL IMPLICATIONS: Although significant advances in oncology, cancer continues to evoke fears of impending death. When nurses working with oncology patients don’t recognize the situation of the patient, are not aware of their own feelings about death, they often feel helplessness and aren’t able help patients and their families as professionals. Nurses need to be aware of their emotions, thoughts, attitudes towards death. This study of nurses’ attitudes towards death, offers a method to help enhance death awareness. ACKNOWLEDGEMENT OF FUNDING: This study is not supported by any institute.
P2-60
Empowerment and Related Factors in Oncology Nurses
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BACKGROUND: Oncology nurses, when compared to other nurses, are confronted with unique challenges based on the kind of treatments they apply and the group of patients they care for. The concept of power and empowerment are increasingly important in the field of oncology nursing. The purpose of this study is to determine the perception of empowerment and related factors in oncology nurses. METHOD: This is a descriptive study in a cohort of 135 oncology nurses from government oncology hospitals in Ankara, Turkey. Structural empowerment was measured using the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II), and psychological empowerment was measured using Spreitzer’s psychological empowerment scale. In addition data was collected using a personal information form, the Maslach Burnout Inventory and the Beck Depression Inventory. Pearson correlation analysis, k² test, and t-test were used in the statistical evaluation of the data. RESULTS: In this study, nurses average age was 30.78 ± 5.6, average number of years working in oncology = 8.6 ± 6.6. Nurses work place empowerment inventory average score = 3.16 ± 0.5; psychological empowerment average score = 5.54 ± 0.96, effectiveness subscale of psychological empowerment ( = 4.39) was less than the work activity subscale of work place empowerment perception Nurses' ( = 2.8). There is a significant negative relationship between nurses workplace empowerment score and emotional burnout (r = −0.18; p = 0.05), psychological empowerment score, and depression (r = −0.23; p < 0.05). Among nurses, decrease in work place empowerment increases emotional burnout; and similarly a decrease in psychological empowerment increases depression. CONCLUSIONS: Psychological empowerment perception and workplace empowerment perception of oncology nurses are higher than the middle level. Effectiveness dimension of psychological empowerment and work activity dimension of workplace empowerment scores were lower than the other subscales. These 2 subscales are concerned with the decision and control over their activities. RESEARCH IMPLICATIONS: Empowerment perception of nurses is not related to socio-demographic variables. However, empowerment perception is related to emotional burnout their depression level. For this reason, an intervention focusing on empowerment in oncology nurses may be effective in preventing depression and emotional burnout. Studies are needed to focus on work activities and effectiveness in order to help nurses feel more empowered. CLINICAL IMPLICATIONS: Empowering provide practitioners with access to information, support, resources, and opportunities to learn and grow. Empowerment is also a psychological process, which occurs when one has a sense of motivation in relation to the workplace environment. Because of their working environment oncology nurses are commonly faced with emotional fatigue and psychological problems. For this reason; individual and institutional regulations should be planned to provide awakening of nurses’ power. ACKNOWLEDGEMENT OF FUNDING: This study is not supported any institute.

P2-61
The Cédric Hèle Institute: 10 years of Development of Expertise in Psycho-Oncology In Flanders
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BACKGROUND: In Belgium there was a need to bundle, expand and improve psychosocial care in oncology. A lot of caregivers wished to enhance and to improve the quality of their interventions. In order to respond to these needs, a group of expert caregivers joined their strengths and knowledge by establishing a multidisciplinary Flemish Institute for psychosocial oncology, called the Cédric Hèle instituut (CHi). All of this found place in collaboration with care providers and policy agents. METHOD: A focus of CHi is to organize and coordinate training in psychosocial care and to create networks of caregivers. The CHi organizes several courses and workgroups for different target groups (doctors, psychologists, social workers, specialist nurses). On the CHi-website, information about courses, symposia, literature and research is published. In contacts with the caregivers CHi observes needs in psychosocial care. Another focus is to indicate these needs to policy agents. CHi was involved in coordination platforms and workgroups of the National Cancerplan of the Belgian government. CHi participates in research projects in psycho-oncology in order to promote evidence based practice. RESULTS: In 2012 106 professionals in oncology participated in one of the CHi courses or workgroups. The workgroup of oncopsychologists grew from 5 to 160 members. CHi organized an event for 210
participants. 9 courses were organized in service of other organisations. CHi-website has 2400 visitors per month. Regularly a newsletter is composed, sent and read by 1500 professionals. CHi participated in research projects. CONCLUSIONS: Since its foundation the CHi has become a reference for many professionals in oncology. It’s a place where networking and continuing education in psychosocial oncology takes place and is encouraged. In 2013 the CHi wants to create an internet community and forum to further improve networking and to centralize and gather knowledge and information. The government finances a project to use this community for research purposes, to further investigate the needs of professionals in oncology. Over the next few years the CHi hopes to become a reference centre for scientific research in psychosocial oncology in Flanders. RESEARCH IMPLICATIONS: All CHi education programs and networking activities, are evidence-based and promote the implementation of evidence based knowledge and interventions in the daily clinical practice of oncology. CHi aspires to encourage and coordinate more innovating research in psychosocial oncology. This action will stimulate practice based evidence. The close contact with onco professionals can generate interesting research partnerships. CLINICAL IMPLICATIONS: The CHi is a reference in psychosocial oncology in Flanders. The CHi provides professionals a large network, access to information and scientific research in psycho-oncology and a range of training in the psychosocial aspects in oncology and important skills. Since 10 years CHi promotes the importance of the psychosocial aspects in oncology and enhances expertise of onco-professionals. The facilitation and stimulation of scientific research and the distribution of publications, promotes evidence based practice in psycho-oncology. ACKNOWLEDGEMENT OF FUNDING: The Cédric Hèle instituut could be founded thanks to the support of the national society “Vlaamse Liga tegen Kanker” (the Flemish League against Cancer).

P2-62
To Prevent Burnout and To Promote Spiritual Well-Being in Physicians Among Cancer Care
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BACKGROUND: Previous studies found physicians among cancer care often suffering from burnout and poor well-being. The studies were to create and evaluate the continuing medical education for physicians to prevent burnout and to promote spiritual well-being. METHOD: After surviving the phenomenon and factors of burnout, we design the lecture including (1) awareness and exploration, (2) stress and burnout, and (3) response and adjustment. We designed Course A (60 minutes) and Course B (180 minutes) both included all three themes. Participants decided to attend one course by themselves. We measured the satisfaction and the efficiency 3 months later. The tools of evaluation included: Michigan Organization Assessment Questionnaire (MOAQ), Maslach Burnout Inventory-Human Service Survey (MBI-HSS), Demoralization Scale-Mandarin Version (DS-MV), and Physician’s Spiritual Well-Being Scale (PSPWBS).

RESULTS: There were 57 physicians (response rate = 54.8%) completing the questionnaires. The severity of demoralization among physicians aged over 45 was decreased after the intervention (p = 0.04, T-test). The physicians who had not experienced their family died appeared the spiritual growth after the courses (p < 0.001, T-test). The severity of burnout among physicians who had experienced their family died was decreased after the intervention (p = 0.08, T-test). CONCLUSIONS: It is possible through continuing medical education to promote spiritual growth and to prevent depletion of the physicians occurred. However, according to our findings, it is necessary to design different courses for different groups. To promote psychological and spiritual health of physicians among cancer care is important. RESEARCH IMPLICATIONS: It needs much time to prevent burnout and promote spiritual growth; however, we try to find some efficient ways under the busy medical work and provide the evidence-based research. CLINICAL IMPLICATIONS: The psychological health and spiritual well-being is medical ethic for patients and family. ACKNOWLEDGEMENT OF FUNDING: Taiwan National Science Council (NSC 100-2511-S-195-001-).

P2-63
Mental Health of Health Care Providers in a Cancer Hospital, a Three Year Follow-Up
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BACKGROUND: Health care providers in cancer hospitals often suffer from great stress from work. Psychological disturbance and burn out are not rare in the population. Screening for psychological disturbance among health care providers enables early detection and management of minor mental illness, which leads to better employee mental health and clinical care. The stress level and psychological disturbance encountered by health care providers in cancer hospitals may vary with time. METHOD: This study aims to look into the varia-
tion of mental health screening results over a period of 3 years. We used a 12-item Chinese Health Questionnaire as a screening tool for psychological disturbance. A cut-off point of 3/4 was used for identifying psychological disturbance. RESULTS: Nurses had a significantly higher prevalence of psychological disturbance than other health professionals in the cancer hospital. Higher psychological disturbance of health care providers was observed in specific months of each year. CONCLUSIONS: The mental health of health care providers in cancer hospitals may differ from one professional group to the other; it may also vary at different times of the year. RESEARCH IMPLICATIONS: This study demonstrates a pattern of variation of psychological disturbance among health care providers in a cancer hospital over time. Possible cause of this phenomenon needs further investigation. CLINICAL IMPLICATIONS: This study on the mental health of health care providers in a cancer hospital calls for our attention and intervention in particular groups and at particular times of the year. ACKNOWLEDGEMENT OF FUNDING: None.

P2-64
Health and Wellbeing in Portuguese Health Care Providers in Women With Breast Cancer
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BACKGROUND: Oncology health care professionals are involved in the treatment and with the challenge presented by the complexity of the tasks related to diagnosis and clinical care; they face painful situations, perception of workload and demands related to the process of communication with patients and families. Literature reports high levels of stress experienced by these professionals, risk of burnout (Maslach, 1982; Schaufeli & Enzmann, 1988), emotional disorders, and poor perception of quality of life. METHOD: Aims: Investigate the stress vulnerability, burnout, psychopathological symptoms and quality of life in these professionals by examining whether there are differences by gender and length of service in the function. We aim to verify how vulnerability to stress, burnout, psychopathological symptoms and quality of life are intercorrelated. Instruments: 23QVS; MBI; Areas Worhlife; BSI; WhoQoL (Bref); Bref Copre R. Participants: 103 breast oncology professionals, mean age = 34.83 years, 78% nurses, 48% work in shifts; 47% more than 12 years. RESULTS: 14% vulnerable to stress; 3% burnout; 12% emotional disorders; Perception of reasonable quality of life. Health professionals who care for women with breast cancer and that reveal themselves vulnerable to stress have higher rates of psychopathological symptoms, emotional exhaustion, and a less positive perception of their quality of life. The initial stage of development of the activity in this context is associated with greater difficulties of personal fulfillment. Women doesn’t not show higher levels of stress vulnerability and burnout compared to men. CONCLUSIONS: Participants, who are at an early stage of the development of professional activity have more difficulties of personal fulfillment and express higher levels of psychopathological symptoms which leads to rethink the support given to them at this stage. The inexistence of differences related to gender, seems to suggest that these identification is not crucial to the welfare of these professionals. However, males health professionals tend to have more difficulties in managing emotions than females. RESEARCH IMPLICATIONS: The results of this study appear to show the importance of prevention plans, health promotion and intervention on psychosocial risks in oncology and particularly in breast oncology. The levels of stress can directly affect the health and well being of these professionals, increasing the possibility of error in the execution of their tasks, absenteeism increase, decrease how communication takes place, increasing incivility. CLINICAL IMPLICATIONS: In most cases the focus of interventions in psychooncology has been directed to patients and families. Has been forgotten wellbeing and health professionals who care for them all and who strive to provide quality services. Thus, we think it is essential to look for an assertive also for those who care. Contribute to their professional achievement and health is also a way to gain an improvement in care to oncology patients. ACKNOWLEDGEMENT OF FUNDING: We thank UNIDE-P-ÓSMAI the support given to the execution of this work.

P2-65
The Impact of a Clown Intervention on the Symptoms of Anxiety and Depression of Adult Patients With Advanced Cancer
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BACKGROUND: Patients with cancer frequently suffer from psychiatric disorders, namely anxiety and depression, which may result in increased costs, extended hospitalization period, reduced treatment compliance and impairment in quality of life. Recent studies show that the intervention with clowns may be an alternative to manage emotional distress in children. The main scope of this study was to investigate the impact of a clown interven-
tion on anxiety and depression symptoms of adult hospitalized patients with advanced cancer. METHOD: Eighty-seven adult patients with advanced cancer participated in the study: 44 of them belonged to the experimental group (EG), 43 to the control group (CG). During hospitalization, patients of the EG interacted one or two times with a couple of clowns properly trained. All participants of the EG were assessed through the Hospital Anxiety and Depression Scale (HADS) before clown intervention (baseline), and then after the first (T1) and the second (T2) intervention. Patients of the CG were also assessed through HADS. Relevant clinical and demographic data were obtained and repeated measures ANOVA was used for correlation with psychiatric morbidity. RESULTS: The only demographic variable that differed between groups was gender, with more women in the EG ($p = 0.007$). The HADS-A (anxiety) and HADS-D (depression) mean scores were similar between both groups at baseline (HADS-A: EG 7.68, CG 7.56; HADS-D: EG 6.86, CG 6.28; $p > 0.05$) and remained so until T2 (group $\times$ time interaction, $p > 0.05$, for both HADS-A and HADS-D). Patients in the EG presenting with more severe symptoms at baseline (i.e. HADS-A or HADS-D scores $\geq 9$) showed greater chances of decreasing HADS scores over time when compared to patients with milder symptoms at baseline in the same group ($p < 0.05$). CONCLUSIONS: Although we did not observe significant differences on the symptoms of anxiety and depression between both groups, the mean scores of both HADS-A and HADS-D showed a clear tendency to decrease in the EG. The patients who presented with more severe symptoms were those who have most benefitted from the intervention. Due to some studies pointing out the medical benefits that clown interventions may bring to infants, we encourage more studies to be developed considering adult patients as well. Finally, the intervention with clowns may be a low-cost, easy-to-use, non-pharmacological complementary therapeutic modality, especially in the context of palliative care. RESEARCH IMPLICATIONS: We encourage new studies to be developed with bigger samples of adult patients with advanced cancer, longer time of intervention and evaluation of outcomes in other dimensions of health, such as the Performance Status, pain and quality of life scales. There is need to determine how long the positive impact of a clown intervention could last and, eventually, if patients with milder symptoms of anxiety and depression would also benefit from a longer intervention span. CLINICAL IMPLICATIONS: Therapeutic clowning is being largely used worldwide and is thought to play an important complementary role in healthcare, though there is a shortage of evidence in this field, especially when it comes to adult patients. This study addresses the benefits that adult patients with advanced cancer could get from an intervention with clowns, mainly the ones presenting with more severe symptoms of anxiety and depression. ACKNOWLEDGEMENT OF FUNDING: None.

P2-66
The Role of Psychological Trauma and Traumatic Situation in the Pathogenesis of Cancer
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BACKGROUND: Patients with psychotrauma always require special handling in therapy. Cancer patients may be in the process of psycho traumatic or simply to experience distress of varying intensity. Understanding the psychodynamics of injury helps to build a competent plan interventions and promotes a differentiated and individualized approach to cancer patients on therapy. METHOD: Multilevel trauma psychotherapy proposed by Professor H. Fischer, is a recognized method of treatment of traumatized people in Germany. During the traumatic process is developing a variety of symptoms, including secondary symptoms of psychosomatic diseases. In the case of secondary cancer is, in fact, the symptoms come to the fore, making itself less conspicuous traumatic process of going deep in the psyche. That less, the patient requires travermatapiya, along with the conventional methods of care. Professor Fisher’s method maximizes carefully and effectively help these patients cope with the effects of psychological trauma. RESULTS: Among patients diagnosed with cancer in the history of life there is the presence of distress 1–3 years before diagnosis. However, symptoms of traumatic process at studies revealed only in some patients. CONCLUSIONS: We can assume that a lot of patients can be classified into the category of psychological trauma. That is, they have a history of not only a traumatic situation as such, but also develops a psycho traumatic process. Unlike traumatic situation from the process can be reduced to the subjective experience of human feelings of helplessness and total collapse of the world that accompany living a difficult life situation (psychological trauma) or absent (traumatic situation distress). CLINICAL IMPLICATIONS: The ability to notice the signs of the presence or absence of patient psychological trauma, further helps to build a customized plan of intervention, taking into account the psycho dynamics of the injured person. For these patients is particularly important caring and respectful attitude to their experiences and suffering. Specificity tiered therapy helps restore peace injuries in and around the patient, creating additional resources as needed cancer patients. ACKNOWLEDGEMENT OF FUNDING: None.
P2-67

U-CARE: YoungCan - Development of an Internet-Based Self-Help Program of Psychosocial Support and Psychological Treatment

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BACKGROUND: Although most persons struck by cancer during adolescence cope well with the experience an important minority report clinically relevant cancer-related emotional distress. Internet-based self-help (ISH) may represent an alternative to provide access to evidence-based psychosocial support and psychological treatment. This paper describes the development including the theoretical and empirical framework of an ISH program: U-CARE: YoungCan with the aim to reduce cancer-related emotional distress among adolescents and young adults (AYA) struck by cancer during adolescence. METHOD: The development of U-CARE: YoungCan was guided by previous research and clinical observations of cancer-related emotional distress and how it can be understood and conceptualized from the perspective of cognitive and behavior theory. Treatment components build upon evidence-based treatments for psychiatric conditions related to issues described by AYA struck by cancer during adolescence. RESULTS: U-CARE: YoungCan targets: worry and anxiety; depressive symptoms; body dissatisfaction; and mild traumatic stress and includes cognitive behavioral therapy; information; and moderated interactive support. The program is accessible via an internet platform, the U-CARE-portal, during 12 weeks. The program’s feasibility e.g. its acceptability has been tested in a pilot study and in a lived experience group. The program’s clinical efficacy and cost-effectiveness will be evaluated in a randomized controlled trial starting during 2013. CONCLUSIONS: This paper describes the development and rationale of an ISH program for survivors of cancer during adolescence. Such programs are likely the wave of the near future and may make psychosocial care and psychological treatment accessible to those who need it. Development and tests of the effects of this venue are therefore essential. RESEARCH IMPLICATIONS: The description of U-CARE: YoungCan make an important contribution to the body of knowledge regarding internet-based psychosocial support and psychological treatment for AYAs struck by cancer during adolescence. CLINICAL IMPLICATIONS: A significant minority of those struck by cancer during adolescence suffers from cancer-related emotional distress. There is a lack of evidence-based interventions for this population. Development and tests of the effectiveness of such interventions are therefore essential. U-CARE: YoungCan may represent a promising approach to provide psychosocial support and psychological treatment to AYAs who suffer from cancer-related emotional distress. ACKNOWLEDGEMENT OF FUNDING: This work was supported by a strategic grant to Uppsala University Psychosocial Care Program (U-CARE); The Swedish Cancer Society (grant number CAN 2010/726 Louise von Essen); and The Swedish Childhood Cancer Foundation (grant number PROJ10/086 to Louise von Essen).

P2-68

Pre-Operative Exercise Training in Advanced Rectal Cancer Patients: Exploring Perceptions of Quality of Life During Active Treatment

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BACKGROUND: Improving quality of life (QoL) of advanced cancer patients is a foremost concern among health care practitioners. Exercise can enhance QoL in patients undergoing active treatment for cancer. Little is known about the impact of exercise on experiences of QoL during the time period after neoadjuvant therapy while awaiting surgery. The purpose of this study was to explore advanced rectal cancer patients’ perceptions of quality of life during participation in a pre-surgery exercise program. METHOD: A hermeneutic phenomenological approach was used to guide this longitudinal study to allow for the co-construction of a meaningful understanding of how QoL might be shaped by advanced rectal cancer patients’ participation in a pre-operative exercise program. Patients (n = 10) participated in repeated semi-structured in-depth interviews which covered four broad QoL domains (i.e. physical, psychological, social, spiritual well-being). Patients’ personal accounts of QoL were explored prior to (0-weeks), midway (3-weeks), and at completion (6-weeks) of the program. We analyzed the data using strategies grounded in a phenomenological approach. RESULTS: Participation in the program facilitated positive changes in QoL over time by: (1) fostering a greater sense of vitality; (2) cultivating a positive attitude; (3) enhancing social connections, and; (4) fostering a strong sense of purpose in life for these patients. CONCLUSIONS: Pre-operative exercise programs can be effective in promoting QoL among patients diagnosed and treated for locally advanced rectal cancer during a particularly
difficult time in the cancer trajectory. Additional research is needed to develop and evaluate implementation strategies to facilitate the delivery of pre-operative exercise programs as part of routine care in this population. RESEARCH IMPLICATIONS: This study led to a better understanding of advanced rectal cancer patients’ experiences of QoL during participation in a 6-week structured exercise program after neoadjuvant therapy and prior to surgery. Large-scale studies testing the effectiveness of pre-operative exercise interventions that help advanced cancer patients positively appraise their QoL are needed. CLINICAL IMPLICATIONS: This study suggests that health care providers might want to council their patients to increase their pre-operative exercise levels as it might prevent worsening of fatigue and promote vitality, a positive attitude, social wellbeing, and a sense of purpose among advanced rectal cancer patients. ACKNOWLEDGEMENT OF FUNDING: None.

P2-69
Effects of Qigong Practice on Salivary Cortisol in Cancer Patients and Their Caregivers: A Randomized Waitlist-Controlled Trial
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BACKGROUND: Evidence on whether the practice of qigong, a mind-body integrative exercise in traditional Chinese medicine, improves quality of life remains inconclusive. Previous studies showed cortisol changes in healthy subjects after practicing qigong, while study of breast cancer patients found no cortisol changes at the end of a qigong course. The objective of this study is to examine the effects of qigong on salivary cortisol in mixed cancer patients and their caregivers. METHODS: Ninety-six pairs of mixed cancer patients and their caregivers (N = 192) participated in a randomized waitlist-controlled trial. Fifty pairs joined a 10-session qigong training practice while 46 pairs served as controls. Dropout rate was 11% (intervention: 5, control: 6) at the end of intervention, with additional 8% at follow-up after 1 month (intervention: 8, control: 0). Assessment was conducted at baseline, the end of intervention, and follow-up. At assessment, each patient-caregiver pair collected saliva samples at home on the same day (waking, 45 minutes after waking, noon, 5pm and 9pm) and completed measures of perceived stress and sleep quality. RESULTS: Cortisol values were natural log transformed before analysis. The diurnal slope and area-under-the-curve (AUC) were calculated. Among patients, cortisol levels increased significantly at noon and 5pm after intervention (F = 6.28 and 5.30, all ps < 0.05); mean cortisol and AUC were also elevated (F = 5.83 and 5.36). No significant changes were observed at follow up. Among caregivers, no significant changes of salivary cortisol were observed after intervention, although a flatter diurnal slope was observed in intervention group at follow up (F = 4.69). Both patients and caregivers reported no significant changes in perceived stress and sleep quality. CONCLUSIONS: Contrary to what has been reported in the literature, the current findings showed that qigong practice led to increased daytime cortisol levels in cancer patients, and flatter diurnal slope in caregivers. Both results were indicative of higher stress. Whether qigong practice increased stress levels was unclear, as no corresponding changes in perceived stress and sleep quality were observed. Further research is needed to understand the cause of cortisol changes after qigong practice. RESEARCH IMPLICATIONS: The current study shows that qigong practice may result in heightened cortisol secretion. Previous studies showed that salivary cortisol increases significantly immediately after high intensity exercises. This study reveals a potential confounding problem when using salivary cortisol as a physiological marker of stress in an exercise intervention study. CLINICAL IMPLICATIONS: Qigong practice is increasingly integrated in supportive cancer care in Chinese communities. While it is generally safe with little side effects, more research is needed in order to understand its physiological effects on cancer patients. ACKNOWLEDGEMENT OF FUNDING: None.

P2-70
Abstract withdrawn

P2-71
Horticultural Therapy: The Use of Gardening in a Support Group in Cancer Ward
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BACKGROUND: Horticultural therapy has used in the hospital from Ancient Egypt. Doctors let patients touch natural landscape. It improves patients mental and physical healthy (Paine & Francis, 1990; Paine, 1997). Horticultural therapy provides a nonthreatening context for the development of a therapeutic alliance between patients and medical team members. Horticultural therapy isn’t limited to the form of actual gardening, including imagining nature, viewing nature, visiting a healing garden in the hospital. METHOD: Support groups
A Study of Cancer Survivors’ Wellbeing and Volunteering Work
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BACKGROUND: The purpose of this study was to investigate the impact of volunteering on cancer survivors’ wellbeing. Numerous studies have found a positive relationship between volunteering and wellbeing (Leventhal, 2009; Kroll, 2010; Mellor et al., 2008; Costanzo, Ryff, & Singer, 2009). However, none of these previous studies examined the impact of volunteerism on cancer survivors’ wellbeing in a Chinese population. METHOD: Participants in this study consisted of 150 cancer patients recruited through Hong Kong Cancer Fund (HKCF), a Hong Kong psychosocial cancer service provider. The sample was evenly divided into 3 groups: 50 volunteers; 50 nonvolunteers; and 50 new cases who had not used any services at HKCF prior to the study. The Body-Mind-Spirit Wellbeing Inventory (BMSWBI; Ng et al., 2005) was adopted to assess the holistic health of participants. RESULTS: Horticultural therapy was expected to influence healing, alleviate stress, increase well-being and promote the participation in social life. It also improves patient’s social skills, self-esteem. Although cancer and anti-cancer therapy menace their life, they learn “Life” from the plants. CONCLUSIONS: Horticultural therapy mediates emotional, cognitive and sensory motor function improvement. It increases social participation, healthy and well-being and life satisfaction. ACKNOWLEDGEMENT OF FUNDING: None.

Risk Factors Linked to Distress in the Pre-Surgical and Pre-Chemotherapy Phases. Do They Have the Same Psychological Basis?
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BACKGROUND: The main purpose of this study was to describe the women’s experiences after having received a breast cancer diagnosis in terms of anxiety, depression and distress in 2 phases along the cancer journey: the pre-surgery phase and the pre-chemotherapy phase. Moreover, we tried to model predictors of distress in the 2 phases, using a cross-sectional methodology of the following variables: age, stage of the disease, education, employment status, level of anxiety and level of depression. METHOD: The data were collected in the Breast Unit of the Istituto Clinico S. Anna, Brescia, Italy, via a routine psychological screening program. Of 227 consecutive patients, 196 gave consent and completed responses for the administration of three questionnaires: BDI-II (Beck et al., 1996), STAI (Spielberger et al. 1983) and PDI (Morasso et al., 1996). 106 patients were in Group-A (pre-surgery phase) and 90 patients were in Group-B (pre-chemotherapy phase). Anxiety, depression and sociodemographic variables (age, education, employment status, stage of the disease) were entered in a stepwise multiple regression analysis to predict the perceived distress level. RESULTS: In Group-A, 48.2% of the women reported a significant level of anxiety and 38.5% reported at least a mild level of depression; in Group-B anxiety and depression were found respectively in 44.3% and 37.3% of the sample.
The mean of PDI score was 26.13 in Group-A (SD = 9.13) and 26.77 in Group-B (SD = 8.39). In Group-A, the prediction model (F (2, 92) = 71.180, p < 0.001) showed anxiety and depression as significant predictors and accounted for approximately 60% of the variance of PDI scores. In Group-B, depression and age emerged as predictors, and this model (F (2, 86) = 71,798, p < 0.001) explained 62% of the variability in the PDI scores. CONCLUSIONS: There were no differences between the mean of Group-A and that of Group-B in terms of anxiety, depression and distress. In both A and B groups, correlations were identified between the presence of distress and anxiety and depression, but not with socio-demographic variables. However, differences were noticed in the predictors of distress in the 2 phases: in the group-A, anxiety and depression were the components that emerged with greater strength in determining the perception of the level of distress. In the group-B the level of anxiety was excluded from the model and the predictive variables were depression and younger age. RESEARCH IMPLICATIONS: Many progresses highlight the differences that occur at various steps of the disease, but many are still pursued in order to understand the complexity of human experience along the cancer journey, from the beginning to the later phase, such as survivorship or end of life. For future research, we underline the importance of a longitudinal perspective, as psychological distress has been shown to vary significantly during time and stages of the disease. CLINICAL IMPLICATIONS: This study underlines how it is important to properly understand the psychological sufferance of a woman with breast cancer in order to provide changes in her care management during the cancer trajectory. In particular, this study demonstrates how the level of anxiety plays a different role in determining distress in the two phases studied: anxiety is more impairing right before the surgery, while in later phases seems to be more integrated and accepted by patients. ACKNOWLEDGEMENT OF FUNDING: Funding was provided through the Priamo Association (Brescia, Italy), Sant’Anna Clinic Institute - San Donato Group and Fondazione Edo ed Elvo Tempia (Biella, Italy). We thank Dr. Diana Lucchini and to the entire Oncology team of the Sant’Anna Clinic Institute.

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Abstract withdrawn
P2-76
Community-Based Exercise Intervention for Oncology Patients Suffering From Fatigue: Effects on Symptoms, Psychosocial Health, Aerobic Fitness and Body Composition: A Pilot Study
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BACKGROUND: Exercise and functional rehabilitation are thought to offer significant benefits to cancer patients. Fatigue is the most common and distressing symptom experienced by cancer patients, both during and after treatment. Research has reported that supervised structured exercise programs improve quality of life and symptom management, including fatigue, as well as aerobic fitness and body composition. This study examines whether similar results could be achieved using a community-based intervention. METHOD: Twenty women (Mage: 53.05 years; Mmass: 81.9 kg) were recruited from the London Regional Cancer Program following curative therapy for resected breast cancer. Patients underwent a thorough baseline assessment and were assigned a progressive aerobic exercise program (50–70% of their baseline maximum heart rate) at a community facility. The Piper Fatigue (PFS), Edmonton Symptom Assessment (ESAS), and Functional Assessment of Cancer Therapy-General (FACT-G) scales evaluated psychological and symptom prevalence. Aerobic fitness, physical activity levels, and body composition were objectively assessed using a graded treadmill protocol, accelerometers, and dual x-ray absorptiometry, respectively. Assessments were conducted at baseline and following the 16-week intervention. RESULTS: Significant (p < 0.05) improvements were found in sensory fatigue (PFS; n² = 0.277), patient-reported symptoms (ESAS; n² = 0.325), and physical (η² = 0.454), functional (η² = 0.462), and overall (η² = 0.373) quality of life (FACT-G). Aerobic fitness variables (heart rate, peak VO₂, RER) did not significantly improve, except for duration (η² = 0.460). Non-significant (p > 0.05) changes were found for objectively measured body composition variables (percent fat, fat mass, fat free mass, lean mass, visceral adipose tissue volume) and physical activity levels (minutes engaged in sedentary, light, and moderate-to-vigorous activity). CONCLUSIONS: There is mounting evidence that exercise, in general, is beneficial for individuals along the cancer continuum. However, what is urgently needed is a more specific refinement of community-based exercise interventions and recommendations to fit an individual cancer patient’s functional ability, disease status, and overall treatment goals. As a pilot study, this trial demonstrates that a 16-week community-based exercise program is sufficient to enhance fatigue and psychosocial variables, but not aerobic fitness, body composition, and physical activity patterns. RESEARCH IMPLICATIONS: Feasibility, acceptability (i.e. compliance to exercise), and adherence issues must be addressed prior to building on this pilot study with a series of randomized studies in specific cancer patient populations, in order to help define the optimal interventions for our patients. CLINICAL IMPLICATIONS: A structured and supervised community-based aerobic exercise program is safe and effective to achieve symptom and psychological benefits, but not effective at improving the aforementioned variables aerobic capacity, physical activity patterns, and body composition, possibly due to exercise compliance. Nevertheless, this pilot study highlights the synergistic, coordinated, and integrated approach between cardiac rehabilitation and secondary prevention programming to yield a beneficial impact on psycho-oncology care. ACKNOWLEDGEMENT OF FUNDING: London Regional Cancer Program Small Grants for Cancer Research and Training.
P2-77  
**The Acceptance and Commitment Therapy for Increase the Psychological Flexibility of Cancer Patients**  
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**BACKGROUND:** The Acceptance and Commitment Therapy proposes the hypothesis that psychological suffering is caused by the interaction between language, cognition and behavioural control. Rather than focus on the reduction of symptoms, the primary purpose is to help the person to accept their thoughts and emotions, and live in the present consistently with their values. The aim of this introduction is to address the ACT Hexaflex processes in order to increase the psychological flexibility of cancer patients. **METHOD:** Will be present the ACT protocol used to oncological patient and in palliative care setting in the U.O. of Oncology, Hospital Sacro Cuore Don Calabria in Negrar (VR). ACT establishes psychological flexibility by focusing on 6 core processes: acceptance of private experiences, cognitive defusion, being present, to have a perspective-taking sense of self, identification of values that are personally important. **RESULTS:** The data showed significant improvements on outcome measures from pre to post. Regression analyses showed that changes in psychological flexibility predicted changes in distress and mood. **CONCLUSIONS:** The results obtained using the ACT approach in oncology, pose a more solid basis to support the importance of a non-judgmental attitude in order to employ the energies toward what we consider most important in our lives. Acceptance allows to move more freely without being stopped by distressing feelings. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-78  
**“Yes, I Have Cancer, But I am Going to Beat it! Only Then Will I Become a Mother”**: A Case Report From the Psychosocial Perspective: Embryo Preservation in Breast Cancer  
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**BACKGROUND:** Among health problems of our contemporary society, cancer is one of the most important, and sadly, thousands of young ladies are diagnosed with cancer annually, during their reproductive period. The chemotherapy medications and radiation therapy that are used for the treatment of this condition harm the ovarian tissue, which in turn increases likelihood of early menopause. At present, the freezing of embryos is accepted as the most grounded of all methods for maintaining reproductive ability. **METHOD:** This study is a case report, and the case involves a 26-year old young lady. She came to our oncology unit, upon being diagnosed with breast cancer (invasive ductal carcinoma of the breast). At the time, she had just been married for 9 months, and was attempting to become pregnant, when she suddenly recognized a lump in her breast. This case addresses, in detail, her journey from this point onward: the psychological periods she went through and the positive changes that emerged in these periods, upon deciding to freeze her embryos, prior to the onset of her treatment. **RESULTS:** The in-depth interview method was used to gain a better understanding of the different psychological periods she experienced. A psychosocial support program was also provided, on a regular basis. Through this program, patient showed a decrease in the difficulties she was experiencing psychologically. Being an individual who had a great deal of desire and sensitivity to becoming a mom, once the process of freezing her embryos was complete, it was observed that she not only adapted to her radiotherapy and chemotherapy treatments with more ease and speed, but that she also continued her therapy with a great deal of motivation. **CONCLUSIONS:** We are of the opinion that, informing and as it is necessary guiding, ladies who have been diagnosed with breast cancer within reproductive age, specifically those who are young, with the options that are available in the area of protecting their reproductive ability, in correspondence with psychosocial approaches, will have a positive impact, on their ability to cope with their illness, their feelings of hope and their psychological difficulties. **ACKNOWLEDGEMENT OF FUNDING:** None.

P2-79  
**Effect of Relaxation Exercise on Fatigue, Depression and Level of Quality of Life in Diagnosed with Breast and Colorectal Cancer Within Patients Under Adjuvant Chemotherapy**  
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**BACKGROUND:** Cancer is a chronic phenomenon covering a lot of psychological and psychosocial problems in addition to being a medicalphysical illness. Cancer patients develop variable and different emotional, psychological and behavioral reactions in the diagnosis, treatment, relapse and palliative periods. As cancer diagnosis; cancer treatment, disease progression causes increased psychological
distress in the individual and also decreased quality of life of their. METHOD: Study was conducted at Oncology Hospital at Erciyes University. Study sample was composed of 70 patients diagnosed with breast cancer and colorectal cancer, who were taking adjuvant chemotherapy for the first time and who were being planned to take ambulatory adjuvant chemotherapy lasting at least 3 cures. Study group was applied relaxation exercise. Effect of exercise was evaluated by measurement instruments prior to every chemotherapy cure and on 7th day of ending cure being measured for 6 different times during 3 cures. Data were collected with questionnaire form, Piper Fatigue Scale, Beck Depression Scale and EORTCQLQ C-30 Quality of Life Scale. RESULTS: Fatigue level of the study group patients was high compared with controls and by measurements and inter group comparisons it was found that fatigue scores in study group decreased while increased in control group. Depression scores were found to be lower in study group and higher in control group. Quality of life increased in study group patients who were applied relaxation exercise. Depression, fatigue and scores of quality of life were positively correlated and while depression increased, fatigue increased and quality of life decreased. CONCLUSIONS: It was recommended to regularly evaluate fatigue, depression and quality of life levels of subjects diagnosed with cancer within general care, to conduct further clinical trials to emerge the efficiency of relaxation exercises, to use devices like I-pod for applying relaxation exercises during chemotherapy, to integrate relaxation exercises into routines at chemotherapy units, to include information on recognition and handling of depression and fatigue in patient and family symptom management educations. ACKNOWLEDGEMENT OF FUNDING: None.

P2-80
Quality of Life, Vulnerability to Stress and Coping Strategies in Patients With Oral Cavity Cancer: Presentation of Preliminary Results of a Study Conducted in Portugal
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BACKGROUND: Oral Cavity Cancer (OCC) is positioned in a clinical level of imposing challenges, regarding the social and psychological aspects components that arises when We look to the recent scientific production, that empirically validated innovative knowledge and effective techniques. It is necessary to develop a persistent investigation in this area, that at the moment is so little explored, and the goal of a better perception of the psychological impacts arising in the treatment of this patients. METHOD: The sample is constituted by 40 participants diagnosed with OCC. Measuring instruments were used to assess the vulnerability to stress, coping strategies and quality of life. AIMS - (1) find which factors contribute the most to vulnerability to stress in these patients, and We explore the relationship between the presence of Vulnerability to stress and perceived quality of life; (2) evaluate the differences between Smoking and Non-Smoking patients regarding the perception of quality of life and identify the Coping Strategies with higher prevalence in this context. (3) explore the relationships between all the variables in study. RESULTS: The outcomes seem to be congruent with some previous studies with cancer patients, since patients classified as Vulnerable to Stress showed a more negative perception of their Global Quality of Life; cancer patients who are smokers, relates inferior Global Quality of Life when compared with non-smokers, and Active Coping was one of the strategies that emerge in the relation with positive perceptions of the Global Quality of Life is also evident the relationship between coping strategy Religion and psychological well-being. CONCLUSIONS: This research shows how psychological variables can influence the lives of cancer patients and therefore underlines the importance of psychological support to these individuals, which may attenuate their suffering, as well as implement some missing and adaptive resources. This type of research, in Portugal, is an innovative step for the scientific community and in particular to the specific area of Psycho-Oncology. RESEARCH IMPLICATIONS: We are aware that is necessary to improve the responses and performance at the level of psycho-oncology. More studies that allow us to know the reality about OCC in order to develop effective- ness, and thereby stimulating the development of quality health care. Portugal remains the only country in Europe where the cause of death caused by cancer continues to rise 6% annually. CLINICAL IMPLICATIONS: The results suggest the importance of creating intervention programs promoting quality of life and well-being that include training on coping strategies and the active construction of meaning of life in disease. ACKNOWLEDGEMENT OF FUNDING: We thank UNIDEP-ISMAI the support given to the execution of this work.

P2-81
Online Mindfulness-Based Cognitive Therapy for Chronic Cancer-Related Fatigue - A Pilot Study
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BACKGROUND: Chronic cancer-related fatigue (CCRF) can persist for months or even years after completion of successful cancer treatment and has
a major impact on the quality of life of cancer out-patients. Face-to-face Mindfulness-Based Cognitive Therapy (MBCT) has shown to be effective in reducing CCRF. An online MBCT has been developed, as online interventions are easily accessible: a major advantage for this group of patients. The efficacy of online MBCT was investigated in this pilot study. METHOD: The main outcome measure was fatigue severity assessed with the Checklist Individual Strength (CIS). Thirty-six CCRF patients were exposed to a nine-week online MBCT intervention. Since the present study was set up in a clinical setting and there was no proper control group, data about the waiting-list control group \( (n = 23) \) from the face-to-face MBCT study of Van der Lee and Garssen (2010) was used for comparison of the outcome measurements over time. RESULTS: ANCOVA showed that fatigue at post-assessment was significantly lower in the intervention group, compared to the waiting-list comparison group, controlling for pre-treatment level of fatigue. The proportion of clinically improved participants in the intervention group (52%) was significantly larger than in the wait-list comparison group (4%). Compared to other online interventions, the dropout rate of the online MBCT was acceptable, though higher than in face-to-face MBCT (36% online and 6% face-to-face). CONCLUSIONS: The findings of this pilot study suggest that individual online MBCT may be effective in reducing fatigue CCRF in patients. The dropout rate for online MBCT was higher than for face-to-face MBCT, though acceptable for an online intervention. RESEARCH IMPLICATIONS: In this pilot study, data was collected in a clinical setting. A randomized controlled study with a larger sample and longer follow up is needed to demonstrate the efficacy of MBCT online. In addition, dropouts have to be monitored carefully. CLINICAL IMPLICATIONS: There is a considerable number of CCRF patients who do not have access to interventions, as they don’t have the energy to travel to the treatment center. To provide a large group of cancer survivors with access to an effective online treatment, studying the efficacy of online interventions is necessary. The purpose of this pilot study is to investigate the efficacy of an online MBCT in reducing chronic fatigue in cancer survivors. ACKNOWLEDGEMENT OF FUNDING: None.

P2-82
Longitudinal Associations Between Illness Perceptions, Coping and Distress Among Breast Cancer Patients Attending a Psycho-Educational Intervention
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BACKGROUND: Understanding factors that contribute to emotional distress in patients is essential in the development of interventions to reduce patient distress. According to the Common Sense Model (CSM) (Leventhal et al., 1980), distress can be regarded as one of the illness outcomes influenced by patients’ perceptions of their illness and coping responses. This study aimed to investigate the longitudinal associations between illness perceptions, coping and emotional distress in breast cancer patients who attended a psycho-educational intervention. METHOD: A total of 74 women took part in one of nine intervention groups offered since 2005 by our hospital. The standardized program consisted of 8 consecutive meetings and one follow-up session 2 months after the 8th session. Sessions were supervised by a social worker and a nurse practitioner. Study variables were assessed by questionnaires before the start of the group intervention (T1), directly after the eighth session (T2), and 12 months after T1 (T3). All questionnaires contained the 25-item Hopkins Symptom Check List (distress), the Illness Perception Questionnaire-Revised (illness representations) and the Dutch version of the COPE (coping). RESULTS: Cross-sectional analyses showed that distress at baseline was positively related to the IPQ-R subscales Consequences, Timeline Chronic, Timeline Cyclic and Emotional Representations, whereas an inverse association was observed between distress and Illness Coherence (all \( r > 0.40 \)). Regarding coping, results show that greater use of Avoidance was strongly related to higher distress scores \( (r = 0.47) \), whereas Acceptance was inversely related to distress \( (r = -0.28) \). Longitudinal analyses showed that greater distress at T2 & T3 was related to an increase over time in the IPQ-R subscales Illness Identity and Timeline Cyclic. An increase in Acceptance coping was related to greater distress at T3. CONCLUSIONS: This study is one of the few longitudinal investigations regarding the relationship between illness perceptions, coping and distress in women with breast cancer. In accordance with assumptions from the Common Sense Model our results suggest that illness representations, coping and distress vary over time as new information and experiences are incorporated into patients’ continuous process of self-regulation. The observation that changes in illness perceptions and coping are related to future distress holds promise for the design of psychological interventions. RESEARCH IMPLICATIONS: No objective information about patients medical characteristics and possible disease progression had been available in this study. Therefore, studies are needed to investigate what medical factors influence patients’ perceptions of their ill-
ness and lead to changes in these perceptions. Secondly, the role of Acceptance coping on distress should be further clarified. Future research should unravel the mechanisms that cause some patients to increase their level of Acceptance over time and examine its relation to distress. CLINICAL IMPLICATIONS: Results from this study suggest it would be interesting to design an intervention targeting at patients’ perceptions of breast cancer, as has previously been done in patients with myocardial infarctions (Petrie et al., 2002; Broadbent et al., 2009). Our results in particular have demonstrated the importance of patients’ perceived timeline perceptions, emphasizing the relevance of preparing patients for possible long-term symptoms and teaching strategies to cope with symptoms which may appear at an irregular interval. ACKNOWLEDGEMENT OF FUNDING: This project was supported by a grant from Pink Ribbon, the Netherlands.

P2-83
The Use of Narrative Therapy to Manage Emotional and Existential Distress in the Oncology Setting
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BACKGROUND: Best practice in psycho-oncology to treat adjustment difficulties is short-term therapy using cognitive-behavioral or mindfulness techniques. Although research demonstrates that these techniques can be quite helpful in managing symptoms of distress, there are some patients and some situations in which the effectiveness is limited. Clinical techniques to guide the use of Narrative therapy to reduce anxiety and depression, improve adjustment and coping, and reduce existential distress will be discussed. METHOD: Narrative therapy is a postmodern approach defined within the social constructionist worldview that truth and reality are socially constructed or shared perspectives bound by history and context. Within a narrative therapy framework, meaning is generated through stories in different contexts and problems are manufactured within these contexts (Lambie & Milsom, 2010). Solutions, therefore, are focused on altering the stories. This, in turn, changes meaning and redefines problems (Fernandez, 1999c; 2002b). The role of the narrative therapist is to retain a level of curious optimism, always asking for clarity by using co-exploration as a tool. RESULTS: Narrative therapy in oncology is not new although the consistent application of its power to give meaning to life events is underutilized. Pecchioni (2012) discusses and explores the interruption of cancer to “life script.” Ragin (2013) discussed a narrative approach to communication and the honor given to patients as they rewrite and refocus their life narrative. Active listening techniques are used to elicit and exploring the life narrative. Narratives usually reveal themes including: Victim, Victorious, Unfortunate, Thankful, Persecuted, and Hero. Techniques that serve to prematurely comfort narrator or listener are discouraged as they serve to end narrative exploration. CONCLUSIONS: Techniques of Cognitive-Behavioral and Mindfulness Therapy are important resources for reducing distress in the setting of oncology, but the effectiveness is sometimes limited. Use of Narrative Therapy is a technique that can be used to get at core issues underlying symptoms of distress including interpretation and meaning in the cancer experience. Working to refocus the life narrative on themes suggesting positive coping and meaning rather than powerlessness or victimization can result in improvements in adjustment and coping, reductions in anxiety and depression, and resolution of existential distress. RESEARCH IMPLICATIONS: Research into theories regarding themes present in life narratives and their impact upon coping and systems of distress in the oncology setting is needed. CLINICAL IMPLICATIONS: Abstract provides a theoretical framework for utilizing Narrative Therapy in psycho-oncology to reduce distress and enhance coping and adjustment. ACKNOWLEDGEMENT OF FUNDING: None.

P2-84
An Evaluation of a Reflexology Service for Cancer Patients and Their Relatives
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BACKGROUND: Previous research demonstrated the effectiveness of reflexology and scalp massage for improving the quality of life (QoL) of early breast cancer women (Sharp et al, 2010). Through the use of charitable funds the Oncology Health Centre has continued to offer reflexology and scalp massage sessions, but has widened this availability to all types of cancer patients and relatives. The centre has continued to evaluate the psychological effectiveness of these interventions and now presents the results. METHOD: Between April 2012 and March 2013, seventy cancer patients and relatives were referred for 6 hourly sessions of reflexology, scalp massage or a combination of both. Participants completed the Functional Assessment of Cancer Therapy (FACT-G), Hospital Anxiety and Depression Scale (HADS) and Mood Rating Scale (MRS) during the first and last sessions. Participants also completed a satisfaction survey at the final session, which enabled comments on the service they had received. RESULTS: Fifty-eight participants completed pre and post measures.
Wilcoxon Signed Rank Tests were used to analyse the data. An improvement in scores between pre and post treatment was found on all measures. This improvement was significant for the FACT-G physical, emotional and functional well-being, HADS anxiety and depression and MRS relaxation, happiness, clear-headedness, easy-goingness and confidence subscales. The FACT-G social/family well-being and MRS energy subscales were not significant. Qualitative comments highlighted various benefits of the sessions, including relaxation, distraction, a pleasant treatment to associate with hospital and providing something to look forward to.

CONCLUSIONS: The current study demonstrates that reflexology and scalp massage complementary intervention sessions within an Oncology Health Centre can lead to significant improvements in QoL and mood. This supports previous research in early breast cancer women (Sharp, 2010) and extends the benefits to a wider range of cancer patients and relatives.

RESEARCH IMPLICATIONS: The study highlights a need to further investigate the impact of complementary therapies on psychosocial outcomes, such as QoL and mood. This could be completed through multi-centre studies, or extending and comparing the options of complementary therapies, such as acupuncture and aromatherapy massage in other specific cancer populations. The study has also highlighted the value of combining quantitative and qualitative data to produce rich data.

CLINICAL IMPLICATIONS: Reflexology and scalp massage are complementary interventions that can lead to significant improvements in QoL and mood across a wide range of cancer patients and relatives. These interventions could be incorporated more frequently into cancer care services to develop a ‘holistic’ approach to cancer care services, which has been emphasised by recent research (Ben-Arye et al, 2013). ACKNOWLEDGEMENT OF FUNDING: Charitable funds financed the reflexology service during this period of time.

P2-85
Psychosocial Interventions to Improve Quality of Life and Emotional Wellbeing for Recently Diagnosed Cancer Patients
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BACKGROUND: UK government policy and emerging international guidelines recommend that all individuals who are diagnosed with cancer should be assessed for emotional problems and given access to appropriate psychological support services. However, the ideal timing, nature, content and method for delivery of services require substantiation. This review examines the effectiveness of individual psychosocial interventions to improve Quality of Life (QoL) and emotional wellbeing delivered in the first 12 months after a diagnosis of cancer. METHOD: We searched the Cochrane Library (including CENTRAL), MEDLINE, EMBASE, and PsycINFO up to January 2011. No language restrictions were imposed. Randomised controlled trials of psychosocial interventions involving interpersonal dialogue between a ‘trained helper’ and individual newly diagnosed cancer patients were selected. Only trials measuring QoL and general psychological distress were included. Where possible, outcome data were extracted for combining in meta-analyses. Continuous outcomes were compared using standardised mean differences and 95% confidence intervals, using a random-effects model. The primary outcome, was examined by outcome measurement, cancer site, theoretical basis for intervention, mode of delivery and discipline of trained helper. RESULTS: 3309 records were identified; 30 trials were included in the review. No significant effects were observed for QoL at 6-month follow up (SMD0.11; 95%CI 0.00 to 0.22); however, a small improvement in QoL was observed with cancer-specific measures (SMD0.16; 95%CI 0.02 to 0.30). General psychological distress as assessed by “mood measures” improved (SMD-0.81; 95%CI 1.44 to −0.18), but no significant effect was observed when measures of depression or anxiety were used (depression SMD0.12; 95% CI−0.07 to 0.31; anxiety SMD0.05; 95% CI−0.13 to 0.22). Psycho-educational and nurse-delivered interventions administered face to face and by telephone produced small positive significant effects (SMD0.23; 95% CI 0.04 to 0.43). CONCLUSIONS: The significant variation observed across participants, mode of delivery, discipline of ‘trained helper’ and intervention makes it difficult to arrive at firm conclusions regarding the effectiveness of psychosocial interventions for cancer patients. It can be tentatively concluded that nurse-delivered interventions comprising information combined with supportive attention may have a beneficial impact in an undifferentiated population of newly diagnosed cancer patients. The review revealed a lack of acknowledgement for assessing need in this population.

RESEARCH IMPLICATIONS: Future research should address assessment of need, to identify patients likely to benefit from psychosocial interventions, such as those at risk of emotional problems. Where patients are at psychological risk, the correct psychometrics must be employed to ensure the measures are sensitive to the sub-clinical changes that might be expected. Accurate power calculations should take this into account. It would also be useful to examine the relationships between patient characteristics and expectations of psycho-
social support. CLINICAL IMPLICATIONS: It is important to ascertain which type of “trained helper” is the most appropriate health or allied health professional to deliver various types of psychosocial interventions for cancer patients, ideally according to need. For example, can a stepped care approach employ a variety of multi-disciplinary professionals? Commissioning bodies would benefit from an effort to conduct economic appraisals of the cost-effectiveness of interventions. ACKNOWLEDGEMENT OF FUNDING: The authors would like to thank the Research and Development Office, Public Health Agency, Department of Health, Social Services and Public Safety for support through a Cochrane Collaboration Fellowship Award.

P2-86

Physical Activity Intervention for Cognitive & Emotional Functioning in Breast Cancer Patients Receiving Chemotherapy

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BACKGROUND: High levels of emotional distress prior to chemotherapy are associated with poorer cognitive performance post-chemotherapy. Current interventions fail to assess if cognitive functioning can be maintained through improving patients’ emotional well-being. Physical activity is known to enhance emotional well-being in cancer patients and improve cognitive functioning in those with dementia. This physical activity intervention aimed to reduce cognitive impairment in breast cancer patients and investigate if this is mediated by patients’ emotional well-being. Physical activity intervention will provide an insight into the nature of cognitive dysfunctions experienced by breast cancer patients and if they are mediated by emotional distress. CLINICAL IMPLICATIONS: The intervention will provide consultants and other healthcare professionals with the ability to guide patients towards self-help methods of improving their quality of life and cognitive functioning through chemotherapy. ACKNOWLEDGEMENT OF FUNDING: The research is funded by Loughborough University as part of a PhD project.

P2-87

Challenges of Implementing a Randomized Controlled Trial of a Psychological Intervention in Patients Newly Diagnosed With Advanced Cancer

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BACKGROUND: This pilot study is testing the feasibility and acceptability of a 3-arm RCT of the Meaning-Making Intervention (MMi;Lee,2006) in 60 newly diagnosed advanced cancer patients (ACP), comparing the MMi to an attention-control and usual care alone. While there have been previously published reports of challenges in RCTs of palliative care patients there has been no previous study of RCT implementation barriers of a psychosocial intervention in newly diagnosed ACP. METHOD: Patients complete self-administered measures at baseline, and at 2, 4, and 6 months post-randomization. Thus far, we have recruited 45 participants over 6 months, meeting our recruitment goal of 7 patients/month. We kept a journal of implementation challenges and facilitators, conducted a content analysis, and have reached theoretical saturation (i.e. no new theme emerged over past 3–4 weeks of recruitment). RESULTS: Oncology team-based challenges were: patients not being informed of their advanced staging, suboptimal physician cooperation (i.e., busy clinics, lack of perceived value of psychosocial research, emphasizing own or biomedical studies), a lack of internal com-
munication, and gaps in continuity of care. Patient-related challenges included: reluctance to participate in a psychological intervention, refusal to talk about their diagnosis for fear of being emotionally re-traumatized, fluctuating health status, balancing between recruiting patients soon after diagnosis and respect for this sensitive period, geographical barriers, and family gatekeeping. We were able to find ways around the barriers; these will be discussed. CONCLUSIONS: Implementing a RCT with ACP can be challenging in several ways, both from an oncology team and patient/family viewpoint. The encountered barriers can particularly involve stigma when the tested intervention is psychological in nature. Success requires sensitivity, good communication, and strong problem-solving skills on the part of the RCT research staff.

RESEARCH IMPLICATIONS: We present ways to navigate barriers and limitations as revealed through our experience of implementing a RCT in ACP. These include frequent research staff meetings and close staff supervision on clinical issues surrounding recruitment. The continuous monitoring and case by case analysis of challenges as they arise coupled with a responsive, flexible approach has been found to be effective. Establishing clear means of communication between all parties further facilitates the swift resolution of potential issues.

CLINICAL IMPLICATIONS: Our experience implementing a RCT in ACP highlights how important it is to diligently select research staff able to tolerate the delicate context of an oncology setting for staff, patients, and their families. It also emphasizes the importance of ongoing supervision and training to address clinical concerns and minimize implementation barriers. More specifically, it underlines the importance of helping patients verbalize any concerns and correct any misconceptions about participating in a psychological intervention study. ACKNOWLEDGEMENT OF FUNDING: Canadian Institutes of Health Research (CIHR) Cancer Institute.

P2-88
The Effects of Body-Mind-Spirit (BMS) Group Therapy and Supportive-Expressive (SE) Group Therapy on Perceived Stress and Emotional Control in Breast Cancer Patients

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BACKGROUND: Breast cancer patients are commonly known to suffer from a variety of behavioral symptoms following diagnosis and treatment. The current study aimed to investigate the protective effects of Western and Eastern psychotherapies in improving psychological stress response for breast cancer patients. METHOD: A total of 157 breast cancer patients, aged between 18 and 65, were recruited in Hong Kong and randomized into one of the three group therapies, namely, the body-mind-spirit (BMS) group, supportive-expressive (SE) group, and control group. Outcome measures, which included the Perceived Stress Scale (PSS) and Courtauld Emotional Control Scale (CECS), were assessed at baseline with 3 follow-up measurements in a 1-year span. Latent growth modeling was used to explore the growth trajectories of PSS and CECS and treatment effects of the two therapies.

RESULTS: For the total sample, logarithmic declining trends were found for the repeated measurements of perceived stress ($\chi^2(4) = 4.6, p > 0.05$, $CFI = 1.00, TLI = 1.00, RMSEA = 0.03, SRMR = 0.07$) and emotional control ($\chi^2(5) = 4.5, p > 0.05$, $CFI = 1.00, TLI = 1.00, RMSEA = 0.00, SRMR = 0.07$). Decreases in perceived stress and emotional control were positively correlated ($r = 0.35, p < 0.05$). Significant reduction in both perceived stress and emotional control was found for the BMS group therapy, while similar favorable outcomes found in the SE group were not statistically significant. CONCLUSIONS: The study demonstrates significant reductions in perceived stress and emotional control and suggests potential long-term therapeutic effects for the BMS group therapy for patients with breast cancer. The effectiveness of the SE group therapy remains to be elucidated in further studies.

RESEARCH IMPLICATIONS: Future research could attempt to elucidate the usefulness of SE group therapy by identifying patients who are more likely to benefit from the therapy with regard to the cultural adaptation. CLINICAL IMPLICATIONS: The beneficial effects as revealed in this study provide supportive evidence of the effectiveness and feasibility of the BMS group therapy for breast cancer patients. ACKNOWLEDGEMENT OF FUNDING: None.

P2-89
Illness Perceptions of Cancer Patients: Relationships With Illness Characteristics and Coping

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BACKGROUND: Illness perceptions have proven to be predictive of coping and adjustment in many chronically ill patients. Insights into illness perceptions of cancer patients are however scarce. The purpose of the present study was to explore how people with cancer perceive their illness. Moreover, we examined the relationship between cancer patients’ illness perceptions, their illness characteristics (type of cancer, post diagnosis time-span, and treatment) and coping strategies. METHOD: Participants were 325 cancer patients from a generic nationwide longitudinal panel-study among cancer
patients in the Netherlands. They completed the revised Illness Perception Questionnaire (winter 2011/2012) and the Mental Adjustment to Cancer Scale (spring 2012). Patient and illness characteristics were derived from the National Cancer Registry (NCR) and through self-registration. Descriptive statistics were used to describe the study sample, and to compute means and distributions of the IPQ-R scales. Analyses of variance were conducted to examine whether illness perceptions are related to illness characteristics. Linear regression analyses were conducted to determine the relation between illness perceptions and coping.

RESULTS: Cancer patients generally perceive their illness as a chronic condition and have a strong belief in the effectiveness of cancer treatment. People with skin cancer experience relatively little negative consequences (p < 0.01). Recently treated patients experience more negative consequences (p < 0.001) and perceive their illness as more chronic (p < 0.01) than patients who were treated in the (distant) past. Perceptions of more personal control (p < 0.01) and immunity attributions (p < 0.05) are related to adaptive ways of coping, whereas beliefs about negative consequences (p < 0.05) and emotional representations (p < 0.001) are related to maladaptive ways of coping. CONCLUSIONS: The perception of cancer as a chronic condition is held by many cancer patients themselves. How cancer patients perceive their illness is not strongly related to the type of cancer. Cancer patients’ illness perceptions are modestly related to their way of coping: perceptions of personal control and immunity attributions relate to adaptive ways of coping. Our results might therefore contribute to the development of support programmes that pay structural attention to the way cancer patients perceive their illness and help them cope with it. ACKNOWLEDGEMENT OF FUNDING: This study was financially supported by the Dutch Cancer Society.

P2-90

FAMOCA: Family Online Counseling for Families With Parental Cancer
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BACKGROUND: A parental cancer diagnosis psychologically affects the whole family. As such, a third of patients, partners and children develop clinically relevant levels of psychological distress. Several evaluated family based interventions show improvements in psychological adjustment, but a face-to-face contact was needed. FAMOCA is a web-based counseling program for families affected by parental cancer providing information and coping strategies age-specifically. The aim of the study is to evaluate the efficacy of this interactive intervention. METHOD: In this prospective, randomized-controlled study, 90 families with children between three and 18 years will be referred either to the intervention (IG) or the control group (CG) shortly after initial cancer diagnosis of a parent. The IG follows the online program during four months, where age-specific information as well as practicing of coping strategies are provided via multimedia. Families of the CG receive an information booklet for parents and children. Familial and couple adjustment, parental mental health and coping, as well as child adjustment are assessed at the beginning, at the end of the program and 12 month after diagnosis. RESULTS: The website goes online and thus the study starts in July 2013. Results of a first pilot study on usability and feasibility aspects of the online program will be presented. CONCLUSIONS: Research shows the relevance of psychooncological support for families with parental cancer. FAMOCA is an innovative, low-threshold internet program, which aims to improve the adjustment to cancer of all family members. RESEARCH IMPLICATIONS: Web-based, interactive interventions are the new forms of therapy. In other fields of psychological research, they have been proven as efficacious as face-to-face interactions. So far, web-based interventions for cancer patients have been provided in single, couple and group format while to our knowledge there are no studies evaluating its effectiveness for families affected by parental cancer. FAMOCA aims to show, if family counseling is effective by internet.
CLINICAL IMPLICATIONS: The online intervention can easily become part of standard psycho-oncologic care. For the provider, the internet is a time- and cost-effective method to deliver interventions to improve psychological adaptation. For the family, counseling in the internet overcomes some of the known barriers in attending to psychooncologic support, such as geographical distance. The results of the study will help to identify families, who benefit from a web-based counseling approach and who need further assistance. ACKNOWLEDGEMENT OF FUNDING: This study is supported by the Swiss Cancer Research and conducted by an interdisciplinary team of the Departments of Psychosomatics and Oncology of the University Hospital of Basel, the Department of Psychology of the University of Basel, and the Child and Adolescent Psychiatry Service of Brudermüller in Switzerland.

P2-91
Study Protocol: A Randomized Study of An Internet-Based Cognitive Behavioural Therapy Program for Sexuality and Intimacy Problems in Women Treated for Breast Cancer
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BACKGROUND: Sexual dysfunction is a prevalent, long term complication of breast cancer and its treatment. Many women consider face-to-face sexual counselling to be too confronting, and see internet-based interventions as a less threatening and more acceptable approach. Recent studies have demonstrated the efficacy of internet-based programs in improving sexual functioning in the general population. The current study will focus on an internet-based treatment program for improving sexual functioning in breast cancer survivors. METHOD: This multicenter, randomized controlled trial will investigate the efficacy of an internet-based cognitive behavioural therapy (CBT) program in alleviating sexuality and intimacy problems in women treated for breast cancer. Secondary outcomes include body image, menopausal symptoms, marital functioning, psychological distress and health-related quality of life. 160 breast cancer survivors with sexuality/intimacy problems will be randomized to either an intervention or control group. Questionnaires will be completed at baseline, mid-treatment, post treatment and at 3 month follow-up (or equivalent times for the control group). RESULTS: This is a design paper. No results are yet available. CONCLUSIONS: There is a need for accessible and effective interventions for the treatment of sexuality and intimacy problems in breast cancer survivors. This study will provide evidence about the efficacy of an internet-based approach to delivering a CBT intervention targeted specifically at these sexual health issues. RESEARCH IMPLICATIONS: This study will provide a rigorous test of the efficacy of an internet-based CBT program for the treatment of sexuality and intimacy problems among breast cancer survivors. CLINICAL IMPLICATIONS: When proven to be effective, internet-based cognitive behavioural therapy for problems with sexuality and intimacy will be a welcome addition to the care offered to breast cancer survivors. Hopefully this therapy will lower the barrier to seek help for these problems, resulting in an improved quality of life after breast cancer. ACKNOWLEDGEMENT OF FUNDING: This study is funded by the Dutch Cancer Society and the Pink Ribbon Foundation.

P2-92
The Loneliness Predict the Function of Japanese Head and Neck Cancer Patients
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BACKGROUND: In patients with head and neck cancer, medical treatments interfere with their function of breathing, swallowing or vocalizing. It is important for patients to recover some function by the time they leave the hospital. The perceived social support might enhance their function, as the relationship between self-care behavior and their function. The purpose of this study was to investigate the loneliness predict the function of patients with head and neck cancer in Japan. METHOD: The study was a cross-sectional design with self-completed questionnaire. From our database of 191 patients participated in Head & Neck Cancer Inventory Validation Study at Medical Hospital of Tokyo Medical & Dental University between September 2011 and March 2013, we selected 122 patients who were received hospital treatment. The questionnaire consisted of Functional Assessment of Cancer Therapy for Head & Neck Cancer (FACT-H&N) and the revised UCLA loneliness Scale. A multiple regression analysis was performed to estimate effect of loneliness on the functional loss of head and neck after controlling...
patients who have completed stage 0, I, II breast cancer treatment. METHOD: The sample of this study consisted of 120 patients recruited from an oncology clinic by using simple random sampling method. Subjects were randomly assigned into three groups; telephone counseling and advising with a booklet group, advising with a booklet group and control group. The subjects in experiment-2 group were trained at the hospital about the usage of the booklet and the subjects in experiment-1 group received 8-session telephone counseling besides advising with a booklet. Data were collected before and 8 weeks after the intervention by using Personal Information Form, Hospital Anxiety Depression Scale, SF-36 and Psychosocial Adjustment to Illness Scale. RESULTS: Results of this study demonstrate that telephone counseling and advising with the booklet intervention has a significant impact on depression and anxiety level of patients, SF-36 mental domain and general health perception domain and PAIS-SR psychological distress domain in comparing to just advising with the booklet and control group. In addition, it was found that while 2 intervention methods had an impact on quality of life total score, vitality, fatigue, emotional role functions, physical role functions, health care orientation, sexual relationships, family environment, professional environment, they didn’t have any impact on social functions, physical functions and pain levels of patients. CONCLUSIONS: In Turkey there is no study about early-stage breast cancer patients, comparing the effect of telephone counseling and booklet. There are researches about this topic which had used telephone counseling patients about depression, anxiety and psychological strain were found to be more effective than informing about the condition using a booklet. This result shows that regular telephone calls between a patient and a professional have positive impact on mental status of patients.

RESEARCH IMPLICATIONS: For the future researches, telephone counseling and information booklet can be used in same and different types and stages of cancer, same and different variables, in order to determine the effect of interventions on different groups of patients can be made. CLINICAL IMPLICATIONS: According to the results of study “Early Stage Breast Cancer Patient Booklet” is an effective choice enhancing the quality of life, patients’psychosocial adaptation of patients to their disease is recommended. Patients with early-stage breast cancer, when evaluating anxiety, depression and psychological strain, in addition intervention with the booklet telephone counseling is also recommended. ACKNOWLEDGEMENT OF FUNDING: None.

P2-94
Abstract withdrawn
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P2-97
Support Group for Children Whose Parent has Cancer - Implementation and Evaluation of the CLIMB Program in Japan
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BACKGROUND: With the increase of cancer patients in Japan who are raising dependent children, a program to support them is critically important. We identified a need to provide support group for children whose parent has cancer. After taking the CLIMB training in the U.S., we started a program in August 2010. The purpose of this presentation is to discuss evaluation of the program in Tokyo and report our success at dissemination of the program throughout Japan. METHOD: In Tokyo, we provided 6 groups of CLIMB to children aged 6-12 from August 2010 to December 2012. Each program is held over 6 consecutive weeks for 2 hours. The program follows a standard training manual modified from the U.S. manual. We had concurrent parents’ groups. Thirty nine children have participated (11 boys, 28 girls). Thirty two parents (28 mothers, 4 fathers, within them 3 well spouses) attended. We asked participants to fill out questionnaires before and after the group intervention and analyzed the effect. In July, 2012, we conducted a 2-day training for professionals from across Japan. RESULTS: Children noted high satisfaction (mean = 4.4–5.0, selected from 1–5) on 29/30 items. Fewer children felt the parents’ cancer was “not their fault”, more children felt “they feel stronger through the experience”. Overall QOL of mothers significantly increased, e.g. “I am satisfied with family discussions regarding cancer”, and “I feel closer to my partner”. Spontaneous continuing reunions demonstrate strong bonding among parents and children. 37 participants (nurses, social workers, psychologists, child life specialists, and physicians) from all over Japan attended the training workshop. Due to our training, as of May 2013, 5 additional hospitals have implemented CLIMB. CONCLUSIONS: Parents’ QOL and child’s self-esteem increased after CLIMB; satisfaction levels reported were very high. Our findings indicate increased communication within the family. Parents bonded with other parents; children with peers. This demonstrates positive effects of CLIMB. To disseminate a program to support children of cancer patients and increase the number of programs offered, we built a system to train the leaders for CLIMB to benefit more children. We identified that oncology professionals in Japan had a high interest in implementing a CLIMB program in their institution. All the hospitals presenting CLIMB use a multidisciplinary program and further expansion is expected. RESEARCH IMPLICATIONS: Based on data from pre and posttest measurements on each attendee and evaluation, we found that the child’s sense of guilt decreased and coping skills regarding parent’s illness increased. Further, mother’s QOL and communication were improved. This indicates the importance and value of the program and the need to continue. We have started multi institutional research from fall of 2012, and will continue our research on effectiveness of CLIMB in multi institutions in Japan. CLINICAL IMPLICATIONS: There is increased awareness on importance of support for children of cancer patients within medical professionals in Japan. Many want to attend CLIMB training workshop and this shows a need for structured support program. Satisfaction level of families participated are very high, and led to annual reunion gathering. We will continue our activity to increase hospitals presenting CLIMB through training and supporting them when launching program so that more children and patients can attend. ACKNOWLEDGEMENT OF FUNDING: This study was supported by a grant from the Japanese Ministry of Health, Labour and Welfare (2010–2012).

P2-98
The Characteristics of Female Patients in a Specific Psycho-Oncology Outpatient Service
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BACKGROUND: The division of psychosomatic medicine, Kinki University Faculty of Medicine and its branch hospitals opened an outpatient service for cancer patients and their families. The female to male ratio of its patients is approximately 2:1 and there are several gender-specific problems related to bio-psycho-social factors with female patients. The primary aim of this study is to discuss the characteristics of female patients in this specified outpatient service from the viewpoint of gender-based medicine. METHOD: The study period was from May 2010 to April 2013. The data of new patients who had symptoms related to cancer and visited the specific outpatient service for psychosomatic medicine were collected. All patients were at least 16 years old. All the items assessed during routine
P2-99
The Efficacy of a 6-Week Group Psycho-Educational Program on Mood Symptoms and Quality of Life Among Philippine Breast Cancer Patients: A Randomized, Controlled Trial

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BACKGROUND: Breast cancer is the most common form of cancer among Philippine women. The diagnosis of cancer leads to various psychosocial stresses such as distress, fatigue, and poor quality of life. Group psychotherapy is a widely used tool to address many psychosocial needs in cancer. This study set out to determine the efficacy of a 6-week group psycho-educational program for Philippine breast cancer patients in terms of improvement of mood and quality of life. METHOD: This study was conducted at the University of Santo Tomas Hospital Benavides Cancer Institute in Manila, Philippines, among Stage I-III breast cancer outpatients who had completed active chemotherapy and/or radiotherapy. Twenty (20) were randomized into an Intervention Group and twenty (20) into a Wait-list Control Group. All patients were assessed at Baseline (T1), immediately post-therapy (T2), and at 3-month follow-up (T3) on the psychosocial scales of fatigue (BFI), distress (HADS), mood symptoms (POMS), quality of life (EORTC QLQ-C30 and BR23), social support (MOS Social Support Scale), and coping skills (Brief COPE). Data was analyzed using two-way ANOVA with repeated measures. RESULTS: Patients’ mean age was 47 years old and 62.5% were married. 57.5% of patients who had completed active chemotherapy and/or radiotherapy. Twenty (20) were randomized into an Intervention Group and twenty (20) into a Wait-list Control Group. All patients were assessed at Baseline (T1), immediately post-therapy (T2), and at 3-month follow-up (T3) on the psychosocial scales of fatigue (BFI), distress (HADS), mood symptoms (POMS), quality of life (EORTC QLQ-C30 and BR23), social support (MOS Social Support Scale), and coping skills (Brief COPE). Data was analyzed using two-way ANOVA with repeated measures. RESULTS: Patients’ mean age was 47 years old and 62.5% were married. 57.5% were in Stage 2. Thirty two patients (17 Intervention and 15 Control) completed the program. Compared with the control group, the intervention group showed significantly lower total mood disturbance (p = 0.02), lesser fatigue/inertia on the POMS subscale (p = 0.03), improved quality of life (p = 0.05), and also significantly used more active coping skills like Planning (p = 0.03) and Use of Instrumental Support (p = 0.01), and significantly had less negative coping skills like Self-blame (p = 0.05). Some variables immediately showed improvement at T2, while other variables had minimal effects at T2 but increased at T3. CONCLUSIONS: This study explained the reasons why cancer patients visited our specified outpatient service for psycho-oncology since the majority of patients were suffering from breast cancer. There were several characteristics related to gender-specific issues with female patients. More intensive intervention is needed based on gender-based medicine. In addition, in order to deal with these bio-psycho-social factors, a psycho-oncological approach by a multidisciplinary team including dermatologists, plastic surgeons, aestheticians, psychologists and medical social workers would be useful. RESEARCH IMPLICATIONS: This study showed the characteristics of female cancer patients who came to our specific outpatient service. From the results of this study, further examination of breast cancer patients might be needed since they comprise nearly half of the cancer patient population. The study showed the advantages of psychosomatic medical doctors’ intervention from the viewpoint of gender-based medicine.

CLINICAL IMPLICATIONS: This study explained the reasons why cancer patients visited our specified outpatient service and what kind of psycho-oncological intervention we can provide that is useful for them. Depending on these results, we can give more efficient support, including a multidisciplinary team approach, to both cancer patients and their families in the future.

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Effect of Brief Psychoeducation Using Tablet PC on Depression and Quality of Life in Distressed Patients During Chemotherapy: A Pilot Study

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BACKGROUND: Distress management has become an important consideration for cancer patients regarding its strong association with quality of life (QoL) and possibly survival. The effect of distress screening has been studied profoundly, whereas that of psychoeducation in cancer patients still warrants further investigation. We focused on tablet PC due to its potential capability to deliver psychoeducation to cancer patients in the midst of busy clinical oncology setting. METHOD: Thirty-six cancer patients with anxiety or depression, determined by Hospital Anxiety and Depression Scale (HADS), were enrolled among those who visited daytime chemotherapy unit in Seoul National University Cancer Hospital between May 2013 and June 2013. Participants were quasi-randomized either into psychoeducation (n = 19) or control (n = 17) group. Psychoeducation for cancer-related distress and its management including relaxation technique was provided in a 20-minute-movie clip using tablet PC during chemotherapy infusion. HADS, the SF-8, M.D. Anderson Symptom Inventory (MDASI), Insomnia Severity Index (ISI), and the Impact of Event Scale - Revised (IES-R) were administered at baseline and in 3 weeks. RESULTS: Nineteen participants (100%) in psychoeducation group and 16 participants (94.1%) in control group completed the study. Compared to controls, psychoeducation group showed significant improvement after 3 weeks, in terms of depression subscale of HADS (p = 0.001), mental component summary score of the SF-8 (p = 0.009), avoidance subscale of the IES-R (p = 0.049), and ISI (p = 0.021). CONCLUSIONS: Brief psychoeducation delivered by tablet PC during chemotherapy infusion could be both time- and cost-effective method in improving depression, insomnia, and QoL for the cancer patients with distress. RESEARCH IMPLICATIONS: Further research must follow to validate the long-term efficacy of psychoeducation using tablet PC. Developing more effective psychoeducational materials and determining the optimal time period of application must be explored in the future research. CLINICAL IMPLICATIONS: Our study suggests that brief psychoeducation using tablet PC can be applied in chemotherapy units, and perhaps can be extended to other areas, to improve depression, insomnia, and QoL of cancer patients with distress. ACKNOWLEDGEMENT OF FUNDING: None.
patients and 18 relatives agreed to participate in the study, including 18 patients and 5 relatives completed questionnaires pre-post intervention (18 women, mean age 54 years and 5 men, mean age 66 years). The most frequent diagnosis among participants was breast cancer. We found that levels of Anxiety (pre = 5.4, post = 4.1), Stress (pre = 4.6, post = 3.6), Depression (pre = 4.6, post = 3.4) and Anger (pre = 6.3, post = 4.6) decreased. CONCLUSIONS: The study involved more women than men. Being newly diagnosed prevents continuously attendance at meetings. The emotional distress decreases over time, but we have no control group to infer that it is due to the intervention. RESEARCH IMPLICATIONS: It is essential to expand the sample of subjects in order to conclude on the effectiveness of the intervention. CLINICAL IMPLICATIONS: If proven the efficiency of intervention raises the possibility of incorporating it into standard clinical practice. ACKNOWLEDGEMENT OF FUNDING: Study supported by Asociación Española Contra el Cáncer (AECC) - Junta Provincial de Barcelona.

P2-102
Connecting Cancer Care Researchers and Graduate Students Through an Innovative Research Training Initiative: The Canadian PORT (Psychosocial Oncology Research Training) Program Reaches to International Partners
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BACKGROUND: Cancer is a leading cause of physical and psychological suffering. Through its focus on key personal and contextual factors that affect people’s experience with cancer, psychosocial oncology is increasingly attracting young researchers seeking rigorous training in an emergent trans-disciplinary field. Established in Canada since 2003, the Psychosocial Oncology Research Training (PORT) program described herein seeks to build research capacity in the field through enhanced mentoring, innovative research, and proactive dissemination of findings. METHOD: PORT includes six Canadian universities and offers training and financial support to graduate students; pairing accomplished researchers with fellows at the masters, doctoral and post-doctoral levels. Partnership with the National Institute of Mental Health and Neurosciences (NIMHANS in Bangalore, India) adds richness and cross-cultural relevance. Advanced multi-media technology is utilised to promote information exchange and networking opportunities. An annual 3-credit 13-week video-conference graduate seminar in psychosocial oncology research is a mandatory component of the curriculum. The annual face-to-face scientific meeting is linked to a national conference. Yearly applications for PORT are encouraged from qualified international and national candidates. RESULTS: For a decade now, PORT continues to be highly regarded as a rigorous, cutting edge, and highly attractive research training program (nation-ally and internationally). To date, the program has hosted 39 mentors and 63 fellows. International graduate students represent 6 countries. Fellows’ output totals 336 peer-reviewed publications and 460 scientific presentations. Research interests are diverse and include new areas such as patient experiences interacting with the health care system, the effects of early physical exercise on cancer recovery, and the role of tailored survivorship care plans and e-health cancer navigation platforms in enhancing health outcomes, patient empowerment and psychosocial adjustment. CONCLUSIONS: By training the next generation of psychosocial oncology researchers, PORT continues to build a critical mass of scholars in this field. The broad, trans-disciplinary model facilitates dissemination of evidence-based knowledge stemming from multi-method approaches within and across more than a dozen disciplines and settings. Additional international partners would add cross-cultural relevance, providing mutual opportunities for key contributions to the field. To this end, PORT leaders are proactively engaged in identifying potential sources of international funding to expand the reach of this important initiative. ACKNOWLEDGEMENT OF FUNDING: The Institute of Cancer Research (ICR) and the Institute of Health Services and Policy Research (IHSPR) fund PORT through the Canadian Institutes of Health Research (CIHR). McGill University faculties and Graduate and Post-Doctoral Studies, Hope & Cope, and EL-LICSR also are providing matching funds.

P2-103
Changes in Social Relations as a Result of Participation on Group Intervention in Cancer Patients (2)
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BACKGROUND: Studies on group interventions that deal with social relations in cancer patients have shown that such interventions could increase patients’ social support and help build social support networks. Therefore, group interventions are expected to have beneficial effects on cancer patients’ social relations. This study extracted factors concretely that contribute to changes in the social relations of Japanese cancer patients after taking part in a group intervention. METHOD: Seven cancer patients (mean age = 63.0; SD = 10.3) who
participants in group therapy based in problem solving therapy were interviewed. Participants were asked about changes in their social relations after being affected with cancer and taking part in group therapy. After making verbatim records from voice data, we conducted contents analysis. (Kappa coefficients = 0.89 and 0.84). RESULTS: We identified seven elements related to changes in social relations after experiencing cancer (e.g., decreased social network, decreased social support, absence of social support network, need of contact with patients with the same disorder). Following that, 6 elements were identified about changes in social relations after taking part in group therapy (e.g., increased social support network, receipt of social support, provision of social support, raising companionship). Especially, patients received and provided emotional and informational social support each other, and received these 2 supports from stuff and satisfaction with support. CONCLUSIONS: The findings suggest that social support that participants need differ depending on residence form. Most participants felt decreased social networks with friends, so it suggests that companionship that patients felt decreased because people tend to feel companionship from interaction with friends. The findings suggest that participation in group therapy leads to the perception that one’s social relations have changed in several ways. Particularly, participants felt companionship that have not been referred. What’s more, we made it clear that patients received and provided emotional and informational social support each other, and received these two supports from stuffs and satisfaction with support.

RESEARCH IMPLICATIONS: When researchers examine the effect of group intervention for changes of social support, they should consider residence form of participants and kinds of social supports measured. Additionally, the results of group intervention studies covering loneliness in cancer patients have little consistency. The companionship and social support have effects that reduce loneliness, so we could give the suggestion for understanding the consistency.

CLINICAL IMPLICATIONS: Medical stuffs should understand not only psychological aspects but also social relations aspects of group intervention’s effects, and curvy out it considering these aspects. It’s difficult for patients to get instrumental support in the intervention, so stuffs should connect patients who need this support to another suitable stuff (e.g. social workers).

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P2-104
Psychosocial Support Needs of Adolescent and Young Adult (AYA) Transplant Patients
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BACKGROUND: Existing evidence suggests that Adolescent and Young Adult (AYA) patients use more psychosocial support services and have greater levels of distress than do older cancer patients (Mor, Allen & Malin, 1994). Bleyer et al suggests, “the greatest difference in management of adolescents and young adult patients is psychosocial care that they require. These patients have special needs that are broader in scope and more intense than those at any other time of life” (p.19).

METHOD: The purpose of this study is to explore the psychosocial support needs of AYA patients before, during and after transplant. We conducted a retrospective chart review of all 2011 transplant patients referred for psychiatric evaluation within 100 days of transplant, either pre-transplant for screening/evaluation or post-transplant through inpatient hospitalization. Of the twenty-two total patients, thirteen fell into the AYA group and are described here. Data on sociodemographic, disease, treatment, and personal characteristics of transplant patients who receive psychiatric evaluations were collected using a retrospective chart review tool. Analysis included simple frequencies and descriptive statistics.

RESULTS: Thirteen young adult transplant patients were seen for psychiatric consultation (53.8% female; 46.2% male). Primary reason for referral was anxiety (23.1%), and depression (30.8%). Of those seen, 46.2% had a previous psychiatric history and 46.2% experienced pre-transplant distress. High rates of substance abuse were identified with history of alcohol use 69.2%, and alcohol use within 6 months of transplant 23.1%. Prior history of marijuana use 38.5%, use within 6 months of transplant 15.4%. Psychosocial issues included: 15.4% current conflict with support systems or family members; 23.1% had caregiver issues affecting continuity of care post-transplant.

CONCLUSIONS: Higher rates of mortality, substance abuse, pre-transplant distress and psychiatric concerns prior to transplant were found in this cancer population subset. Expected prevalence among adults in the community with regard to anxiety and substance abuse were found in similar rates. These findings further highlight the special needs of this population of cancer patients and support Bleyer, et al and others requiring more attention and research for this young adult population.

RESEARCH IMPLICATIONS: While a sizeable
body of literature exists for young adult survivors of childhood cancer, we’re just beginning to see the focus shift to issues concerning individuals that are diagnosed during stages of adolescence and young adulthood (AYA) and psychosocial issues during treatment. Transplant is challenging for most patients. The AYA population comes to transplant with exceptional and unique psychosocial needs. Further description of needs, as well as identification and testing of intervention approaches are needed. CLINICAL IMPLICATIONS: An AYA diagnosed with cancer must move through typical developmental processes with the burden of additional stressors including the emotional impact of a cancer diagnosis, trials and tribulations of therapy, and the emotional, social and physical late effects of the disease and its treatment (Evan & Zeltzer, 2003). Screening prior to transplant is essential in identifying potential problems early. Increased or focused psychosocial support before, during and after transplant is needed.ACKNOWLEDGMENT OF FUNDING: None.

P2-105
Identifying Information Gaps and Resources Required to Support the Development of a Patient Education Toolkit for the Adolescent Young Adult (AYA) Oncology Patient Population
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BACKGROUND: Research indicates that AYAs in treatment have a desire for treatment decisions that honor their unique needs in areas of education, medical management, sexuality and survivorship. A challenge in providing AYAs’s with tools/resources is that little to no printed educational materials exists specifically for the AYA population. The purpose of this study was to identify educational needs of AYA patients and health professionals at cancer centers and organizations to develop an educational toolkit for AYA’s. METHOD: The following modalities were utilized in identifying the educational needs of AYA’s (1) literature review, (2) query and telephone interviews of health care professional at various cancer centers or cancer organizations; including the respondents’ role at their organization, geographic location, and current use and needs of the AYA population in areas of education and information gaps (n = 20), (3) AYA educational needs assessment. A needs assessment was developed and included questions designed to determine patient’s information needs to support the use an AYA toolkit. Responses were analyzed using descriptive statistics and thematic analysis.

RESULTS: Data acknowledged the need of educational specific resources and tools for the AYA population from both the patients and healthcare provider’s perspective. However, many of the clinicians acknowledged lack of the knowledge and skills required to use these tools, or awareness of credible sources of information. AYA informational and educational gaps were identified in the following areas: communication, medical management, symptom management, sexuality & relationships, body image, coping, managing emotions and stress, managing life, school and work and resources for support. CONCLUSIONS: An AYA specific toolkit was developed by a multidisciplinary team to address all educational and information gaps and needs identified. There is a small but growing body of evidence available to address most of the specific topics mentioned, however this information needs to be available in print versus on the World Wide Web and needs to be tangible to both health care providers and patients/families. Creation of a tool, informed by the literature, could address these needs. This tool could be further enhanced by incorporating additional informational and psycho-social needs identified by cancer patients. RESEARCH IMPLICATIONS: Understanding individual patient preferences is critical to improve health behaviors. Implications of the results will be discussed in terms of enhancing patient-centered tailoring of health information and communication for the AYA population. CLINICAL IMPLICATIONS: Too little research has taken the AYA’s patient perspective into account, in terms of educational and psycho-social needs. Health behavior is impacted by the patient’s attitudes, emotions and motivations that in turn are influenced by the social world, their thoughts about their disease and treatments and their relationships with others. ACKNOWLEDGEMENT OF FUNDING: None.

P2-106
Innovative Uses of Health Education Technologies can Reduce Distress and Empower Newly Diagnosed Cancer Patients to Take an Active Role in Their Care
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BACKGROUND: A cancer diagnosis can cause patients to feel anxious, overwhelmed and unprepared to meet the challenges of treatment. An electronic orientation class was piloted for new patients/families to gain insight on innovative ways to use technology to help patients/families prepare for their cancer journey. The class provided an overview of what to expect during the first appointment, taking an active role in their care, communication, advanced care planning, patient safety, navigation and psychosocial resources/ support.
METHOD: In order to reach more patients the physical one hour orientation class was converted to a thirty minute electronic program. It was piloted amongst new patients and caregivers. Using various technologies (1) computer based program (iPAD/tablet) (2) online module (3) DVD/video. The various technologies allowed the ability to tailor education based on their preference. Participants were scheduled into the program according to their convenience, by a scheduler. Data gathered included Pre/post test data, patient satisfaction survey. In addition twenty participants were selected to participate in a post 30 day follow-up telephone interview and pilot an additional modality for comparison. RESULTS: Of the 114 patients/caregivers who participated in the pilot study, 82 completed iPad/tablet version of patient orientation class, 15 online education module and 17 video/DVD completions. After completing the presentation, 95% believed it would improve communication with their medical team, 92% felt empowered to take a more active role in their care, and 94% reported a better understanding of how to seek assistance for psychosocial needs and had a better understanding of how to use hospital resources appropriately. All participants expressed a preference for using these alternate methods to participate in the program versus in person class or printed materials. CONCLUSIONS: Research has shown that internet and web-based interventions can empower patients to take more of an active role in their care. Using different information technologies may offer practical alternatives to engage patients and families in health education, promotion and prevention. This pilot study allowed us to gain insight on incorporating meaningful and effective uses of technology for health education programs helps patients better prepare for their cancer journey by addressing geographic barriers that potentially restrict patients and families from participating in educational programs. It may also provide real-time communication opportunities that create supportive environments. RESEARCH IMPLICATIONS: The general use of technology is widely popular, however the use of technology in health education is still in its early stages and the impact on health education and potential health outcomes is not fully understood. Further research is needed to compare current technologies and explore innovative ways to use them in health education. Moreover, as new technologies are developed, new opportunities for effective delivery of health education and social support strategies will be possible. CLINICAL IMPLICATIONS: Findings from this study can guide future interventions to improve health communications and patient engagement in the healthcare process. Data will be used to guide the development of future educational programs for patients and families and to explore innovative ways to use technology to deliver educational programs and interventions. Understanding gained from this study provides an opportunity to enhance health communication and health education strategies more effectively to benefit patients and families. ACKNOWLEDGEMENT OF FUNDING: None.

P2-107
Psychiatric Rehabilitation of Patients With Oesophageal Cancer
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BACKGROUND: Patients with cancer mostly have psychiatric problems before and after therapy, especially if they undergo surgery. These psychiatric problems can be due to organic problems (as secondary symptoms), or functional problems (psychiatric disorders). METHOD: First to categorized these problems and then to have a definition for each of them, then explain psychiatric modalities for each of them and rehabilitation of patients separately. RESULTS: In cancer we have 2 types of psychiatric symptoms or syndromes. If patient develops psychiatric symptoms after cancer, we say he has secondary symptoms, for example, depression. This is called mood disorder due to GMC. But if after knowing that he/she has cancer he/she developed depression, it is adjustment disorder, but therapy in both is the same: Drug therapy, psychotherapy, vocational rehabilitation, family therapy are used for both types. CONCLUSIONS: In oesophagostomy special problems are eating and speech problems. These 2 problems could be due to physical defects that are produced. Intensity of patient reaction to speech lost depends on the defect, personality of patient, preceding stresses, coping of patient, social situation, occupation of patient. These factors should be considered in rehabilitation of patient and therapy processes. Aphony, dysphony, mutism, are speech problems that each of them and rehabilitation of them would be discussed in essay. ACKNOWLEDGEMENT OF FUNDING: None.
P2-108
The Relationship Between Emotional Expression and Resilience in a Long-Term Telephone Group for Women With Secondary Breast Cancer
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BACKGROUND: Supportive-expressive group therapy SEGt has been shown to improve psychological wellbeing and reduce distress in women with secondary breast cancer, despite deteriorating physical health over time. However, mechanisms of therapeutic change are not fully understood. Few studies have examined the relationship between emotional expression, topic discussions and psychological wellbeing and distress, within the same cancer population. In this paper, we examine this in a long-term weekly telephone group for women with secondary breast cancer. METHOD: Audio transcriptions of nine group sessions over a 9-month period were coded for emotional expression and topic discussions using the Specific Affect Coding System-Breast Cancer and Topic Coding Systems and then correlated with changes in psychological wellbeing, QOL, and distress of participants (n = 8), on standardised measures including the IES, ABS and EORTC over the recording period as well as for the duration of their time in the group. RESULTS: A greater percentage of time spent talking about family and friend relationships during group sessions was significantly correlated with improvement over time (slope) on intrusion (IES) (r = –0.79, p = 0.02) and global function (EORTC) (r = 0.79, p = 0.02). Preliminary results will also be presented for emotional expression. CONCLUSIONS: Family and friend relationships consistently rank as among the highest concerns for people diagnosed with cancer. We provide evidence that talking about these concerns in SEGt helps improve resilience and decrease trauma symptoms. RESEARCH IMPLICATIONATIONS: This research increases our understanding of mechanisms of treatment change within SEGt cancer support groups and helps to inform the focus of more effective group interventions for this population. ACKNOWLEDGEMENT OF FUNDING: None.

P2-109
Co-Morbidity of Depression Among Cancer Subjects and its Implication to Treatment Options for Improved Outcome: A Perspective from a Developing Country
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BACKGROUND: Co-morbidity of depressive symptomatology is a common indication for use of mental health services in oncology. At the end of this presentation, the participants should have an understanding of the burden of depression among cancer patients in this context and appreciate its relevance to cancer treatment. Specifically, this study was set to evaluate the burden of depression and describe the associated factors among cancer participants in a developing context. METHOD: A designed questionnaire, Centre for Epidemiological Studies Depression Scale Revised (CES-DR) and the Schedule for Clinical Assessment in Neuropsychiatry (SCAN) were administered by the researchers on 200 participants made up of attendees of a Nigerian hospital with histological diagnoses of cancer. The data were analysed with statistical package of social sciences version 15. RESULTS: Majority of participants, 85.5% were females and the commonest type of malignancy was breast cancer (51.0%). Ninety-eight (49.0%) participants had significant depressive symptomatology (CES-DR scores of ≥16) as against the diagnosis of depression in 55(27.5%) participants following SCAN interview. A substantial proportion of subjects 36(65.5%) had moderate depression, 15(27.3%) were mildly depressed and 7.2% had severe depression. In this study, diagnosis of depression among cancer patients was significantly associated cancer stage (p = 0.006), duration of cancer (p = 0.048), pain (p < 0.001), physical complication (p < 0.001) and past family history of mental illness (p = 0.002). However, only pain and duration of cancer were predictive of depression. CONCLUSIONS: A significant burden of depression was observed in cancer patients, as more than one-quarter of those studied were affected and moderate to severe levels of depression were noted in majority of the depressed. Psychosomatic factors like advanced cancer stage as well as duration, pain, physical complications and family history of mental illness were related to the
experience of depression. However, only pain and longer duration of cancer seems to predict depression among cancer patients. Thus, the findings in this study seem to underscore the adoption of comprehensive cancer care with full inclusion of psychosocial interventions for improved overall outcome. RESEARCH IMPLICATIONS: The replication of similar research as well as research focusing on development and standardization of screening instrument(s) for early detection of psychosocial complications of cancer is warranted. In addition, there is need for collection of robust data on all the impacts of cancer treatment models on overall outcome towards developing evidence based cancer treatment policy(s) and programs. CLINICAL IMPLICATIONS: Comprehensive treatment initiatives that include prompt identification as well as treatment of cancer and mental disorders like depression, management of psychosocial problems and care for pain should be integrated into cancer care in this part of the world. The development as well as popularization of screening instrument(s) with good diagnostic and administration property to ensure prompt identification of mental disorders for improved overall treatment outcome in cancer care are also implied. ACKNOWLEDGEMENT OF FUNDING: None.

P2-110
Psychological Factors Related to Cancer
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BACKGROUND: It was hypothesised that cancer patients and non-cancer individuals differ in their personality makeup and the stress experienced due to life change events. A sample of 240 cancer patients with oral cancer, lung cancer and abdominal cancer (both male and female) were compared with 100 non-cancer individuals (50 male 50 female). METHOD: Malayalam versions of 16PF form C, Locus of control scale, Life-change Events Questionnaire and Interview schedule were administered to measure the personality and stress factors. RESULTS: It was observed that all the three cancer patient groups experienced a greater degree of stress than the non-cancer individuals. The study revealed that the stress was found to be positively and significantly related to External locus of control. It was found that cancer patients and non-cancer individuals significantly differ with respect to the personality factors A, E, F, H, L, M, N, Q2 and Q3 on 16 PF. CONCLUSIONS: This means that normal non-cancer individuals and the 3 cancer patient groups significantly differ with respect to the personality factors A (Cyclothymia vs. schizophrenia) factor E (dominance vs. submission) factor F (Surgency vs. Desurgency) factor H (charismatic, adventurous vs. shy and timid), factor L (Suspecting vs. trusting), factor M (unconcerned ness vs. conventional) factor N (sophistication vs. rough simplicity), factor Q2 (Self sufficiency vs. group dependency) and factor Q3 (High self sentiment vs. poor self sentiment) on 16 PF. RESEARCH IMPLICATIONS: This result reveals that the non-cancer individuals showed the personality characteristics like warm hearted, outgoing, submissive, mild, cheerful, talkative, frank, expressive, adventurous, socially bold, impulsive, friendly etc. in general. CLINICAL IMPLICATIONS: But on the other hand cancer patients showed the personality characteristics like reserved, detached, critical, aggressive, stubborn type, silent, slow, shy, withdrawn, more prone to conventional, worried, emotionally detached, group depending on social approval, sound follower type, law self sentiments etc. in general. ACKNOWLEDGEMENT OF FUNDING: None.

P2-111
Adult Cancer Patients’ Representations of Cancer and Social Support. Relations Between Perceived Social Support and Social Norm. Qualitative Psycho-Social Approach.
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BACKGROUND: Our first objective is to provide deeper comprehension of the perceived social support and its relationship with patients’ representations of cancer. Our second purpose is to get aware of the social norm’s influence on patients’ representations of Cancer. We analyse patients’ health beliefs concerning social support, to understand their internal contradiction between social normative prescriptions of autonomy, and the regression phenomena necessary to accept the healthcare system, and especially psychotherapeutic support. METHOD: Data collection: Field survey with registered half-directive interviews are conducted upon a 30 male and female cancer patients sample (belonging to a French Oncology Dept.). An interview guide is set down after preliminary analysis and applied to the participants. Data analysis: L. Bardin’s Thematic Content Analysis, is used as a descriptive presentation of qualitative data and opinion detection. Main themes are extracted from each interview transcription. A list of common themes is built in order to give expression to collective voices across participants. Results are compared and confirmed by Alceste software. RESULTS: Some Thematic Content Analysis (TCA) outgoing issues: 1. “To be there” is the most valuable perceived social support for patients. 2. Offering social support seems to be as important for patients as receiving it.
3. Nurse’s support is the most appreciated one because the most emotional among caregivers.
4. Social support has a buffering effect between social norm and patient’s deeper emotions (like regression).
5. Social support creates a Self’s space and time, within Cancer.

CONCLUSIONS: This qualitative study aims to validate the mutual connection existing between social support’s perception and the internal social norms lauding autonomy and performance – research field that seems to be unexplored yet. We show that social norm influences patient’s health beliefs, attitudes and behaviour, it can therefore acting sometimes as a barrier in accepting or demanding social support and care. Revealing to caregivers that social norm has an impact on one’s representations and behaviours towards social support could help them to intervene more efficiently, forewarning social support refusal by patients. RESEARCH IMPLICATIONS: Outgoing research (based on social norm influence on health beliefs and behaviour) could be conducted on the role of social support in expressing affects; social support buffering effect on the social norm; or how to increase intra-pair groups communication. Additional research is also needed to understand where are the limits between social norms on self-sufficiency and patients real will of autonomy (understood as human dignity). CLINICAL IMPLICATIONS: Therapy with patients could change their representations on social support, their health beliefs and behaviours. Caregivers training program, providing knowledge and skills, should overpass cognitive knowledge and include social representations and emotions. Mutual help pair groups should be developed for patients and caregivers. Psycho-oncologists should diversify their approaches and communication skills, in order to demythologize psychotherapy and make it “accessible”. ACKNOWLEDGEMENT OF FUNDING: None.

P2-112
The Regional Counseling Cancer Center (CCOR): Specificity and Role of Psychological Support by Telephone Within the Network of Care Services
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BACKGROUND: The CCOR is located in the Tuscany Region and is part of the network of psycho-oncology and oncology services with the operational model of the Contact Center. The Center involves informative-counseling psychologists and psychotherapists who provide psychological phone support to cancer patients and their relatives by a free number available for 12 hours daily. Our intervention aims to emphasize the specificity of the center and the potentiality of psychological phone support within the oncology services. METHOD: The contact is made with a psychologist in the front line that performs the first analysis and counseling in order to assess the appropriateness of the care pathway and the need for explicit or implicit psychological support. If such a need arises, the user is offered a phone interview with a psychotherapist who co-constructs with the person a phone therapeutic intervention in the short-medium term. The personal data and those in the course of treatment and psychological contents are inserted for each call, in a management software and encoded to extrapolate the variables suitable for reworking statistics using SPSS.

RESULTS: The CCOR has received 3140 requests, 510 for psychological support, 104 in 2012. The data-analysis of 2012, shows that users call the Center along all stages of the disease and their more frequent experiences are: difficulty to share and communicate the disease at the stage of diagnosis (43%) and of treatment (32%); discomfort for inadequate medical management (24%) at follow-up; contents related to the fear of death (38%) in terminal illness. Among those who have access to psychological support, 41% identify this need by means of the interview with the psychologist. The request for psychological help, 88% of users sent to the support, is exhausted within the Center (12% is sent and taken over by local services). CONCLUSIONS: The demand analysis carried out by psychologists through the informative counseling is effective to help the user to recognize the need for psychological support implicit and access to trails in the immediate psychological support. This characteristic results in an action of secondary prevention, because in many cases allows to intercept, at an early stage, the risk factors for a developing psychopathology. The intervention of psychological support phone exhausts the request of application in most cases, thus confirming the data of the national and international literature the effectiveness of this tool. RESEARCH IMPLICATIONS: The intervention ensure the continuity of care and develop the network in order to set up a central node and a reference for users and clinicians. We consider appropriate to carry out a controlled study on the effectiveness of psychological support to implement the type of phone services of psycho-oncology in order to offer a viable alternative to the individual setting. Accordingly this approach would fit a better appropriateness (effective intervention at the lowest cost). CLINICAL IMPLICATIONS: The data presented contribute to increase the knowledge of the experiences related to the disease, which is useful for clinicians in order to pay more attention to the needs of communication and listening to the patient and his/her family. The
results of the study suggest the importance of an early phone takeover to reduce the level of suffering and distress in the different stages of the disease and to encourage a process of adaptation.

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P2-113
A Group-Based Intervention to Facilitate Posttraumatic Growth in Portuguese Women With Non-Metastatic Breast Cancer - Preliminary Data
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BACKGROUND: There is considerable evidence of posttraumatic growth (PTG) in women with breast cancer. Recent literature supports the efficacy of group-based interventions. Although, little research has extended to the expressive writing paradigm in the development of interventions to women with breast cancer, and even less is known when referring to a group intervention that integrates some strategies from different theoretical frameworks, developed to increase breast cancer patients’ perception of benefits, in the aftermath of trauma. METHOD: This communication presents a detailed protocol of a group intervention for Portuguese women with non-metastatic breast cancer, designed to facilitate PTG. The intervention was made on a weekly basis, during 8 weeks. It is based on an integrative model of cognitive-behavioural strategies, expressive writing and mindfulness techniques, which aim to: promote emotional disclosure and interpersonal communication; manage emotional distress; balance between gains and losses; intentionally process emotional and cognitive reactions towards their illness; construction of a coherent personal narrative about what has occurred; revise beliefs and goals for the future; and, development of new values and priorities of life.

RESULTS: The results and efficacy of this intervention will be reported for 5 different groups, each composed by 6-8 women with breast cancer, being followed at 5 different hospitals in 2 main cities.

CONCLUSIONS: This group intervention protocol has significant impact on the psychological adjustment to breast cancer and, specifically, in the individual perception of benefits or growth in breast cancer women with the diagnosis until 5 years. A detailed discussion based on the intervention protocol and major outcomes will be presented.

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P2-114
The Interview With Adult Cancer Patients: A Qualitative Survey. Cancer as an Expression of the Shadow
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BACKGROUND: “The interview with adult cancer patients: a qualitative survey. Cancer as an expression of the Shadow” is an MA dissertation about the adult patient and diagnosis communication, which, through a qualitative research, aims to identify the issues that most concern the person in dealing with the cancer psycho-social discomfort and with the topics of his/her emotional story, that he/she carries out in his/her interviews with various professional figures. METHOD: Seeking to maximize heterogeneity, the characteristics of the sample collected (10 interviews with patients and 21 with professionals, such as doctors, psychiatrists, psychologists and nurses) have involved from a gender point of view an equal number of interviewees, and people having suffered from various tumors, benign and malignant, in remission, follow-up, free of recurrence or with metastasis. A semi-structured interview has been chosen, as the qualitative method allows to collect data and subjective descriptions of the experience, which are useful to formulate a hypothesis on the correlation between the psycho-dynamics organization and the onset of cancer. RESULTS: Based on illness, conversation and relationship, data are giving a meaning to the subjective living with cancer, both at an individual and social level, by focusing on the existing, and highly distinctive, ‘gap’ between theoretical assumptions and real-life experience. Besides familial genetics, the work focuses on the transgenerational aspect and its possible influence on the onset of cancer, through family history and secrets, coincidences in events, the ‘unspoken’, and psychological and physical symptoms, referring to an existing unconscious able to share and to be shared, as well as to pass through time and generations.

CONCLUSIONS: Focusing on interpersonal relationship, this work traces the meaning people give to their cancer experience and any related learning that derived and resulted in a change in their way of life and in their dealing with everyday life. The data has been read through the Jungian thought, finding a parallel in the Shadow and in the Individuation process with the cancer genesis from a psychological point of view. Although the results cannot be generalized, due to the limitations in the sample considered, this research has led to an article, currently in press, which contributes to the field of psycho-oncology. RESEARCH IMPLICATIONS: This work deals with the clinical, social and personal pathway of adult patients diagnosed with cancer. Communication is the key to under-
stand this qualitative empirical research, which aims to be a prevention project and highlight the increasingly recognized relation between the PNEI and the state of mental and physical health of a person, focusing on a mind-body link and on a self-taught process that makes use of the everyday life experience related to the illness so as to develop a new vision of life. CLINICAL IMPLICATIONS: ‘Cancer as an expression of the Shadow’—by focusing on the individual and collective unconscious, the ‘unspoken’, transgenerational links and synchronicity—is a further tool of reasoning on the onset of cancer, a simple hypothesis on the ‘evil obscure’ that presents itself, in the demographic increase of the illness, as a social problem and a point of inter- and multi-disciplinary encounter among oncology, genetics and psychology. ACKNOWLEDGEMENT OF FUNDING: None.

P2-115
Best Foot Forward: Designing a Pilot Intervention and Feasibility Study of a Peer-Led Delivered Walking Groups for Breast Cancer Survivors
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BACKGROUND: Emerging evidence suggests that regular physical activity can reduce the risk of breast cancer recurrence, cancer-specific mortality and all-cause mortality by up to 40% compared to people who are not active (Holmes et al, 2005; Hollick et al, 2008). Physical activity can also have a number of other biological, physical and social benefits; such as reducing cancer-related fatigue, improvements in aerobic fitness, reduction in body weight and body fat, and improved quality of life. METHOD: The BFF intervention commenced in April 2013 and will run for three years. Its primary aim is to improve the physical and emotional wellbeing and promote long-term adherence to physical activity. Our evaluation will consist of 2 elements (volunteer and client) that will be simultaneously conducted (using an action research methodology) alongside the delivery of the BFF intervention. This will ensure that learning from our evaluation continually shapes and strengthens service delivery. A mixed method study design is being employed and the process and outcome evaluation measures being used will be fully outlined. RESULTS: This presentation will report on the learnings of the first 9 months of delivering and developing the BFF walking groups, in particular from the staff stakeholders and volunteer perspectives. We will also discuss implications for involving services users in the design and delivery of the intervention and its evaluation, and the strategies being employed to ensure learnings from this action research approach are incorporated. CONCLUSIONS: The BFF intervention will be discussed and positioned within the broader context of other national and local “health walk” initiatives, as well as the theoretical and behavioural frameworks that we have adopted for this study. In particular, addressing the value of peer support from someone with a personal experience of breast cancer. ACKNOWLEDGEMENT OF FUNDING: Breast Cancer Care received a 3-year grant from the Health and Social Care Volunteering Fund to develop and evaluate the BFF intervention. Breast Cancer Care has commissioned the University of Stirling to undertake the volunteer (walk leaders) evaluation.

P2-116
The Association Between Mental Adjustment to Cancer and Social Support
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BACKGROUND: Social support has been identified as an important factor for alleviating cancer patient’s psychological distress. The association between emotional, informational and instrumental social support with psychological adjustment to cancer has been addressed. The interpersonal relationship that protects cancer patients from deleterious effects of stress due to cancer is critical for mental adjustment of patients. The aim of our study was to examine the impact of social support with mental adjustment in cancer patients. METHOD: The study included 70 cases of cancer patients with 37 males and 33 females, with an average age of 51 years. The patients were equally divided into test group and control group and evaluated using the Mental Adjustment to Cancer (MAC) Scale and Multidimensional Perceived Social Support Scale (MPSS), at diagnosis and after a period of 6 months. The test group patients (n = 35) were subject to three interventional modalities of psycho-educational, emotional and instrumental support; whereas the control group patients received instrumental support. RESULTS: At initial diagnosis, MAC scale in the test group cancer patients showed a score of 45.33 ± 5.16 in Fighting spirit (FS), and a comparative score in controls. We also observed a similar score in the Helplessness/Hopelessness (H/H), mean = 14.18 ± 3.0 in test group, and 14.69 ± 2.9 in control group. The MPSS scale results indicated a moderate score of 12.25 ± 2.96 in both groups. Thus, at initial diagnosis a significant difference was not observed in test and controls. On follow-up, test group showed an increase in FS and decrease in H/H. However, in control group a difference in the FS or H/H was not observed. CONCLUSIONS: The 3 types of social support provided to patients have shown a
positive effect on the adjustment of the patients to their disease. The test group patients exhibited increase in the level of adjustment to cancer and they faced their problems more easily in more comfortable way than the control group. The assessment at 6 month after the 3 support showed that it led to a change in level of adjustment with the cancer. Hence it may be concluded that all 3 support are needed by the patients to adjust with the disease. RESEARCH IMPLICATIONS: The 3 social support characterized as emotional, psycho educational and instrumental support, was demonstrated to cause positive changes in level of adjustment to cancer by the patients. This mandates that these should form part of the routine in for the patients in the Indian context as well. The data showed that emotional support will help break the barriers between patients and caregiver, thus advantageous to the patient treatment. CLINICAL IMPLICATIONS: To promote holistic treatment it is important to consider the psycho social aspects of an individual patient. The patient is thus protected from the deleterious effects of the additional stress of the disease. A good holistic support system will be effective in boosting positivity in the patients and better adjustment and acceptance of the disease. The psychological intervention may not substitute for painkillers but it may serve as an adjuvant therapy. ACKNOWLEDGEMENT OF FUNDING: The authors gratefully acknowledge Cancer Patients Aid Association for the support on the project.

P2-117
The Counseling Cancer Centre of the Tuscany Region: The Experience of a Contact Center Service and Psychological Skills in Needs Assessment and in the Supporting Care

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BACKGROUND: Since November 2009, the Tuscany Region Department of Health has activated the Regional Counseling Cancer Centre (CCOR), with the scientific collaboration of the Regional Cancer Institute (ITT) and the Healthcare Management Laboratory (MeS) of Sant’ Anna University. The CCOR is made of 4 Psychologists-FrontLine (FL), 6 Psychologists-BackLine (BL, psychological supports) and 1 Coordinator. The FL manages requests through informative counseling and collaborates with public health through the healthcare referent, the Focal Point (FP). METHOD: THE FL: • promotes the identification of the problem and the possible solutions through demand analysis, counseling and problem-solving. • helps the person to identify the implicit needs supporting in the resolution process. • provides valid information, updated, customized on care pathways. • provides a space for listening in crisis times, focusing on useful goals to overcome the discomfort and facilitating the decision making of the patient, becoming a point of reference for users. • activates FP to solve critical path and gaps care at the Local Health Authority (LHA). • activates BL after evaluating the need for psychological support. RESULTS: Totally the CCOR responded to 2820 requests. The data analysis of 2012 (n = 705)reveals that is used equally by family and friends (38.2%) and by patients themselves (38%); people interested in prevention reach the 20% and professionals the 2.5%. The 76% are women and 62% in range 40–75 years. The psychosocial concerns: physician-patient relationship (63%); pathway interruptions (26.5%) and social issues and poor information providing (10.4%), 86% of assisted remains under the care of their LHA. The resolution problem through the joint intervention FL-FP characterizes the first-area, counseling provided by FL marks the third-area, the BL linked to the second-area (Cramer’s V = 0.4; p = 0.000). CONCLUSIONS: CCOR helps the cancer patients and their families to follow the clinical pathways and obstacles related to the psychological dimension of the illness or to organizational breakdowns. According to other experiences like our, the CCOR also confirms the effectiveness of a listening activity and demand analysis at different stages of the care pathway. The Center provides patients and their families support and guidance throughout the course by creating easy access to the services offered by the health system, activating direct contact with medical facilities, focusing on the function of active listening and emotional restraint of the patient and his family. RESEARCH IMPLICATIONS: This experience highlights the role of the counselling for the path improvement: the process of patient involvement in the care pathway, a clear communication with the doctor and the sharing of objectives. Infact this kind of intervention facilitates the patient empowerment, so that the communication quality and the relationship with physicians are improved. Further studies are needed to evaluate the impact of realized joint management of cases in terms of organizational learning within Health Authority. CLINICAL IMPLICATIONS: Making a good counseling and resolve critical in agreement with the patient makes more fluid the entire course of treatment. Therefore this type of intervention helps to increase the perception of belonging and taking charge effective for the patient and reduce the “leaks” from the LHA involved in the care pathways. The experiences acquired from the Center are useful tools for LHA to improve the quality of care pathways. ACKNOWLEDGEMENT OF FUNDING: None.
P2-118
Struggling for a Sense of Control in Order to be Prepared: Consequences of Chemotherapy-Related Fear Among Breast Cancer Patients
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BACKGROUND: Aim: To investigate how women assessed their psychosocial support needs concerning chemotherapy-related side effects after breast cancer treatment. METHOD: We conducted an observational study and analyzed responses from 313 women who had undergone surgery for breast cancer at Sahlgrenska University Hospital breast cancer clinic 12 months prior. RESULTS: Concerning desire for support, there was no statistically significant difference between the group receiving chemotherapy compared with the group not receiving chemotherapy (fear of hair loss: age adjusted p value 0.5120 and fear of nausea: age adjusted p value 0.7230). Both groups reported a desire to receive psychosocial support immediately following diagnosis. CONCLUSIONS: One year after diagnosis, women treated for breast cancer distinctly recall an immediate desire to receive psychosocial support concerning chemotherapy-induced side effects, regardless of receiving chemotherapy treatment or not. RESEARCH IMPLICATIONS: Data indicate that women associate breast cancer with chemotherapy and that they have a desire to know what chemotherapy treatment entails. This association appears so strong that it still comes to mind even when responding to a questionnaire one year after diagnosis. If we can learn how to increase preparedness for treatment, we may be able to decrease the risk for psychosocial morbidity and thereby shorten breast cancer diagnosed women’s rehabilitation needs. CLINICAL IMPLICATIONS: Offering psychosocial support and basic information about eventual chemotherapy treatment immediately following diagnosis may increase a sense of control and thus reduce the stress associated with the grim phase between breast cancer diagnosis and surgery. ACKNOWLEDGEMENT OF FUNDING: National Swedish Breast Cancer Foundation.

P2-119
The Theory of Planned Behavior Predicting Physical Activity in French Children Aged Between 5 to 11 Years Old
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BACKGROUND: Physical activity is highly recommended for all people as a potential behavior to improve health. In adults, physical activity could prevent certain types of cancer, and others. During childhood physical activity suffer a lot of influence from environmental factors. The objective of this study was to test the ability of the Theory of Planned Behavior (TPB) for explaining physical activity behavior. METHOD: This observational study included a sample of 734 children between 5 and 11 years old, selected in 11 public schools in France. This is a baseline study before an intervention study to improve physical activity. All children answered an auto-questionnaire based on TPB including assessment of attitude, subjective norm, perceived behavioral control. An ordered logistical regression model considering hierarchical analysis based on TPB. Level of significance was 5% in each level. RESULTS: The fact that family (father, mother and siblings) and friends are physically active or support the practice of physical activity was positively associated with higher weekly frequency of physical activity in univariate analysis. However, only the fact of his father playing sports remained significantly associated with a higher frequency of physical activity in multivariate analysis. Despite positive or negative attitude seems important, believe that physical activity all days improve physical fitness keep in the final model as an adjusted variable. By the other side, personal identity and perceived behavior control were important predictors related to activities during leisure time. CONCLUSIONS: These results provide partial support for the utility of TPB in explaining physical activity behavior in a sample of French children. Even intention could be the most important predictor to improve physical activity; these results showed that is necessary to engage family, friends and teachers. Children perceived as selves with autonomy to control their leisure time. RESEARCH IMPLICATIONS: The research implication is that if family and friend were engaging it will be possible increase the chance of improve physical activity of children and as consequence physical fitness and quality of life. CLINICAL IMPLICATIONS: These findings have implications for tailoring physical activity programs in this population. ACKNOWLEDGEMENT OF FUNDING: This research was supported by the “Agence Régionale de santé de la vie Romaine et des Sports, Montpellier, France.”
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P2-120
Effect of Group Counseling for the Empowerment of Mental Health on Resilience in Cancer Patients
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BACKGROUND: The emotional impact of cancer diagnosis that patients may feel shock, disbelief, fear, anxiety, guilt, sadness, grief, depression, and anger. Each person may have some or all of these feelings, and each will handle them in a different way. Group counseling may help patients for emotional coping. The objective was to evaluate the effect of group counseling for resilience in cancer patients. METHOD: This study conducted the quasi experiment design of 20 cancer patients whom were treated with radio therapy between May to July 2011. The participants were divided into 2 groups, 10 for control and 10 intervention groups. Participants in the intervention were attended group counseling for twice a week in 4 weeks, and each 60–90 minutes per time. Participants in the control group were offered no interventions and received their usual medical care. The questionnaire used for data collection included personal information, Resilience scale, and group counseling evaluation. The independent t-test and pair t-test were employed to analyze. RESULTS: The results of this study showed that statistically significant difference the mean score of resilience between the intervention group and control group (mean difference = 19.5; 95%CI: 17.61 to 21.38, p < 0.05) and there was a statistically significant difference the mean score of resilience before and after in the intervention group (mean difference = 14.9; 95%CI: 12.77 to 17.03, p < 0.05) CONCLUSIONS: The findings suggest that group counseling could resilience cancer patients for emotional coping that clinician may apply for helping cancer patients.

RESEARCH IMPLICATIONS: The result of this study show the program can be applied for empowerment of mental health crisis in patients with other chronic diseases. CLINICAL IMPLICATIONS: Normal score standard of resilience from the Department of Mental Health, Thailand is 55–69 points. The results of this study showed that the experimental group was 69.80 points, that higher than the standard. When testing the difference between the control group and the experimental group was found to have a mean score difference 19.5 points, which is statistically significant (p-value <0.05).

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P2-121
Motivation for Childhood Cancer Patients to Participate in a Combined Physical and Psychosocial Intervention Program: “Quality of Life in Motion”
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BACKGROUND: Survival rates in childhood cancer have increased dramatically in the past decades. However, survivors can have late effects, including impaired physical fitness which can lead to other physical health problems and may impact health-related quality of life (HrQOL). In order to improve physical fitness a 12-week physical and psychosocial intervention program was developed. In a multi-centre RCT 38.3% of invited patients were willing to participate. The question arises as to reasons of this limited participation. METHOD: All childhood cancer patients (8–18 years) during treatment with chemo- and/or radiotherapy or no longer than 12 months off treatment, were eligible. Patients requiring bone marrow transplantation and/or growth hormone treatment, those depending on a wheelchair or being unable to “ride a bike”, and those with mental retardation were excluded. Eligible patients received written and verbal information about the study. Patients and parents not wishing to participate were asked to fill in a one-time survey regarding reasons for non-participation, physical activity, HrQOL and behaviour problems. The baseline measurements of the participants included the same questionnaires (except for non-participation). RESULTS: Of 162 eligible patients 100 (61.7%) non-participated, of which 57% filled in the one-time survey. Parents reported “time-consuming participation” and “participation too heavy for child” as main reasons for non-participation, and children “time-consuming participa-
No differences between participants and non-participants were found for mean age, HrQoL, and parental-reported behaviour problems in the total group. Participating older children (11–18 years) reported more behaviour problems \( (p=0.03) \), in particular more internalising problems \( (p=0.02) \) and rated their quality of social functioning lower than non-participating peers. Parents of participating children aged 11–18 also reported more behaviour problems \( (p=0.04) \). CONCLUSIONS: Participation of childhood cancer patients in a physical and psychosocial intervention program is related to the burden of the intervention, as perceived by patients and parents. It appeared that adolescents with more internalising behaviour problems and a lower quality of social functioning were more prone to participate in the study. Also parents of the participating adolescents report higher behaviour problem scores than parents of the non-participating adolescents. RESEARCH IMPLICATIONS: Physical activity and fitness are supposed to be important determinants for physical health and HrQoL in childhood cancer patients. Interventions to stimulate physical activity gain increasing interest, but participation is hampered by the burden of the intervention. Therefore insight in factors related to participation or non-participation in intervention programs is crucial in optimizing recruitment and motivation strategies, as well as to develop tailor-made interventions. This study is the first with information on this subject. CLINICAL IMPLICATIONS: Participation in a physical and psychosocial intervention program is hampered by the burden of the intervention. Especially adolescent patients with better psychosocial functioning seem to have lower motivation to participate. This information can help to develop interventions in which larger groups can be included. ACKNOWLEDGEMENT OF FUNDING: This study is financially supported by the Alpe d’HuZes/Dutch Cancer Society (ALPE-VU 2009-4305).

P2-122
Professionals’ and Patients’ Perspective on Facilitators and Barriers for Return to Work in Unemployed Cancer Patients: A Focus Group Study
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BACKGROUND: It is estimated that 62% of cancer patients return to work (RTW). Current RTW support programs have been designed for employees, but are not suitable for unemployed workers who receive a sickness benefit. In order to develop a RTW program specifically for this subgroup, we studied the facilitators and barriers for RTW in this group of patients, and in the physicians who assess unemployed cancer patients with regard to their sickness benefit. METHOD: We conducted separate focus group interviews with (1) cancer patients who receive a sickness benefit and (2) insurance physicians (IPs) who assess cancer patients with a sickness benefit (unrelated). Patients were invited to interviews at the VU University Medical Center. For IPs, local peer review groups were used to host their interview. The focus group interviews were guided by an experienced moderator. Topics discussed included: attitude towards RTW over time, barriers and facilitators regarding RTW, involvement of others (e.g. spouse) in decision-making, possible interventions. Data was collected using an audio recording device and collection continued until saturation was reached. RESULTS: In total, 6 focus groups were organized; 3 patient focus groups, including seventeen participants and three physician focus groups, including twenty-two participants. All data was transcribed verbatim and is currently subject to analysis. Results will be known by October 2013. CONCLUSIONS: Data saturation was reached for both the patient and IP perspective. Therefore, the researchers estimate that the results regarding RTW factors will be applicable to most of the cancer patients who receive a sickness benefit. Further conclusions will be drawn when the results are known. RESEARCH IMPLICATIONS: This study is, to our knowledge, the first to assess RTW factors for cancer patients who receive a sickness benefit. Nowadays, research for cancer patients is usually diagnosis-based. If found that employment status may affect factors for RTW, this could support a new approach that takes employment status into account. Also, this could be applied to other types of patients and fields in clinical research. CLINICAL IMPLICATIONS: If found that specific RTW factors are related to employment status, this could have implications for the development of supportive intervention programs. Such programs should then be tailored to the employment status of the patient, rather than solely to the diagnosis. ACKNOWLEDGEMENT OF FUNDING: This study is funded by the Dutch Institute for Employee Benefit Schemes (SMZ UWV).

P2-123
Determinants of Seeking Psychosocial Care in Dutch Men With Prostate Cancer
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BACKGROUND: Prostate cancer patients often express the need for supportive care, although they are not frequently participating in supportive care
activities. To study the determinants of seeking psychosocial care, patients’ supportive care needs were assessed (SCNS) and their attitude about supportive care, perceived social support and self-efficacy (ASE model) on psychosocial care seeking. Further, as external factors the influence of distress, biographical and medical factors, previous experience with and evaluation of supportive care was studied.

METHOD: A cross-sectional study with a convenience sample of patients who completed a questionnaire. The patients were recruited from institutes of in the Dutch South-West cancer area (hospitals, patient organization, social media and psychosocial care facilities). Care needs were measured with the SCNS; patient’s attitude towards care seeking, perceived social support and self-efficacy were assessed by using former ASE measures. Distress was measured by the HADS. The measurement of biographical characteristics (age, SES, marital status), medical factors (time since diagnosis, type of treatment, metastasis), previous experience with and evaluation of supportive care was used from a former Dutch study.

RESULTS: We included 87 patients, who all returned the questionnaire by email or post. Results indicated that 36% had some experience with social care facilities. About one third of all men look for expert information (urologist, urology nurse, patient organization). More than 20% of the participants value their support from the hospital as unsatisfactory, marking the received support from the hospital with a mean score of 6.7 on a zero to ten scale. Results of a multiple regression analysis pointed out that only psychological, physical needs and depression are more important determinants of future supportive care use.

CONCLUSIONS: The results show that psychological and physical needs beside depression are more important determinants of future supportive care use than the ASE driven factor attitude towards care seeking, anxiety, previous psychosocial care use, satisfaction with care and age.

RESEARCH IMPLICATIONS: More studies should focus on multiple determinants of the use of psychosocial care facilities by prostate cancer patients.

CLINICAL IMPLICATIONS: The Vruchtenburg, on which behalve the study was performedis developing a policy to attract more prostate cancer patients. Urologists, urology and oncology nurses and other health-care professionals should use this information for patient centered referrals to psychosocial care facilities as well as to develop fitting interventions.

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cancer patients' rehabilitation; research results and conclusions as theoretical support and limitations and questions found during this research process was showed for the future researchers in group therapy in cancer patients so that they could make more improvement in future research protocols. CLINICAL IMPLICATIONS: Provide theoretical support for application of group psychological therapy in Chinese gastric cancer patients, as an important adjunctive intervention in the holistic oncology clinical practice. ACKNOWLEDGEMENT OF FUNDING: Capital medical science Development Fund.

P2-125
A Preliminary Evaluation on the Effectiveness of a Memory Enhancement Psycho-Educational Group on Improving Mood and Short-Term Memory in Hong Kong Cancer Patients
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BACKGROUND: Fear, anxiety and depression are the most common emotions experienced by cancer patients (Reich, 2008). Previous research shows evidence of correlation between depression and memory loss (Burt & Byrd, 1995). A memory enhancement psycho-educational group was developed and introduced as an intervention to address this concern, which involved teaching memory enhancement skills and mood management strategies through experiential games and daily practice, in order to improve levels of depression and anxiety, and enhance memory functioning. METHOD: A total of 48 cancer patients participated in a total of 5 memory enhancement psycho-educational groups conducted between November 2011 and May 2013. Theories of Experiential Learning (Kolb, D, 1984) and the Chronic Disease Self-Management Program (Stanford Patient Education Research Center, 1993) formed the basis of the content of this program. Participants were invited to fill in the General Health Questionnaire (GHQ-12, Pan & Goldberg, 1990) before and after the group in order to measure their psychological distress level. A memory subjective questionnaire and objective test (Small, 2003) were used to measure participant's self-ratings of memory capacity and memory functioning. RESULTS: The findings showed a significant decrease in psychological distress ($M = -8.13$, $SD = 6.08$, $p = 0.000$), while subjective memory and objective memory also showed significant increases ($M = 23.38$, $SD = 26.49$, $p = 0.000$ and $M = 1.02$, $SD = 1.41$, $p = 0.000$ respectively). CONCLUSIONS: Participants showed a significant decrease on measures of distress and an enhancement of their self-reported memory functioning after joining this psycho-educational group. Control group and development with more evidence base information are suggested as the next step of the research. RESEARCH IMPLICATIONS: A control group should be included in the future to facilitate a better understanding of the effectiveness of the intervention. It is further suggested that additional objective memory measurement tools be used in the future to further explore nature of the memory enhancement observed in this study. CLINICAL IMPLICATIONS: This memory enhancement group would be continued to conduct for cancer patients as it has a significant benefit for them. After developing with more evidence based data, the content of the group can be refined in order to increase its effectiveness. ACKNOWLEDGEMENT OF FUNDING: None.

P2-126
Impact of Chemotherapy-Induced Alopecia Distress on Body Image, Psychosocial Well-Being, and Depression In Breast Cancer Patients
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BACKGROUND: Chemotherapy-induced alopecia (CIA) is a traumatizing and distressing experience for women with breast cancer. But, few studies have been conducted about association between alopecia and quality of life, but there most of them have been limited to studies with specify alopecia distress and its impact on body image and psychological disorders. This study evaluates the impact of chemotherapy-induced alopecia distress on body image, psychosocial well-being and depression among breast cancer patients. METHOD: A cross-sectional survey was conducted with patients who participated in a breast cancer advocacy events held at 16 hospit-
Multidisciplinary Support Needs in Cancer Patients in a German Comprehensive Cancer Centre

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BACKGROUND: Supportive care plays an increasingly important role in cancer patients. Modern therapies have significantly improved disease control and prolonged survival. However, the majority of cancer patients is incurable and suffers from the disease itself and potential side-effects of stressful treatments. The prevalence of support needs has mainly been addressed separately in the various disciplines in previous studies. The aim of the present study was to investigate multidisciplinary support needs in cancer patients. METHOD: A total of 562 patients suffering from gynaecological, gastrointestinal or dermatological cancers took part in the survey. Questionnaires were used to assess support needs for psychooncological interventions, social work, nutritional counseling and exercise therapy. Additionally, psychic comorbidity was assessed using the Patient-Health Questionnaire (PHQ-D). The assessment was computer-assisted using tablet-PCs and the study took place at a German Comprehensive Cancer Centre. RESULTS: From the 562 patients, 52% (n = 294) asked for psychooncological interventions or psychotherapy and family counseling. One third (34%) of this subgroup showed at least a moderate depressive episode. Besides psychooncology, the vast majority (97%) of these patients had additional support needs: 28% asked for all four services (psychooncology, social work, nutrition, exercise), 40% asked for three services (psychooncology plus two additional support services) and 29% for two services (psychooncology plus one additional support service). CONCLUSIONS: The findings of the survey indicate that the vast majority of cancer patients across different cancer entities and at different stages of their disease have multidisciplinary support needs compromising psychooncology, social work, nutritional counselling and exercise therapy. RESEARCH IMPLICATIONS: Given the multidisciplinary support needs in cancer patients, more integrated and comprehensive support services have to be developed for cancer patients. The effectiveness of these multidisciplinary supportive care programs should be evaluated in clinical trials. CLINICAL IMPLICATIONS: Multidisciplinary supportive care programs delivered by a team of different healthcare professionals (e.g. psychotherapists, social workers, dieticians and physiotherapists) is necessary to optimize quality of life in cancer patients at all stages of their disease. This requires a close collaboration between the involved therapists to coordinate a multifaceted supportive care tailored the patient’s needs. ACKNOWLEDGEMENT OF FUNDING: None.

Oncological Patients’ Desire to Receive Psychological Support - A Peruvian Representative Sample

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BACKGROUND: The objective of the study is to explore the psychological needs of a patient in relation to cancer and his/her desire to receive professional or family oriented psychological support. The study targeted 340 Peruvian oncolgical
patients (men and women). METHOD: As part of the study both a socio-demographic data analysis and an analysis of psychological factors (anxiety, adaptation to the disease, depression and other factors related to the disease and its treatment) were conducted. Tools used as instruments of evaluation include a demographic survey, two psychological evaluation instruments (HADS and WAYS Coping Scale), the Karnofsky Scale and the Cancer Rehabilitation Evaluation System (CARES). Data obtained through CARES was analyzed in relation to the desire expressed by patients to receive or not receive psychological support from health professionals or from their families. This data was reviewed considering differences in sex. RESULTS: Results are currently being processed statistically in coordination with the Free University of Brussels (Professor Razavi, Psychosomatic Unit, Psychology Department). We expect these to be finalized by September 2013. CONCLUSIONS: There are no conclusions at this time. They will be completed once the data analysis is available. RESEARCH IMPLICATIONS: One of the objectives of the study is to compare these results with a previous study conducted with a Belgian sample by Merckx et al in 2009. CLINICAL IMPLICATIONS: This is the first study of its kind carried out in Peru with a significant sample (340 patients). Results will hopefully influence the development of public policies inside the oncological field in Peru. ACKNOWLEDGEMENT OF FUNDING: None.

P2-129
Emesis and Quality of Life Among European Cancer Patients
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BACKGROUND: The influence of chemotherapy-induced nausea and vomiting (CINV) has been studied as a factor influencing cancer patients’ quality of Life (QoL). The aim of the study, as a part of a larger European research protocol, was to identify the relationship of emesis (acute and delayed) and quality of life (QoL) with psychosocial (in particular coping and psychological distress) and relational (doctor-patient communication) variables. METHOD: 284 cancer patients aged 18–65 years, with no cognitive deficit, a Karnofsky Score >60 and a life expectancy >6 months, participated in a multicenter European study (Italy, Austria, Spain). Each patient completed the Functional Living Index for Emesis (FLIE) (Martin et al., 2003) before chemotherapy (FLIE-1); the 24-item Patient Satisfaction with Doctor Questionnaire (PSQ-MD) (Loblaw et al., 2004), two subscales of the Mini-MAC (Watson et al., 1984), (i.e. Anxious Preoccupation and Hopelessness); and the 0-10 Distress Thermometer (NCCN, 2012). Five days after chemotherapy the patients completed the FLIE (FLIE-2) again and a 0-10 VAS CINV diary to measure nausea and vomiting. RESULTS: DT moderate caseness (score > 4) was shown in 48% of cancer patients and a more severe distress (score ≥ 7) in 27.2% patients. Intensity of nausea on days 3–5 and score on FLIE-2 were associated with DT scores (r = 0.24, p = 0.01), Mini-MAC hopelessness (r = 0.23, p = 0.01). FLIE-2 was also associated with low scores on Physician Support on the PSQ-MD. CONCLUSIONS: The study indicated that cancer patients’ emotional stress, coping strategies as well as low support form physician in doctor-patient relationship are associated with nausea post-chemotherapy, irrespective of anti-emetic treatment. RESEARCH IMPLICATIONS: Results suggest the importance of psychosocial variables, to be further explored, in post-chemotherapy symptoms, especially CINV. CLINICAL IMPLICATIONS: The study suggests that screening of patients’ coping styles and distress are important to possible preventive intervention of CINV. Furthermore, doctor-patient relationship should be monitored given the possible influence on influencing patients’ QoL. ACKNOWLEDGEMENT OF FUNDING: Istituto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

P2-130
The First Analysis of Quality of Life of Patients With Acute Leukemia in Republic of Armenia
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BACKGROUND: Since hematological cases can be treated and prolongation of life is achieved, many different spirituals and psychological concerns must be addressed to maintain smooth functioning and optimize quality of life (QoL). This research study has been designed the first time to
place into hematological practice in Armenia a modified QoL questionnaire and find out correlations between efficiency of treatment of AL and QoL. METHOD: QoL questionnaire include common and disease related specific problems: over 50 questions about psychological and functional conditions of the patients their relationship with others, self-esteem issues, etc. The questionnaires were first filled out within the 7 days after admittance and after two weeks. RESULTS: The study of questionnaires revealed that weakness impaired the patients’ QoL in 80% (n = 64), the bone pain – in 85% (n = 68), fever- in 75% (n = 60), dyspepsia – in 60% (n = 48), followed by the decreased ability to work – in 60% (n = 48) and lower personal relations – in 62.5% (n = 50) of cases. QoL indicators were dependant on the disease diversity and accompanied risk factors. Patients with high-risk and AML have shown the poorer indicators of QoL then the patients with low-risk and ALL. Reliable information and trustful communication is the most well-validated instrument that measure the QoL outcomes. CONCLUSIONS: The first step towards dealing with the routine chemotherapy treatment is communication. It’s important for patients to communicate their thoughts and feelings with their healthcare practitioners. The second step is QoL information: perception that many of depressive feelings are predictable and not fatal, and many of side effects are impermanent, may become meaningful. Low personal relations, depression and anxiety, financial burden problems play negative and significantly impair patients’ QoL. The modified QoL questionnaire for the patients with AL is one of the well-validated instruments to place into everyday practice to obtain reliable scores and meaningful data on QoL.

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P2-131
The Development of Prostate Cancer Patients’ Information Needs: Patients’, GPs’ and Significant Others’ Perceptions Focusing on Diet
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BACKGROUND: The literature provides evidence how doctor-patient communication may improve health outcomes (Stewart et al., 2000; Beck et al., 2002; Flach et al., 2004) especially in cancer care (Mainous et al., 2004). Rees et al. (2003) found that prostate cancer patients are highly interested in seeking information. There hasn’t been a study identified evaluating the discrepancies between health professionals, patients and significant others perceptions as to when patients develop needs in health care especially diet. METHOD: This is a cross sectional study using an online survey. Participants (N = 220) were recruited through the Prostate Cancer Charity’s website, an advertisement on the Prostate Care Cook Book (Rayman et al., 2008) and the Royal College of GPs (South West Thames Faculty). The questionnaire used consisted of 3 variables: time of information need development, food item awareness in reducing risk of prostate cancer, importance of diet in cancer aetiology. An open ended question on GP’s attitudes towards was used to compliment the data. Kruskall Wallis and Cochran’s Q tests in SPSS were used to analyse the data. RESULTS: Results from this study indicate that a) male GP’s believe patients develop an interest in some information needs sooner than female GP’s do, b) female GPs with less experience believe patients are in need for information regarding sexuality sooner than experienced female GPs, c) male GPs believe patients need information regarding mental health sooner than experienced female GPs, d) GPs, patients and significant others differ on their perceptions in 7 out of 11 information needs and e) GPs show discrepancies on their awareness of food items that are considered beneficial for prostate cancer. CONCLUSIONS: Gender and experience of GPs was found to predict their perceptions on the time prostate cancer patients develop a need regarding mental health, sexuality, interaction issues and more information. Regarding differences between GPs and patients this study confirms previous ones (Fallowfield et al., 1995; Zemmercuk et al., 1998) indicating that GPs underestimate patients’ needs and fail to provide to patients the information they need (Schikel et al., 2013). However, this study also suggests that significant others’ have highly prioritised need for information after their family members/friends’ diagnosis as well. RESEARCH IMPLICATIONS: This study suggests that significant others are a group that future interventions may want to focus as well as their need for information is also closer to diagnosis than health care providers perceive. Findings can inform research aiming to improve patient (and their family/friends) and health care providers communication. CLINICAL IMPLICATIONS: Doctor-patient communication can be improved if we understand the different perceptions of health care providers and the people that are primarily affected by cancer (patients and significant others). This will also improve patient outcomes such as satisfaction with health care provision and probably other psychological constructs that can be identified for further research (i.e. quality of life). ACKNOWLEDGEMENT OF FUNDING: None.

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P2-132
Benefits of Mindfulness Improving Emotional Status and Quality of Life in Oncology Patients. Comparison of Two Schedules of Treatment.
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BACKGROUND: The use of mindfulness to reduce emotional distress and improve psychological adaptation in cancer patients has increased and has proven to be highly effective. However it is not well known which schedule of treatment sessions allows to better results. This study aims to test whether a 30 minutes/daily meditation (30M) is more useful than 10 minutes/daily meditation (10M) to decrease anxiety and depression and improve quality of life in ambulatory cancer patients. METHOD: Ambulatory cancer patients diagnosed and treated at both centers in the Institute Oncologic del Valles (IOV) who agreed to participate in the study were given written informed consents and were included in the study. Patients in Terrassa-Center received instructions to develop at home the 30M schedule during 10 weeks, and patients in Sabadell-Center, the 10M schedule at home during 8 weeks. Anxiety, depression and quality of life were assessed by STAI, BDI and QLQC-30 at pre-intervention and after patients had completed 6 treatment sessions at least. RESULTS: 25 oncology patients completed the study (30M group n = 12; 10M group: n = 13). No differences were found between groups at baseline measures. Anxiety and depression decreased at post intervention both in the 10M group (BDI,STAI-E, STAI-R p = 0.000) and in the 30M group (BDI: p = 0.027; STAI-E: p = 0.08; STAI-R: p = 0.01). Furthermore, the following quality of life dimensions improved at post-intervention in the 10M group: Physical (p = 0.005), Emotional (p = 0.012), and Fatigue (p = 0.001). CONCLUSIONS: Results suggest that Mindfulness could improve quality of life and reduce anxiety and depression in cancer patients, and that a short daily time is required to achieve these results since a 10 minute/daily practice schedule allows to better results than a 30 minute/daily practice schedule in improving some quality of life dimensions. RESEARCH IMPLICATIONS: Results suggest that, after 6 weeks of daily mindfulness sessions, both schedules were useful to reduce Anxiety and Depression, and that some dimensions of quality of life improved in the 10M group. However, more research with larger samples is needed to know whether a 10M schedule allows to more improvements in anxiety, depression and quality of life once the patients have completed the whole schedule (10 weeks). CLINICAL IMPLICATIONS: This study suggests that a 6-week10M schedule offers the same benefits than a 30M schedule to reduce anxiety and depression levels, and has additional effects improving some dimensions of quality of life. Thus, the former should be recommended in order to enhance adherence to treatment, since it is less time-cost and more easy to apply. ACKNOWLEDGEMENT OF FUNDING: Study supported by Fundació Parc Taulí de Sabadell.

P2-133
Association Between Symptom Severity, Depression, and Relevant Factors at Six Months After Surgery in Head and Neck Cancer Patients
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BACKGROUND: Depression is a common psychological problem in cancer patients. Head and neck cancer (HNC) patients experience physical function changes after surgery treatment. These physical symptoms affect patients’ quality of life and cause psychological distress. Therefore, the purpose of this study are: (1) to explore the symptom severity in HNC patients received surgery for 6 months (2) to examine the relationship between the symptom severity and depression (3) to identify the predictors of depression. METHOD: This is a cross-sectional research with purposive sampling. Patients were newly diagnosis of head and neck cancer and received surgery for 6 months in a medical center in north Taiwan. We used Symptom Severity Scale (SSS), Depression Subscale of Hospital Anxiety and Depression Scale (HADS) to evaluate patients’ symptom severity and depression. Description analysis, Pearson correlation and linear regression were used. We put the meaningful demographic variables and top ten severe symptoms into regression model to predict the depression after receiving surgery for 6 months. RESULTS: We recruited 156 patients’ responses. The average depression score is 3.4 (SD = 3.5). The most distressed severe symptoms were difficult chewing (Mean = 3.1, SD = 3.8), dry mouth (Mean = 3.0, SD = 2.9) and difficult swallowing (Mean = 2.3, SD = 3.3). Patients’ depression was correlated to fatigue, dry mouth, poor appetite and insomnia (r = 0.51, 0.41, 0.39, 0.38, respectively; p < 0.05). The significant predictors of depression were fatigue, without occupation, dry mouth, insomnia and difficult chewing (R2 = 0.40, p < 0.05). CONCLUSIONS: The results found physical symptoms sig-
Nurses’ Need of a Learning Program for Evidence-Based Practice at Center Hospitals for Cancer Care in Japan: A Content Analysis of Interviews

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BACKGROUND: Previous studies have reported that nurses at center hospitals for cancer care in Japan had inadequate knowledge of evidence-based practice (EBP), and a high number of experienced nurses were without education in EBP. However, little is known about nurses’ needs for EBP learning programs. Therefore, the purpose of this study was to describe their needs for EBP learning programs as continuing education at center hospitals for cancer care. METHOD: A qualitative inductive study was conducted, and participants were a convenience sample of 24 Japanese nurses who work at center hospitals for cancer care (11 novice nurses and 13 expert nurses). They were interviewed using semi-structured interview questions. Then, a content analysis was performed to find out the reasons, contents, and strategies of the program. RESULTS: Eighteen participants (75%) stated that they needed an EBP learning program. The commonly found reasons were “importance of EBP for a cancer care practice” and “need of opportunities to learn EBP.” They desired to include “strategies to support cancer patients and families” in the program. In addition, we also found that they preferred “group discussion with other nurses,” and “a series of educational programs rather than a single program at one time.” CONCLUSIONS: These findings suggested that an EBP learning program needs to be developed to provide higher quality care at center hospitals for cancer care in Japan. RESEARCH IMPLICATIONS: Further studies on EBP need to be performed in order to evaluate an effective program at these hospitals. CLINICAL IMPLICATIONS: These findings provide us with a basis to develop an EBP learning program, including strategies to support cancer patients and their families, as continuing education at center hospitals for cancer care in Japan. ACKNOWLEDGEMENT OF FUNDING: None.

P3-2
Risk Factors and Prevention of Post-Traumatic Stress Disorder in Breast Cancer Patients

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BACKGROUND: A breast cancer diagnosis is a potential life-threatening event associated with significant distress. Even after successful treatment, cancer diagnosis may continue to be a source of distress. The present study was aimed to identify the association of symptoms of posttraumatic stress disorder (PTSD) with clinical and social factors in newly diagnosed breast cancer patients and to offer the ways of managing negative psychosocial outcomes. It is the part of a larger prospective research. METHOD: The study included 180 women with cT1-T3/N0-N1/M0 stages of breast cancer treated at the Institute of Oncology, Vilnius University. Before the surgery women completed four questionnaires: Impact of Event Scale - revised (IES-R), Beck Depression Inventory II (BDI - II), Vrana-Lauterbach Traumatic Events Scale-Civilian (TEQ) and a form about patient’s socio-demographic status. Data about their diagnosis were taken from their hospital case-records. Frequency of significance was presented as a percentage. To determine factors predisposing PTSD, multiple logistic regression analysis was carried out. Values of p < 0.05 were considered statistically significant. For statistical data analysis SPSS software, version 21 was used. RESULTS: 45% of patients had from moderate to severe symptoms of PTSD (score of IES-R ≥ 35). 37% of women were suffering from depression of different level. Logistic regression analysis showed that depression (adjusted OR 8.15; 95% CI - 3.14–21.16; p < 0.0005), earlier and present psychological traumatic experience (adjusted OR 2.31; 95% CI - 1.12–4.78; p < 0.024) associated with high scores of posttraumatic stress. Negative correlation was found between the manifestation of PTSD and time, which passed from the moment

patients were informed that they are ill with the cancer (−0.33; p < 0.012). CONCLUSIONS: Significant numbers of newly diagnosed breast cancer patients suffer PTSD symptoms. Depression and earlier traumatic experience are the predictors of PTSD. The finding show that early evaluation of psycho emotional needs of breast cancer patients is necessary and early interventions for the prevention of PTSD are meaningful especially if patient states about the earlier traumatic experience and bad mood. Newly diagnosed cancer patients should be provided regular care and assistance. RESEARCH IMPLICATIONS: It is necessary to develop useful intervention for the prevention of PTSD in cancer patients. Early prevention of PTSD minimizing PTSD symptoms could improve the quality of women’s lives. CLINICAL IMPLICATIONS: Seeking to reduce influence of PTSD symptoms, medical staff has to assess cancer patients’ mood, its changes after the diagnosis of disease and earlier traumatic experience. A united and easily applied system must be established for the evaluation of emotional status in cancer patients. ACKNOWLEDGEMENT OF FUNDING: None.

P3-3
Innovative Efforts in a Romanian Oncological Center: Dimensions of Patient-Centered Health Care
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BACKGROUND: Patient-centered care, as quality health care, is associated with improved outcomes in patient satisfaction, health-related quality of life, and psychological wellbeing, health outcomes, and higher survival rates. A group of Romanian oncology patients reported high levels of distress: 47.5% depression, 46.7% anxiety, and 28.1% critically low quality of life. Clearly, there is a need to understand how to improve the experience of these patients who are the “experts” regarding their own health care needs. METHOD: An estimated 35 patients from a large Romanian oncological hospital will be recruited to anonymously participate in this study. The study questionnaire will ask participants to rate (a) the subjective importance and (b) the care they actually received, along the eight general dimensions identified by Ouwens et al. (2010) (e.g. access to care, communication and respect, etc.). Patients will be encouraged to provide any additional dimensions important to them (qualitative data). Data analysis: to determine which dimensions of patient-centered care are most important, which ones are lacking, and which additional dimensions emerge from the qualitative data. RESULTS: It is expected that Romanian oncology patients will identify significant needs regarding their patient-centered care based on their health care experiences (i.e. aspects of their care which they rated low and thus are still lacking). It is also expected that the results will indicate which dimensions are most important and thus warrant further immediate attention and development. Additionally, the qualitative data will provide information regarding the specific needs of Romanian patients (versus patients from other countries). CONCLUSIONS: Using a specific set of patient-centered indicators is a much needed first step toward developing innovative patient-centered interventions in Romania. Health care professionals’ opinions and guidelines are important and yet it is patients themselves who can provide best information regarding their health care needs, which can further lead to their increased adherence to treatment and increased treatment satisfaction. The results from this study can be used to develop specific and targeted ways to improve the health care experience among Romanian oncology patients. RESEARCH IMPLICATIONS: Future research can examine the effectiveness of patient-centered care by comparing levels of distress and health outcomes among patient who experience versus those who do not experience such care. Also, replicating results from this study on a larger sample including subgroups (e.g. by diagnosis, illness stage, etc.) will allow a more accurate generalization of its findings. Comparing results with those from other European countries can increase our understanding of cross-national differences in patient-centered care needs. CLINICAL IMPLICATIONS: Implications for clinical practice include: (a) tailoring psycho-social programs to the stated needs of the patients; and (b) attempts to sensitize health care providers to the specific needs of patients (e.g. if need for communication of health care information is rated highly then providers can be alerted regarding this fact or if patients rate family involvement as very important to them, efforts can be made to increase opportunities for such involvement). ACKNOWLEDGEMENT OF FUNDING: None.

P3-4
Young People With Cancer and Hospital Care: ‘It's a Whole Different World’ How can Hospital Care Promote the Wellbeing of Young People With Cancer?
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BACKGROUND: Young people with cancer are recognised as a vulnerable patient cohort whose wellbeing and resilience is compromised by the dual crisis of unanticipated life-threatening illness at a critical transitional life stage. Although good outcomes include quality of life and successful matura-
tion, little is known about young people’s needs or the constituents of age-appropriate healthcare. Applying the Sense of Coherence theoretical framework, this study examines how hospital care can promote wellbeing enhancing strengths and coping resources. **METHOD:** This doctoral study applies a qualitative narrative design to explore the perspectives of two under-researched populations of teenagers and young adults [TYAs: 16–19, 20–24 years], carers and multi-disciplinary professionals. A series of three semi-structured interviews over 6–9 months are conducted with 14 young people receiving treatment in adult provision and their primary carers. Young participant interviews utilise visual diagramming including social network maps and timelines to support engagement in the interview process while exploring identity, illness, relationship and healthcare narratives. Supplementary single interviews are carried out with 15 multi-disciplinary hospital professionals. **RESULTS:** Supportive relationships and inclusive communication processes are identified as central components of wellbeing-promoting hospital care enabling TYAs to find meaning from their experience, manage uncertainty, access resources and sustain engagement with everyday life. Although parents are identified as key resources whose wellbeing has a reciprocal impact on TYA coping, they are often marginalised to the periphery of adult service provision. Multi-disciplinary professionals are confirmed as active participants in the young person and family’s evolving illness narratives with the potential to contribute positively to their wellbeing. Findings also highlight the importance of psychosocial wellbeing to sustaining treatment and remaining involved in life. **CONCLUSIONS:** An increased focus on relationship-building, communication and strength-oriented support for young people and their primary carers, both individually and as a family system, is recommended as a prerequisite for optimal hospital care across the treatment trajectory. Greater interdisciplinary collaboration is required with all professionals understanding their role in promoting TYA and carer wellbeing, and having the skills to enable the young person’s emerging adulthood while welcoming carer involvement. Professional training should include an inter-disciplinary component, recognise the importance of psychosocial wellbeing and develop communication skills and processes specifically targeted at this neglected group of patients and their carers. **RESEARCH IMPLICATIONS:** Further research is required to understand the experience of TYAs receiving palliative and end of life care, and their carers. Attention should also be directed at the needs of young people aged 14–15 years treated in either paediatric settings or admitted directly to adult services. The impact of qualitative research on sensitive topics with vulnerable participants also requires further study to ensure interviews enhance rather than diminish participant wellbeing at times of crisis. **CLINICAL IMPLICATIONS:** This study indicates that a whole system interdisciplinary approach with a focus on relationship-building and communication is required to enhance young people’s resources throughout the cancer trajectory. Recognition of the importance of psychosocial wellbeing and the reciprocal impact of young person and carer wellbeing is essential for optimal care. Hospital care for this transitional age group admitted to adult services must move beyond person-centred care, to welcome and develop services for carers and families. **ACKNOWLEDGEMENT OF FUNDING:** This doctoral study is sponsored by Belfast Health and Social Care Trust and Queen’s University Belfast, and funded by the Northern Ireland Public Health Agency’s Research and Development Office (2009–2014).

**P3-5**

**Evidence-Based Practice Related to Effects of Peripheral Neuropathy Caused by Chemotherapy on Quality of Life In Japan: A Literature Review**

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**BACKGROUND:** To review and identify Japanese articles of evidence-based practice (EBP) related to effects of peripheral neuropathy caused by chemotherapy on patients quality of life. **METHOD:** At the end of March 2013, two researchers specializing in cancer nursing conducted a literature search on Igaku Chuo Zasshi, a Japanese medical literature database. They performed keyword and “AND” searches for the terms “peripheral neuropathy”, “chemotherapy” and “quality of life (QOL)” used in literature published between 2003 and 2013. **RESULTS:** The keyword searches resulted in 19014 articles for “peripheral neuropathy” 79082 articles for “chemotherapy” and 44695 articles for “QOL”. The 32 original papers using the 3 terms were then selected. After reading and reviewing the 32 articles, 9 were finally selected as relevant articles for this study. The 9 articles were reviewed and summarized for our study with regards to methods, study results, and conclusions. Research designs of the 9 articles were intervention studies (n = 3), descriptive studies (n = 5) and qualitative study (n = 1). The articles include intervention studies on peripheral neuropathy, however, it is not possible to assert said studies effectiveness. **CONCLUSIONS:** This literature review suggests that peripheral neuropathy caused by chemotherapy is an important issue which can influence patients’ quality of life. We need to validate the efficacy of intervention that patients with peripheral neuropathy caused by chemotherapy can
practice themselves, based on EBP. ACKNOWLEDGEMENT OF FUNDING: None.

P3-6
Auditing Psychological Interventions in Oncology Patients With the Outcome Rating Scale and Session Rating Scale in a Clinical Health Psychology Setting
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BACKGROUND: Patient-directed and outcome-informed approaches improve therapeutic outcomes (Reese, Norsworthy & Hawkins; 2009). Therapeutic alliance improves outcomes, retention and the course of therapy (Miller, Duncan, Brown, Sorrel & Chalk; 2006; Lambert et al., 2003). The Outcome Rating Scale (ORS) and Session Rating Scale (SRS) measures patient functioning and therapeutic alliance, respectively (Miller, Duncan, Sorrell & Brown, 2005). This audit aims to measure the outcome of psychological interventions with the ORS and SRS in cancer patients. METHOD: A standard audit cycle will be used to guide the audit process. The audit will take a stepped approach to reviewing current local service level agreements (SLA’s). The existing and current ORS/SRS data for all patients accessing psychology services in an outpatient setting will be collected and analysed. Results will be compared to local SLA’s and will be used to implement changes and to plan further audits and research. This data pertains to cancer psychology patients, but is part of a larger audit to determine outcomes across physical health difficulties. RESULTS: Local SLA’s are based on standards that 50% of patients accessing psychology services will report a 5-point increase on the ORS, while 80% of patients will report scores of 80% or higher on the SRS. Results will show that the ORS and SRS help to improve the therapeutic outcomes and alliance with cancer patients; while serving to meet outcomes agreed through SLA’s. Research shows that change occurs early in the therapeutic process (Miller, Duncan, Brown, Sorrel & Chalk; 2006). Similar results are expected, while expecting to find variations amongst session numbers and rate of change across different physical illnesses. CONCLUSIONS: Results of all ORS/SRS data from oncology patients accessing clinical psychology between January 2012 and October 2013, as well as research and clinical implications will be discussed. RESEARCH IMPLICATIONS: Data on the rate of change across different physical health presentations within an acute physical health setting will highlight the need for further research on patient-directed and continuous outcome-informed approaches in clinical health psychology, and psycho-oncology in particular. The results will also promote the clinical use of practice-based research and audit to improve therapeutic process, alliance and outcomes in cancer psychology. Further research may have implications for cost effectiveness of therapy by minimising disengagement. CLINICAL IMPLICATIONS: Improvements in service provision may include reviewing pathways of care, including referrals and signposting to community psychological services for those not progressing in therapy. Results will help inform future SLA’s to provide a more targeted service based on differential outcomes and therapeutic change rates across different physical illnesses, including cancer. Improved patient rapport and targeted outcomes may improve the service effectiveness and minimise and predict therapeutic disengagement. Other improvements could include more targeted supervision discussions. ACKNOWLEDGEMENT OF FUNDING: The project is being run and funded by the Cancer Psychology Service at the Queen Elizabeth Hospital in the United Kingdom.

P3-7
Gender Differences in Cancer Caregiving: An Italian Study on Strain and Coping
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BACKGROUND: Several studies reported that caregivers of cancer patients are exposed to a considerable burden related to the caregiving responsibilities; however little is known on the relationships between demographic characteristic (gender, ethnicity, etc.) and caregiving in oncology. The present research aims to analyse the possible influence of gender differences and coping strategies on the strain experienced by the caregiver. METHOD: The study involves a group of caregivers attending the Day Hospital of the Veneto Institute of Oncology in Padua (Italy). All participants have agreed to voluntarily participate in the research. The instruments used are the following: 1) the Family Strain Questionnaire-Short Form (FSQ-SF), to evaluate the strain; 2) the Coping Orientation to Problem Experienced-New Italian Version (COPE-NVI), to assess the coping strategies. RESULTS: The sample consisted of 112 primary caregivers (range age: 20–76 years), 67% (N = 75) were women, while 33% (N = 37) were men; 51. 6% of the sample has a middle-high educational level. Par-
Participants were mostly the patient’s spouse (53.6%) or an adult child (28.6%). Women feel a stronger emotional strain connected with assistance, in particular when their educational level is low. Strain considered as the only factor correlates negatively to the problem-oriented coping strategy. Among the different dimensions evaluated by FSQ-SF, the only one unrelated to gender differences is the need to know about the beloved’s illness. CONCLUSIONS: This research help to define the Italian caregiver’s profile. In most cases it concerns women, spouses with a middle-high educational level. Women play the main role in the caregiving management, experiencing a considerable strain related to the assistance, in particular when they have a low educational level. Coping strategies which people generally use to face stressful life events influence strain; specifically, the caregivers who adopt an active problem-oriented strategy experience a lower level of strain. RESEARCH IMPLICATIONS: The results gained from this research suggest the importance to focus further studies in order to highlight the best strategies fighting the negative consequences related to caregiving; to observe the psychological and physical effects of strain on the cancer caregiver, in consideration of gender differences and other demographic characteristics; to observe the effects of caregiving on patient’s quality of life. CLINICAL IMPLICATIONS: Focusing specific clinical attention to the most fragile type of caregiver (women with a low educational level); identifying the cancers with the highest incidence in the male population (since generally they have a female caregiver) and providing from the first visits a psychological screening for caregivers to assess the coping strategies. Planning psycho-educational interventions to enhance and develop active and useful coping methods to reduce the negative consequences connected with the management of the care. ACKNOWLEDGEMENT OF FUNDING: None.

P3-8
Abstract withdrawn

P3-9
Patients’ Words Into Action: Occupational Therapy Approaches in Rafik Hariri University Hospital Lebanon
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BACKGROUND: The first and unique occupational therapy service in Oncology in Lebanon has started in 2010 at the Rafic Harirri University Hospital as the only psycho-social support provided for cancer patients at this hospital. Thus, many challenges were faced due to the novelty of this field and the lack of funding. The presentation will highlight the challenges faced and the approaches used in order to put patients’ words into action in individualized therapeutic plans. METHOD: The presentation will be addressing the main features of the service provided and highlighting how patients’ words and advocacy were used to develop therapeutic plans to help in improving the psychological state of cancer patients. Practical examples and case studies will be provided. RESULTS: The presentation will show qualitative results of the impact of occupational therapy approaches used on the quality of life of cancer patients and their families. The results will be discuss in term of the importance of individualized therapeutic plan which were based on patients’ needs and expectations. Moreover the unique effect of these plans will be highlighted due to the satisfaction attained by the patients regarding the quality of care given. CONCLUSIONS: The presentation will pose the following question: if the care planning is based on the needs voiced by patients’ words, how can we effectively listen to cancer patients? And, How can we use advocacy techniques to make patients participate in their care planning and how this participation can create a difference and improve the quality of care.

RESEARCH IMPLICATIONS: This presentation will give directions into how to integrate advocacy into health research and will highlight difficulties that could be faced at this level in a developing country. CLINICAL IMPLICATIONS: Through the practical examples of case studies, clinicians will benefit from tips related the therapeutic approach used with cancer patients and will learn how valuable is to listen to their patients’ needs and to build up their therapeutic plans based on them. ACKNOWLEDGEMENT OF FUNDING: None.

P3-10
A Systematic Review of Patient-Reported Outcome Measures Assessing Quality of Patient-Centred Cancer Care
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BACKGROUND: The Institute of Medicine (IOM) has endorsed six dimensions of patient-centredness as vital to providing quality health care. However, whether patient-reported outcome measures (PROMs) comprehensively cover these six dimensions remains unexplored. This systematic review explored: (1) whether PROMs that assess
the quality of patient-centred cancer care addressed
the six IOM dimensions of patient-centred care; and (2)
the psychometric properties of these measures. 

METHOD: Five electronic databases were
searched to retrieve published studies describing the
development and psychometric properties of
PROMs assessing the quality of patient-centred
cancer care. Two authors determined if eligible
PROMs covered the six IOM dimensions of
patient-centred care of: (1) respectful to patients'
values, preferences, and expressed needs; (2)
coordinated and integrated; (3) provide information,
communication, and education; (4) ensure physical
comfort; (5) provide emotional support; and (6)
involve family and friends. The adequacy of psy-
chometric properties based on recommended crite-
ria was also evaluated. RESULTS: Across all 21
PROMs, the most commonly included IOM dimen-
sion of patient-centred care was information, com-
munication and education (19 measures). Two
measures included one IOM-endorsed patient-cen-
tred care dimension, 2 measures had two di-
dimensions, seven measures had three dimensions, five
measures had four dimensions, and four measures
had five dimensions. One measure, the Indicators
(Non-small Cell Lung Cancer), covered all 6 IOM
dimensions of patient-centred care, but had ade-
quate face/content validity only. None of the mea-
sures met recommended criteria for test-retest
reliability. CONCLUSIONS: There are no psycho-
metrically rigorous PROMs developed with cancer
patients that capture all six IOM dimensions of
patient-centred care. Further psychometric testing
of the Indicators (Non-small Cell Lung Cancer) is
needed. Construction of comprehensive measures
that can be used with the general cancer population
are required. RESEARCH IMPLICATIONS: This
systematic review highlights that existing measures
of patient-centred cancer care fail to accurately cap-
ture the whole-person orientation of cancer care.
There is a need to develop new measures assessing
the quality of patient-centred care that cover all six
IOM-endorsed dimensions. Such measures need to
be psychometrically robust and suitable for use
with a range of cancer populations. CLINICAL
IMPLICATIONS: Quality improvements to the
healthcare system can be guided by measures that
assess the quality of patient-centred cancer care.
Reliable and valid patient self-report measures that
identify where improvements to care are needed
may facilitate advancements to health care services
and health care professionals’ training.

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P3-11

Abstract withdrawn

P3-12

Prostate Cancer Survivors’ Experiences of
Participation in Recreational Football - A
Qualitative Evaluation Of The “FC Prostate Trial”
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BACKGROUND: Despite increasing awareness
of the relevance of gender-sensitive rehabilitation,
male cancer survivors are underrepresented in
survivorship care and rehabilitation. To meet the
demand for studies encompassing the needs of male
cancer patients, we initiated the “FC Prostate
Trial” with the aim to examine effects of recrea-
tional football in prostate cancer patients undergo-
ning androgen deprivation therapy. The purpose of
this study is to describe the results of the qualitative
evaluation of the participants’ experiences with par-
ticipation. METHOD: Drawing on principles of
ethnographic research, the study took advantage of
method triangulation in collection of data. Data
were collected through semi-structured focus group
interviews (5 × n = 5–7) and participant observa-
tions (a total of 20 hours) in the period from June
2011 to May 2013. Both methods were based on a
semi-structured interview/observation guide includ-
ing the following themes: “motivation for partici-
patation”, “safety and tests”, “interpersonal relations”,
“responses to the training”, “the role of coach”,
“reactions from significant other”. RESULTS: The
participants were motivated by the opportunity of
self-managing the disease through participation in
a well-known and high-valued sport. The inherent
characteristics of football (i.e. the presence of a
coach, the element of playing and being part of a
team) and the clinical monitoring and testing were
emphasized by the participants as essential for the
simultaneous concern for the disease and distrac-
tion from the disease. Physical and mental well-
being, space for solidarity and exchange of personal
experiences and positive feed-back from significant
others were described as positive responses from
participation and were experienced as fundamental
for post-intervention maintenance. CONCLU-
SIONS: This qualitative study suggests that recrea-
tional football may be a unique and relevant
alternative rehabilitation strategy that appeals to
prostate cancer survivors receiving androgen depriva-
tion therapy, as it facilitates self-determination
and the development of a community of practice enabling social support and solidarity. These findings support previous studies indicating that male cancer patients give priority to active, rational, action-orientated activities and that sport participation may contribute to blurring the patient role among cancer survivors. RESEARCH IMPLICATIONS: Sustained provision of rehabilitation initiatives that reflect the need of peer support facilitated through physical activity in male cancer survivors calls for new approaches in the future cancer rehabilitation research. Knowledge on the applicability and effectiveness of exercise interventions in real life settings and deeper understanding of long-term adherence to behavior change (i.e. physical activity) in male cancer patients and survivors are warranted. CLINICAL IMPLICATIONS: The present study indicates that recreational football can promote recruitment and adherence to physical activity in prostate cancer survivors. Furthermore, the findings reveal that prostate cancer survivors appreciate and benefit from interactions with peers through sport participation. Therefore, it is imperative that cancer rehabilitation strategies incorporate gender sensitive initiatives and contexts that reflect male cancer survivor’s need for independency and self-determination on one hand and their need for patient care and support in the other. ACKNOWLEDGEMENT OF FUNDING: The FC Prostate Trial has received DKK 1.4 million from the Danish foundation TrygFonden.

P3-13
Factors Influencing the Return-to-Work Experience of Women Survivors of Gynecological Cancers: An Exploratory Descriptive Study
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BACKGROUND: A large proportion of women with gynecological cancers are still active members of the labour force when they are diagnosed. One of the challenges they face is returning to work (RTW) after treatment. Limited knowledge is available on the RTW process of this category of woman in the Quebec population. The aim of this study was therefore to explore the factors influencing the RTW experience of Québec women with cervical or endometrial cancer. METHOD: Exploratory descriptive study. Two focus groups, each two hours long, were run with women who had cervical or endometrial cancer, held paid employment at the time of diagnosis, and were living in an urban area. A total of 15 women between ages 34 and 54 participated in this study. Clinical and sociodemographic data were collected from their computerized clinical files and through a questionnaire. Content analysis of the focus group transcripts was performed using pre-established categories for initial coding. These categories were based on the variables of the Feuerstein model for a RTW after cancer (2010). RESULTS: The main RTW facilitators concerned the meaningfulness the participants perceived in their work (e.g. they saw it as a return to normal life or as a response to their need to reduce the cancer’s impact). The presence of support services (e.g. psychological follow-up, support group) was also identified as an RTW facilitator. The main obstacles involved three main factors: (1) the individual (e.g. high personal demands), (2) services received (e.g. absence or inadequacy of interventions and resources supporting the RTW), and (3) the work environment (e.g. high employer expectations). Participants identified financial pressure as a major incentive for accelerating RTW. CONCLUSIONS: This exploratory study revealed the multi-dimensional nature of the factors related to the RTW of women following a gynecological cancer. The current structure of healthcare services and poor knowledge of the disease in the workplace constitute major obstacles to a healthy, sustainable RTW of this population. RESEARCH IMPLICATIONS: The results of this study will give practitioners who work with this clientele a better understanding of the factors facilitating or hindering their RTW. The results may also provide a basis for developing interventions tailored to people living with cancer as they pursue their RTW trajectory. ACKNOWLEDGEMENT OF FUNDING: None.

P3-14
Nordic Walking for Patients With Early Stage Breast Cancer
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BACKGROUND: Surgery and radiation to the axilla as part of breast cancer treatment often result in arm and shoulder morbidity. In addition to the general benefits for cardiorespiratory fitness, Nordic Walking (NW) targets at the muscles of the upper extremities and shoulder. This may increase shoulder mobility and reduce functional limitations. Our objective was to offer a NW intervention to women recovering from early stage breast cancer
treatment and to explore changes in well-being and shoulder function. METHOD: A NW program was offered in three consecutive years from 2009–2011. The 1-hour sessions were supervised by a certified NW-instructor. The program consisted of 10 weekly training sessions. The program took place from April to June. Subjective outcomes were assessed by questionnaire before and after the 10-week course, and at 6 months follow-up. Outcomes included shoulder morbidity (SPADI), vitality and mental well-being (SF-36), limitations in ADL and social activities (5-point Likert scales), and perceptions about shoulder morbidity (Brief IPQ). A physical therapist assessed participants’ shoulder range of motion before the first training session and at the 10th training day. RESULTS: Twenty-eight women motion before the first training session and at the tions about shoulder morbidity (Brief IPQ). A physi-social activities (5-point Likert scales), and percep-mental well-being (SF-36), limitations in ADL and included shoulder morbidity (SPADI), vitality and week course, and at 6 months follow-up. Outcomes assessed by questionnaire before and after the 10-intervention had demonstrated that accessibility of the participants may need support in distinguishing normal from abnormal sensations. ACKNOWL-EDGEMENT OF FUNDING: This project was supported by a grant from Pink Ribbon, the Netherlands.

P3-15
Factors Associated With Physical Activity Intervention Adherence and Maintenance in Cancer Survivors During and After Treatment: A Systematic Review
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BACKGROUND: Beneficial effects of physical activity (PA) and exercise among in cancer survivors depends on intervention adherence and maintenance. The associated factors need to be identified to further improve and personalize interventions. We aimed to systematically review factors associated with PA adherence and maintenance in cancer survivors. METHOD: Studies were identified by searching PubMed, Embase, PsycINFO and SPORTDiscus from inception to April 2012. We included full-text articles that: (1) were performed in adult cancer survivors; (2) quantitatively assessed intervention adherence and maintenance, and (b) potentially associated factors; (3) were published in English. The methodological quality of the selected studies was examined. A best evidence synthesis was applied providing summary scores for associations evaluated in three or more studies. RESULTS: Nineteen studies were included and generally had high methodological quality (67–92% of maximum score). They investigated associations of 73 personal and 6 environmental factors with adherence, and 68 personal and 4 environmental factors with maintenance. Only few summary scores could be calculated. Socio-demographic (age, marital status, education and employment) and clinical factors (disease stage, time since diagnosis, and treatment regime) were not associated with PA adherence. Patients in higher stage of change had higher PA adherence. Higher age, instrumental attitude and PA levels after diagnosis were associated with higher PA maintenance. CONCLUSIONS: Evidence on factors influencing intervention adherence and maintenance in cancer survivors is limited but indicate that personal and environmental factors may play a role. Additional research is needed to understand and act on barriers to improve PA. ACKNOWLEDGEMENT OF FUNDING: This study was supported by the Alpe d’HuZes/KWF Fund. The research grant is provided by the Dutch Cancer Society.
P3-16
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BACKGROUND: There are few UK-based return-to-work (RTW) interventions for those affected by and living beyond cancer, that brings together the expertise of healthcare professionals and employers in supporting the individual to RTW. There is an essential and urgent need for interventions for those affected by cancer that identify work adjustments or ways to manage work with regard to their cancer-related health. We therefore developed a work-related guidance tool (Work it Out) to address this issue. METHOD: The six steps of the intervention mapping process (Bartholomew et al., 2006) were used to guide the development of the Work it Out tool: (a) needs assessment, (b) the Identification of outcomes, performance objectives and change objectives; (c) selecting theory-based methods and practical strategies; (d) developing program components and materials; (e) planning for program adoption, implementation, and sustainability; and (f) planning for evaluation. Each step leads to a product that guides the next step. RESULTS: A needs assessment identified the “gaps” in information/advice received from healthcare professionals and other stakeholders. The intended outcomes and performance objectives for the tool were then identified followed by theory-based methods and an implementation plan. The tool was designed to be a self-led tool that can be used by any person with a cancer diagnosis and working for most types of employers. CONCLUSIONS: The intervention mapping process to develop the tool took 9 months to complete. To our knowledge, no similar technique has been used for developing RTW interventions for those affected by cancer. RESEARCH IMPLICATIONS: Intervention Mapping is a valuable protocol for designing complex guidance tools. The process and design of this particular tool can lend itself to other situations both occupational and more health-care based. CLINICAL IMPLICATIONS: The tool promotes consultation and discussion with a range of different healthcare professionals, employers, employment agencies and support services who are all involved in the RTW of an individual diagnosed and treated for cancer. Healthcare professionals should promote the use of the tool to their patients as part of their clinical care. ACKNOWLEDGEMENT OF FUNDING: UK National Cancer Survivorship Initiative (Department of Health and Macmillan Cancer Support).

P3-17
Effects of a Brief Outpatient Rehabilitation Program for Cancer Patients on Physical Activity, Return to Work and Quality of Life
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BACKGROUND: Oslo University Hospital, Radiumhospitalet, is offering a multidisciplinary outpatient rehabilitation program (OPR) to cancer patients who have recently completed their treatment for lymphomas, breast and gynecological cancers. The program is funded by the Norwegian Government program “Fast return to work (Fast-RTW)”. The aim of this study was to assess the effects of a brief OPR with attendance once a week over seven weeks on physical activity, work status and quality of life. METHOD: All participants were within employment age and had to be on sick-leave or in need of sick-leave. Each day of the program consisted of a patient education session for two hours, followed by a one hour lunch break for “small talk”. Then followed two hours with physical activity/relaxation. Data were collected at baseline (T0), at the end of the intervention (T1), and at 6-months follow-up (T2) using items from the Health Survey of Nord-Trøndelag County (HUNT), The Core Quality of Life Questionnaire (EORTC QLQ-C30) and patient’s report on work-status. RESULTS: 93% of 172 participants completed the program. Mean age was 52 years. The proportion on sick leave decreased from 65% at T0 to 12% at T2. At T2 69% of the participants were in full or partial work compared to 27% at T0. Increase in physical activity from T0 to T2 was observed in terms of increased frequency, duration and intensity of exercise habits. Those who improved their work status during the study period reported a higher level of physical activity, indicating a correlation between physical activity and increased work ability. HRQoL domain scores improved significantly from T0 to T2. CONCLUSIONS: Our brief multidisciplinary outpatient rehabilitation program for
patients after treatment for cancer was feasible. The patients reported increased physical activity and increased work rate 6 months after termination of the program. There seems to be a positive correlation between returning to work and degree of physical activity. RESEARCH IMPLICATIONS: The results of the program should encourage further research on the effects of this type of brief, low cost, outpatient multidisciplinary rehabilitation program for other types of cancer patients. Future studies should also examine which patients will have the greatest benefit from such a program. CLINICAL IMPLICATIONS: This study highlights the importance of structured group-based physical activity as an important ingredient of a multidisciplinary rehabilitation program. ACKNOWLEDGEMENT OF FUNDING: The program is funded by the Norwegian Government program “Fast return to work (Fast-RTW)”.

P3-18
Physical and Mental Support in Young Patients During Cancer Treatment, a Multidisciplinary Pilot Intervention Study
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BACKGROUND: Coping with cancer treatment is reported to be challenging for young patients, in particular, but studies regarding this subject are limited. The main aim of this study was to evaluate whether an intervention with group based physical exercise combined with oncology nurse counselling and psychologist consultations given to young cancer patients during treatment are associated with physical function, level of anxiety and depression. METHOD: This multidisciplinary pilot intervention study included young adult cancer patients diagnosed with cancer of testis, breast, the lymphatic system or gynecological cancer, and were carried out during adjuvant cancer treatment. The intervention included a group based physical exercise program lead by a physiotherapist for 90 minutes, twice a week in 12 weeks and in addition oncology nurse counselling and psychologist consultations. Physical function and Hospital Anxiety and Depression Scale (HADS) were assessed at baseline, 12 weeks and at 6 months. The effect of the intervention on physical function and mental health were analysed by using parametric/non-parametric tests, including qualitative methods. RESULTS: We observed among these young (28 ± 4 years) cancer patients (n = 19) an increase over time in physical function (p < 0.05): Max Step Length tests and the Sit-to-Stand test increased by 9.2% to 15.5%, and by 9.9% to 18.7% from baseline to 12 weeks and 6 months, respectively. The Aastrand fitness test improved suggestively with 25% at 6 months follow-up (p = 0.071). Grip strength and HADS did not change from baseline to follow-up. Adherence to follow-up during 12 weeks cancer treatment was mean 8 ± 5 weeks. Qualitative reports supported a multidisciplinary approach during cancer treatment. CONCLUSIONS: These results indicate that this multidisciplinary approach with group based exercise and counselling during treatment may play a role for young adult cancer patients in relation to physical function, anxiety and depression. However, the results must be interpreted with caution due to small sample size, drop-outs and no reference group included. RESEARCH IMPLICATIONS: Our small pilot study should be looked upon as hypothesis generating, only. However, our study support that the multidisciplinary approach including both physical and mental support in young cancer patients during adjuvant treatment should be assessed in larger RCT’s. Furthermore, additional measurements i.e of physical function, fatigue and coping strategies, should be included. CLINICAL IMPLICATIONS: This multidisciplinary pilot study in young adult patients indicates that physical and mental support during adjuvant cancer treatment is feasible in a vulnerable period of life and serious treatment, but needs to be replicated. ACKNOWLEDGEMENT OF FUNDING: The Norwegian Cancer Society and Active Against Cancer supported the study.

P3-19
Emotional and Psychological States of Patients With Dyschezia Following Low Anterior Resection for Rectal Cancer
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BACKGROUND: The patients who received the low anterior resection for rectal cancer show characteristic symptoms of dyschezia such as frequent defecation, feeling of incomplete evacuation, urgency, difficulty in discerning stools and gas, and soiling and have difficulties in their social lives. The current study attempts to investigate emotional and psychological states of the patients with dyschezia following the low anterior resection for rectal cancer. METHOD: We conducted interviews with 13 patients who received low anterior resection for rectal cancer (mean age 62.3; SD = 11.5; 4, 2, 6, and 1 cases of stage I, II, III, and IV, respectively) 1–3 times for each patient 2–13 months after the operations. We evaluated defecation symptom using Defecation Dysfunction Assessment Scale (DDAS; range 9–36), asked about lives, assessed psychological states using POMS, and asked to grade defecation symptom out of 100 points. POMS was calculated using standardized T score. Dyschezia was evaluated by defecation frequency and DDAS. Six subjects
were interviewed more than once and their clinical courses were analyzed. RESULTS: Mean values of POMS items showed TA = 47.2 (SD 7.8), D = 49.2 (SD 8.36), AH = 46.2 (SD 7.62), V = 50.6 (SD 8.27), F = 45.2(SD 8.90), and C = 49.8 (SD 10.27). Ten cases showed greater values compared with standard scores. Their self-evaluation was 50–95, and DDAS was 10–26. Emotions were improved during the time (6 cases). However, in the case that showed high scores as 60–70 except for V even 3 months after the resection, most items except for one showed high values around 60 even 1 year after the operation. DDAS of this patient was higher than that of other cases. The self-evaluation was low as 50 even 13 months after the operation. CONCLUSIONS: Gradual improvement in defecation symptom tends to cause improvement of psychological state. However, many cases showed high POMS which is far higher than the standard score as 50, suggesting the necessity of the care for psychological stability. Especially, the item “confusing” showed high score, reflecting the non-predictable and out-of-control defecation after the operation. Besides, low self-evaluation score could be associated with emotional instability.

RESEARCH IMPLICATIONS: Instable emotion could be caused not only by the defecation dysfunction but also by the low self-evaluation. Thus, the improvement of self-evaluation could improve emotional stability despite of continuous defecation dysfunction. This would be addressed in future studies.

CLINICAL IMPLICATIONS: In some cases, patients who received the low anterior resection for rectal cancer feel confusion because of the out-of-control defecation symptom. Although gradual improvement in defecation dysfunction tends to stabilize emotion, the patients with low self-evaluation could still feel confusing and need psychological care.

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P3-20
Patterns of Daily Physical Activity and Fatigue in Cancer Survivors: A Pilot Study
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BACKGROUND: Cancer-Related Fatigue (CRF) is a distressing and debilitating symptom which affects a third of all cancer survivors who finished curative treatment. Activity management is frequently included in the management of CRF. However, the evidence of the beneficial effects of activity management on CRF is scarce. The aim of our study was to explore patterns of fatigue and physical activity throughout the day to see how physical activity is related to self-reported fatigue in cancer survivors. METHOD: Physical activity was measured with a MTx inertial 3D-motion tracker, for 5 consecutive days from 8 am to 8 pm in cancer survivors (free from cancer, last treatment ≥ 3 months ago). Simultaneously, fatigue was scored thrice daily (morning, afternoon, evening) by survivors on a mobile phone with a 0–10 VAS scale. Changes in fatigue and physical activity throughout the day were tested with Repeated Measures ANOVA. Possible associations between fatigue and physical activity on the different day parts were explored with non-parametric correlations (Kendall’s Tau).

RESULTS: 18 cancer survivors (6 male; mean age 55.7 ± 10.2 years) were included. Time since last treatment ranged from 3 to 204 months, and 83% of the survivors underwent combined treatment of surgery, radiotherapy and/or chemotherapy. Cancer survivors reported a significant increase in fatigue throughout the day (p = 0.001); fatigue increased from an average of 3.7 in the morning to 5.1 in the evening. At the same time, a significant decrease in physical activity was observed from morning to evening (p = 0.003). Self-reported fatigue in the evening showed a significant relationship with activity in the afternoon (p = 0.009), and a trend with morning activity (p = 0.07).

CONCLUSIONS: Cancer survivors that finished curative treatment reported increasing levels of fatigue throughout the day. The increase in fatigue accompanied a decrease in level of physical activity. Survivors that showed highest activity in the morning and afternoon also reported higher levels of fatigue in the evening. This suggest that adequate management of daily physical activity could aid in management of CRF.

RESEARCH IMPLICATIONS: Although the present study suggest that daily physical activity patterns are associated with self-reported levels of fatigue in cancer survivors, no causal relationship between physical activity and fatigue could be established. Furthermore, an indepth analysis of physical activity patterns in an adequate powered study is necessary to clarify how and in which population of cancer survivors activity management could in decreasing CRF following cancer treatment.

CLINICAL IMPLICATIONS: Activity management is an important aspect of current CRF treatment protocols. Our study partly supports the assumption that levels of daily physical activity are indeed associated with self-reported fatigue. However, due to the cross-sectional design, no conclusions can be drawn from the present study about the effect of activity management in daily life on fatigue. More research is needed that determines the clinical evidence of activity management in the management of CRF following primary treatment.

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P3-21
Cognitive Functions Among Adult Lymphoma Cancer Survivors
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BACKGROUND: Cognition is a complex process which is needed intact to deal with the complex world. Cognitive deficits associated with cancer treatment and the disease itself can have a dramatic effect on patients’ quality of life. The primary purpose of the study was to find out the cognitive function among lymphoma cancer survivors
METHOD: Adult Lymphoma survivors (N = 60) who reports to the medical oncology OPD in Cancer Institute (WIA) for follow-up were included by using purposive sampling technique. Long-term adult lymphoma cancer survivors (N=60: male = 38.30% & female = 61.70%) were taken at least 2 years from the completion of last chemotherapy cycle and presently not receiving cancer treatment, and disease-free of lymphoma who had been treated with systemic chemotherapy. NIMH-ANS neuropsychological battery was administered to the cancer survivors to understand the level of memory, attention, motor function & psychomotor function. RESULTS: Descriptive statistics which revealed the Mean, Standard deviation and percentage of socio-demographic variables such as age (M = 36.83; SD=12.58), Survival rate (M = 6.1; SD = 7.8), Diagnosis (HD = 48.30%; NHL = 51.70%). Survivors who treated with systematic chemotherapy shows deficit in long term memory (26.7%), working memory (35%), selective attention (36.8%), and in psychomotor ability (21.8%). Mann U Whitney test and ANOVA, controlling for age and education respectively, revealed that adult lymphoma survivors scored significantly lower on the battery of neuropsychological tests, particularly in the domains of working memory (p < 0.004) and verbal memory (p < 0.023) respectively. CONCLUSIONS: From the above study it can be concluded that the adult lymphoma survivors deficit in cognitive functions particularly selective attention, visual, verbal, and working memory, and Psycho-motor speed. This reveal that not only patient who are affected by CNS cancer are getting cognitive impairment but also patients who are diagnosed with local cancer like lymphoma also having impairment in cognition

P3-22
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BACKGROUND: Involving stakeholders in the design of interventions is an important aspect of developing patient-centred resources. For those living with and beyond cancer there are few UK-based stakeholder-informed resources available to support the individual in returning to work. The Delphi technique provides a systematic method of gaining consensus from a variety of stakeholders within their domain of expertise. This method was used to develop a patient-centred work-related guidance tool to manage return-to-work issues.
METHOD: The first draft of the tool consisted of questions divided into four chronological categories to represent the stages of the cancer journey in relation to work. Within each of the categories the questions were organised into three themes (health, finance, work). Consensus and validation of the tool were achieved in a two-round Delphi procedure. Respondents rated the relevance of each item on a 9-point Likert scale, and indicated to whom each question should be asked. To assess the extent of agreement between experts the interquartile range (IQR) was calculated for each item. Perceived relevance was assessed using median ratings.
RESULTS: In round one of the Delphi procedure 172 respondents were provided with a 43-item resource and given four weeks to respond. In addition to their ratings they could suggest alternatives and provide qualitative feedback. All questions that achieved good consensus were also perceived as highly relevant. Questions that did not achieve consensus were re-evaluated in the second round (139 respondents; 80.9%). Two new questions were included based on feedback from round one. Based on the same statistical procedures used in round
one, a final 40-item guidance tool was piloted with 35 individuals living with and beyond cancer. CONCLUSIONS: This work-focused guidance tool provides people living with and beyond cancer with a sense of empowerment by promoting a proactive approach when addressing work-related issues and encouraging effective communication with healthcare and other professionals. Novel aspects of the tool include its relevance for individuals with most types of cancer and in a variety of work situations. The results of the pilot study suggest that it is welcome and needed by those living with and beyond cancer to manage work-related issues. The Delphi technique is a practical and cost-effective method that may be adapted for use in a variety of healthcare contexts. CLINICAL IMPLICATIONS: The guidance tool aims to promote exchange of information between patients, healthcare professionals and other stakeholders, therefore has the potential to enhance communication between these groups. ACKNOWLEDGEMENT OF FUNDING: NATIONAL CANCER SURVIVORSHIP INITIATIVE (DEPARTMENT OF HEALTH AND CANCER MACMILLAN SUPPORT):

P3-23
Predictors of Distress in Cancer Patients Under Chemotherapy Treatment
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BACKGROUND: Cancer diagnosis and treatment promote a sense of vulnerability, sadness, and fear for patients, often resulting in distress. When this happen quality of life, satisfaction with care and treatment adherence can be greatly affected. Managing this situation may require to use a variety of coping strategies for psychosocial adjustment. The present purpose was to identify variables (sociodemographic, problem list, quality of life and coping) that predict moderate to severe distress (MSD) and mild distress (MD). METHOD: Two hundred patients from a brazilian cancer patients participate, answering before start chemotherapy (T1), halfway time point (T2) and at completion of treatment (T3): Distress Thermometer (DT) and Problem List (PL); Functional Assessment of Chronic Illness Therapy - General (FACT-G); Ways of Coping (WAYS). They were between 18–89 years old (M = 56.8; SD = 15), being 69.5% women, 63% married, and 55% had at least college degree.

The main diagnosis were breast (30%), hematology (22%) and gastrointestinal (17.5%), being 59.5% with advanced disease stage. Logistic regression were used to identify predictors of distress. RESULTS: At T1, predictors for MSD were married/divorced (χ² = 15.4; p = 0.05), housing (χ² = 19.2; p = 0.002), family (χ² = 11.5; p = 0.003) and emotional problems (χ² = 99.9; p = 0.000; R²_N = 53%); for MD: distancing/positive reappraisal (χ² = 42.1; p = 0.000). At T2, spiritual problems (χ² = 7.56; p = 0.006) and nausea (χ² = 52.9; p = 0.000; R²_N = 54%) for MSD; distancing, problem solving and positive reappraisal (χ² = 24.9; p = 0.001) for MD. At T3, only family problem [χ² = 5.5; p = 0.05] for MSD. CONCLUSIONS: There was a statistically significant reduction in distress and increased on quality of life over assessments. Our observation linking MSD to marital status (T1) and some problems at PL, and MD predicts coping strategies. This findings have a impressive prediction success, mainly for emotional (T1), and nausea (T2). Quality of life did not appear as a predictor. The same occur for age, gender, education, diagnostic and staging. Moreover, patients with MSD at T1 have an increase probability to present MSD at T2 and T3, which reinforces the literature data - the best predictors of later distress is early distress. RESEARCH IMPLICATIONS: Continued research is needed to understand how distress relates to quality of life, gender, age, cancer type and severity, treatment and symptom burden throughout the continuum of care. CLINICAL IMPLICATIONS: There is no doubt about the importance of detecting distress in cancer patients as early as possible, in order to facilitate rapid and targeted intervention for those who will need it most, as well as the importance of the follow-up. But, understand the predictors of distress during the treatment could be a key to improve cancer care, given more indicators to direct psychosocial care. ACKNOWLEDGEMENT OF FUNDING: None.

P3-24
A Preliminary Perspective of Distress Prevalence by Diagnosis and Disease Stage in a Sample of Brazilian Cancer Patients
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BACKGROUND: In 2001, a study demonstrated the prevalence of distress for 14 cancer sites in a study of 4496 cancer patients. They reported that the prevalence ranged from 43.4% for lung cancer to 29.6% for gynecological cancers. The present study aims to investigate the prevalence of distress by cancer sites in a brazilian cancer patients, during the chemotherapy treatment. METHOD: Participants comprised 525 patients who treat at private
cancer center, located at Brasília, DF, Brazil. They answered the Distress Thermometer (DT) before start chemotherapy infusion (T1), halfway time point (T2) and at completion of treatment (T3). The mean age of the participants was 55.6 years (range 18–89; SD = 15.5); 66.1% were female; 62.1% were married and 59.8% had at least college degree. The diagnosis were breast (26.1%), gastrointestinal (24%), hematological (22.5%), gynecology (9.3%), lung (6.9%), genitourinary (4.2%) and others types of cancer (7%). Descriptive analysis and linear regression of DT and diagnosis were carried out. RESULTS: The prevalence of distress at T1 range from 59.2% for gynecology cancer patient to 48.3% for hematological. At T2, this range from 27.7% for gynecology to 17.1% hematological. At T3, 17.4% for lung to 6.7% gynecology. The predictor of distress at T1 and T2 was gynecological (p < 0.05). Cancer site had a significant effect on DT at T2 (F = 2.7; p = 0.03). The prevalence of distress by disease stage where were highest for stage IV and lowest for stage I at T1 and T2, and stage III at T3. In this analysis, disease stage did not predict distress. CONCLUSIONS: Unlike study published in 2001, gynecology cancer patients showed to be the cancer site that report more frequently moderate to severe distress. In our study, lung cancer held the second position at T1, gastrointestinal at T2 and breast at T3. Probably the results obtained at T2 and T3 suffered the impact of the chemotherapy side effects; and for patients with advanced disease stage the perception of disease progress. Finally, the linear regression analysis determine gynecology cancer as a predictor of distress just for T1 and T2 assessment, and any cancer site for T3; either, any disease stage for all assessment. RESEARCH IMPLICATIONS: Future research should included patients from others cancer center, and others cities in Brazil, in order to establish the Brazilian prevalence. Moreover, to explore the relationship between distress and illness perception across time; and analyze if there is any effects for gender, or others demographc data. CLINICAL IMPLICATIONS: Draws attention the high prevalence of distress for all cancer site at T1, which confirms that cancer diagnosis is the time of greatest vulnerability to psychological morbidity; but, brings our attention to create strategy to minimize distress before patients start chemotherapy. The further reduction, brings us the idea that this results is not only derived from the patient’s adaptation to cancer and treatment, but also from our routine of cancer care. ACKNOWLEDGEMENT OF FUNDING: None.
associated with CR was physical problems. Moreover, TAC showed to be predictive of distress in T1 and T2. RESEARCH IMPLICATIONS: Our results indicate that CR predicts distress in all treatments phases. Nonetheless, the effects of chemo can be persisted even after the end of treatment; and breast cancer survivors have increased risk for distressful symptoms related to fear of recurrence, death and disability. More studies are thus needed to investigate those factors increasing the sample in order to make the data more generalizable. CLINICAL IMPLICATIONS: The findings suggest a very positive benefit from the discussion between psychologist and physician, in which side effects and distress during treatment are addressed. It is important to create a strategy to help cancer patients to deal with chemo, mainly for patients who report problems related to TAC and TXT. This strategy could be related to tailored psychosocial education, preventive care for side effects, psychological management intervention, coping strategies and should be reinforced regularly. ACKNOWLEDGEMENT OF FUNDING: None.

P3-26
Abstract withdrawn

P3-27
Screening and Treatment of Psychological Distress in Colorectal Cancer (CRC) With Metastasized Disease: The TES-Trial.
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BACKGROUND: We have developed the TES program, which involves Targeted selection and Enhanced care, delivered on the basis of Stepped care. Our goal is to present the design of the study. The primary study aim is to evaluate the effectiveness of the TES-program compared to usual care in reducing psychological distress in metastasized CRC patients. Secondary aims include the evaluation of the impact of the TES-program on several other outcome measures and to evaluate the cost-effectiveness.

METHOD: Study design
The study is designed as a cluster randomized trial with 2 treatment arms in 10 hospitals. The treatment arms are: the TES program versus usual care. Outcomes are evaluated at the 1st cycle of chemotherapy, after 3 weeks, 10 weeks, 24 weeks and 48 weeks. Study population: Patients with metastasized colorectal cancer, 18–85 years old, at start of treatment with 1st line chemotherapy. Interventions
The TES program, which involves Targeted selection (screening at 0, 10 and 18 weeks) and Enhanced care, delivered on the basis of Stepped care (from watchful waiting to psychotherapy), and usual care.

RESULTS: There are no results available yet.

CONCLUSIONS: There is no conclusion available yet.

RESEARCH IMPLICATIONS: This is the first randomized controlled trial on this scale in which a combination of Targeted Screening, Enhanced Care and Stepped Care is compared to usual care in reducing psychological distress in metastasized CRC patients. Furthermore the cost-effectiveness is determined.

CLINICAL IMPLICATIONS: The results of this study will show whether targeted screening, enhanced care and stepped care will have an impact on the levels of psychological distress in metastasized CRC patients. It will support guidelines in which screening and treatment is advocated or it will show that it cannot be assumed that implementation of screening and treatment leads to improvement in detection, management or outcome of psychological distress.

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P3-28
The Construction of Cancer Cause: From Identification to Psychosocial Dynamic
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BACKGROUND: Causality is one of the most important illness representations dimensions. For patients, the process that accompanies the identification of illness cause constitutes a key component of the “search for meaning”. The study purpose is -(1) THE TYPOLOGY OF CAUSE PRODUCED BY PATIENTS: -(2) the potential role and impact of the construction of cancer cause by patients on different dimensions of illness experience of patients (coping, psychological distress, quality of life).

METHOD: The survey was conducted using a self-administered questionnaire amongst 110 cancer patients (67.3% males; mean age 62.4) with chemotherapy treatment from the multidisciplinary oncology and therapeutic innovations department of Marseille North University Hospital (France). Illness representations were assessed with the Brief IPQ (Broadbent et al., 2006). Responses to the causal item (open-ended response item) were grouped into categories (psychological, internal, external
and accident. The MAC (Watson et al., 1988) was used to measure mental adjustment of patients; the HADS (Zigmond & Snaith, 1983) to assess psychological distress, and the QLQ-C30 (Aaronson et al., 1993) to evaluate quality of life. RESULTS: The principal cause cited by patients is the internal cause. Almost twenty percent of patients does not evoke any cause to their cancer. Women declare more psychological cause and less external cause than men. Smokers or ancient smokers declare more internal cause and less psychological cause than non-smokers. Patients who report psychological causal attribution present more anxious preoccupation adjustment. Patients who report internal causal attribution have higher scores on anxiety, depressive and anxious preoccupation adjustment, and lower score on fighting spirit. Patients who do not report causal attribution have higher scores on anxiety and depression. CONCLUSIONS: The research of aetiology of cancer is a major part of cancer acceptance for cancer patients. Even if this question is hidden behind defense mechanisms and collective social influence it is at the origin of many misunderstanding in doctors/patients relations. Psycho-oncology has now many tools to understand the unconscious cause of cancer in patients. This could be the way to have a better approach of cancer cause meaning. RESEARCH IMPLICATIONS: Absence of cause as presence of multiples causes or links between some causes and psychological components, constitute a heuristic way to analyze illness experience. In other words, what is the function of causal attribution? Future work will aim to identify the processes involved into the “construction of the cause” (e.g. coping, identity issues, social norms, changes due to the experience of illness, psychosocial constraints associated the evocation of the cause). CLINICAL IMPLICATIONS: Because of its limitations, the process of identification of cancer cause needs to be questioned by the psycho-oncologists in a psychosocial way. The psycho-oncologists could accompany patients concerning their construction of the cause, because this elaboration may produce some suffering (e.g. anxiety, depression, guilt). This kind of study allows to identify and to analyze the psychological needs of patients in a pragmatic and applied way in the perspective of supportive care in oncology.

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P3-29
A Breast Cancer Specific Screening Questionnaire for Psychosocial Problems: The PDQ-BC
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BACKGROUND: Although different psychosocial screening instruments exist, these instruments are all generic and not cancer type specific. To assess psychosocial problems and risk factors specifically relevant for patients with breast cancer, we developed the Psychosocial Distress Questionnaire-Breast Cancer (PDQ-BC). The aim of this study was to examine the psychometric properties of the PDQ-BC, a breast cancer specific screening list.

METHOD: Before the start of adjuvant chemotherapy, 164 (98.8%) women completed the PDQ-BC as routine care. The PDQ-BC consists of 35 questions about psychological risk factors (trait anxiety, (lack of) social support), psychosocial problems (state anxiety, depressive symptoms), social problems, physical problems, body image, financial problems, sexual problems, clinical factors (type of surgery, radiotherapy, hormone therapy, psychiatric morbidity), and demographic factors (marital status, age, age of children). Varying numbers of patients also completed the WHOQOL-100, the CES-D, the DT, and the HADS. Fifty-four patients completed the PDQ-BC twice (one week interval). CFA, Pearson correlations, ICC, and chi-Square tests were used. RESULTS: CFA supported the internal structure of the PDQ-BC (CFI = 0.95 NNFI = 0.91; RMSEA = 0.073). The PDQ-BC subscales’ Cronbach’s alphas ranged from 0.69 to 0.88, except for Social problems (0.42). Moderate to high correlations (r ≥ 0.44) were found between subscales of the PDQ-BC and the other questionnaires where expected. Low correlations with other questionnaires were found when expected. The subscales Trait anxiety and State anxiety had a high correlation with the CES-D. The subscales State Anxiety and Depressive symptoms (PDQ-BC) had a good sensitivity (87.5–86.8) and specificity (81.1–73.0). Completion of the PDQ-BC takes about 5 minutes. CONCLUSIONS: This study shows that the breast cancer specific screening instrument PDQ-BC has good psychometric properties and takes only a few minutes to complete. RESEARCH IMPLICATIONS: The PDQ-BC can be used in intervention studies in which breast cancer patients scoring high on psychosocial problems are included in studies examining the effectiveness of innovative psychosocial interventions. CLINICAL IMPLICATIONS: Considering the psychometric properties of the PDQ-BC, this screening instrument can be used to screen for psychosocial problems in patients with breast cancer as part of routine care. ACKNOWLEDGEMENT OF FUNDING: None.
**P3-30**

**Trends in Cancer Distress: Results of a Representative Population-Based Investigation**

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**BACKGROUND:** Hungary has the highest rate of cancer deaths in Europe, but trends in cancer distress are still unknown. In the last decade depression has increased in the general population, in both genders with an ascending pattern through age-categories. This study aims to inform about major tendencies in the modification of depression and well-being among cancer patients, specific to the Hungarian context. There are no previous longitudinal investigations on psychosocial aspects of cancer diseases in Hungary.

**METHOD:** Our study is based on data obtained from the Hungarostudy Epidemiological Panel (HEP). HEP is a nationally representative follow-up survey assessing health-related functioning in the Hungarian adult population. Self-report data were collected in two waves: the first set of the data in 2002, and the second one in 2005/2006. Our results are based on the complete results of 4524 participants. In the initial sample 6.5% of respondents reported that they had been treated for cancer, 214 were female and 64 were male. The WHO Well-being Index and Beck Depression Inventory were completed. Non-parametric tests were used in all statistical analyses.

**RESULTS:** Half of cancer patients deceased from 2002 to 2006, a third of them are in remission and 17% experienced cancer recurrence in this period. Although cancer mortality during this time was 26% higher for men compared to women, gender had no or marginal impact on levels and trends of cancer distress. Our results indicated declining trends in self-efficacy, sense of coherence and satisfaction with life, and ascending patterns for hostility and subjective well-being. Effect sizes were small to medium. Median depression scores were significantly higher in the recurrence group than that in remission, but overall they showed no relevant changes.

**CONCLUSIONS:** In this longitudinal study high cancer mortality rates were confirmed as significant factors associated with psychosocial burden of cancer were highlighted. For depression a ceiling effect was found, that contributes to invariable divergent health effects over time though cancer patients might counterbalance these influences with “response shift” adaptation processes, reflected in favorable changes of subjective well-being. Recurrence in cancer and male gender negatively impact trends in cancer distress and mortality, but lower well-being has significant effect only on women. There are no significant differences according to gender and age in depression. Satisfaction with life showed the strongest decrease in time.

**RESEARCH IMPLICATIONS:** A very important question refers to the cultural specificity of our results. This longitudinal study from a large representative sample of the Hungarian population is a model of best research for the Central Eastern European region, including Romania, where Hungarians are one of the largest minority groups. Although we did not set forth to establish causal relationships between investigated variables, future studies should address them between positive-negative affects and trends in cancer morbidity.

**CLINICAL IMPLICATIONS:** Practical value of our results consists in the delineation of tendencies, and the identification of specific groups that may be more vulnerable to changing trends in cancer distress. Also, our results imply that unchanging depression values observed in this sample might be attributed to the extent to which depression remains uncontrolled among persons treated for cancer, making distress screening and treatment of depression clinical priorities.

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**P3-31**

**Monitoring Quality of Life (QoL) and Distress in Patients With Breast Cancer: The Care Notebook Study**


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**BACKGROUND:** Research has demonstrated that problems and needs of patients with cancer are not always adequately identified by health care providers. Regular assessment and discussion of QoL has shown to have beneficial effects on patient-provider communication and Patient Reported Outcomes. A study was initiated at the Clinical Oncology Department of the Leiden University Medical Center to incorporate repeated assessment of QoL, distress and care needs into the routine care for patients with early stage breast cancer.

**METHOD:** A breast cancer specific QoL-monitor was constructed containing two validated QoL questionnaires (EORTC BR23 & Care Notebook), the Distress Thermometer, one free text dialog box for questions for the doctor, and one question about supportive care needs. A graphic summary was designed that showed current and all previous results from the QoL-monitor in the electronic patient dossier (EPD). Semi-structured interviews were conducted with 10 women with breast cancer.

**RESEARCH IMPLICATIONS:** A very important question refers to the cultural specificity of our results. This longitudinal study from a large representative sample of the Hungarian population is a model of best research for the Central Eastern European region, including Romania, where Hungarians are one of the largest minority groups. Although we did not set forth to establish causal relationships between investigated variables, future studies should address them between positive-negative affects and trends in cancer morbidity.

**CLINICAL IMPLICATIONS:** Practical value of our results consists in the delineation of tendencies, and the identification of specific groups that may be more vulnerable to changing trends in cancer distress. Also, our results imply that unchanging depression values observed in this sample might be attributed to the extent to which depression remains uncontrolled among persons treated for cancer, making distress screening and treatment of depression clinical priorities.

**ACKNOWLEDGEMENT OF FUNDING:** This work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS - UEFISCDI, project number PN-II-RU-TE-2012-3-0011.
Patients were asked to evaluate the content of the monitor on a 5-point Likert scale and to comment on their answers. Basic thematic analysis was used for the qualitative data. RESULTS: All patients thought the questions were easy to understand and applicable to their situation. All patients considered the questionnaire to be complete with no redundant items. With regard to the expected benefits, patients expected the questionnaire results could serve as a checklist, reducing chances of missing important information. In addition, patients expected that the monitor may facilitate the discussion of personal or intimate topics. Some patients were concerned that the introduction of the monitor would lead to an information overload for physicians. Two patients doubted whether the QoL monitor would improve the already high quality of care. CONCLUSIONS: Results from this study showed that in general, patients held a positive attitude towards the QoL-monitor. The instrument proved easy to understand and was considered as a comprehensive checklist for patients and physicians, possibly broadening the agenda of the conversation. For most patients the anticipated benefits of the assessment outweighed the burden of regularly completing the questionnaires (before each new cycle of chemotherapy). Nevertheless, patients occasionally were unsure about how the QoL information would be used in daily practice. RESEARCH IMPLICATIONS: This study has been followed by a multicenter randomized controlled trial in which the effect of a breast and lung cancer specific QoL-monitor is investigated. Study outcomes are consult variables (patient-provider interaction content, patient management, visit length) and Patient Reported Outcomes such as QoL, distress, patient satisfaction, illness perceptions and self-efficacy with regard to communication. CLINICAL IMPLICATIONS: To increase the discussion of QoL data during the visit, we now provide patients with a copy of the graphical summary of their QoL data just before the consultation. Furthermore, physicians receive a notification each time new QoL-data has been added to patients' EPD. Finally, all physicians have received a pocket guideline recently issued by the Dutch Comprehensive Cancer Centers with information about how information about QoL and distress can be used in daily practice. ACKNOWLEDGEMENT OF FUNDING: This project was supported by a grant from Pink Ribbon, the Netherlands.

P3-32
Psychometric Properties of the Hospital Anxiety and Depression Scale for Cancer Patients in the Mexican Population
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BACKGROUND: Symptoms of anxiety and depression are among the major mental health problems in cancer patients affecting quality of life, treatment adherence and more symptoms. Valid and reliable screening instruments such as the Hospital Anxiety and Depression Scale (HADS) has made possible the detection of possible cases of depression and anxiety in medically ill patients. The psychometric properties of this instrument have not been documented in different types of cancer diagnoses in the Mexican population. METHOD: Determine the psychometric properties of the HADS in a sample of patients with cancer in the Mexican population. 400 patients from the National Cancer Institute participated, of which 226 were women (56.5%) and 174 were men (43.6%), with a mean age of 47.4 ± 14.1 years. Participants completed concurrently the HADS as well as the following inventories: i) Beck Depression ii) Beck Anxiety, iii) Stress Thermometer. The sample of participants was obtained during consultations of Medical Oncology Services, Surgery, Radiotherapy and Psycho-oncology during the period from June to December 2012. RESULTS: A factor analysis adjusted to two factors explained 44.29% of the variance with 13 of the 14 items loading on these two factors in a way similar to the original version. The internal consistency of the overall scale was satisfactory (α = 0.82). Cronbach’s alphas for each subscale were .73 and .76. The concurrent validity assessed by way of correlations with concurrent measures showed significant associations (Pearson r = 51–71, p < 0.05). CONCLUSIONS: The HADS has adequate construct validity, internal consistency and concurrent validity for use in cancer patients from the Mexican population. The relevance of these results is a cost effective tool to provide timely mental health care

How to Understand What Breast Cancer Patients Say About Their Distress? When Suppression Talks About of the Adaptation of Patients

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BACKGROUND: Results from Psycho-Oncology research vary in terms of the prevalence, intensity, and nature of anxiety and depression issues for patients evaluated by self-reported data. Clinical practice demonstrates large differences between the way distress is communicated and the way it is experienced, which may explain the diagnostic difficulties. METHOD: Objectives: To determine the intrapsychological factors explaining the difficulties in the evaluation of distress in Psycho-Oncology, using a scientific and clinical research approach. Prospective study. Sample: One hundred and one patients with breast cancer (initial or recurrence treatment). Instruments: Hospital Anxiety and Depression Scale (HADS), Rorschach-CS. Exploratory clinical and inferential statistical analyses. RESULTS: Our results concern two groups of anxiety-depressive patients: the Verbalise group, verbalizing psychological distress on HADS and identified on Rorschach, and Silence group, who did not express distress on HADS. Our approach compares clinical and qualitative analysis with statistical analysis of quantitative data. Our results reveal three intrapsychological variables that predict the adjustment of the communication of emotional distress: emotional inhibition, relational immaturity, and impact of situational stress. These factors allow us to establish, according to the interaction that they have with each other, two psycho-logical dynamics: a neurotic-type functioning for Silence adjustment and an operative functioning for Verbalise adjustment. CONCLUSIONS: Our approach uses quantitative aspects of the nomo-thetic function of the HADS and the Rorschach-CS, and qualitative properties of the evaluation of psychological and subjective activity. As part of the standardized clinical methodology, the precision enabled us to isolate salient variables for the functioning of subjects in each of our analysis groups, and facilitated the comprehension of the particular underlying psychological dynamics. The statistical analysis of the quantitative data obtained in the second step, enabled us to extend the results in the aim of developing more pertinent diagnostic methods for appropriate follow-up. RESEARCH IMPLICATIONS: The research must integrate conscious and unconscious dimensions of the psyche. This research allows us to envisage a richer interpretation of the results obtained with the quantitative scales of self-assessment CLINICAL IMPLICATIONS: A better interpretation of scientific results evaluating distress will allow better care and appropriate support for cancer patients. ACKNOWLEDGEMENT OF FUNDING: GEFLUC AQUITAINE (GROUPEMENT DES ENTREPRISES FRANÇAISES DANS LA LUTTE CONTRE LE CANCER):

Examining the Sustainability of Screening for Distress, the 6th Vital Sign, in 2 Outpatient Oncology Clinics

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BACKGROUND: Research indicates that cancer patients often experience significant distress during their cancer journey. Attention has shifted from if we should screen for distress to implementation. Routine Screening for Distress was implemented in two tumour groups at the Tom Baker Cancer Centre, Calgary, Alberta Canada in May 2010. The implementation was supported by program staff and December 2011 marked the completion of the implementation. This study examined the sustainability of Screening for Distress post-implementation. METHOD: A mixed-method cross-sectional design was utilized. To determine if screening rates, screening conversations and appropriate interventions occurred, the charts of 184 consecutive patients attending the head and neck or neuro-oncology tumour clinics over a three week period in May 2012 were reviewed. To examine the barriers and facilitators of sustainability 16 semi-structured interviews with administrators, physicians, and nurses were conducted from June-August 2012.
RESULTS: Of the 184 charts that were reviewed, 163 (88.6%) had completed screening tools on them. Of this 163, 130 (79.8%) of the charts indicated a conversation occurred with the patient about the screening tool. Of the 89 (54.6%) charts where the need for an intervention was indicated, 68 (76.4%) had an intervention documented. Six oncologists, 7 nurses, and 3 administrators were interviewed and five themes which influenced the sustainability of the program emerged: 1) attitudes, knowledge and beliefs about the program, 2) implementation approach, 3) outcome expectancy of providers, 4) integration with existing practices, and 5) macrosystem factors CONCLUSIONS: Patients continued to be screened 6 months after the completion of the implementation and nearly 80% of the charts indicated a conversation took place and an intervention was provided when warranted. This data suggests that screening was being sustained in the clinics but also highlight areas of improvement as they are slightly lower than the target of 90%. Based on the feedback from participants, sustainability may be enhanced and rates improved by ensuring that new staff are appropriately orientated to screening, by better integrating with existing practices, and by rolling out to all groups as a standard of care. RESEARCH IMPLICATIONS: Building on this work, future research is needed to explore strategies, including barriers and facilitators, to effectively integrate Screening for Distress with existing practices. Additionally more research is needed to explore what interventions are being provided and their alignment with best practices. CLINICAL IMPLICATIONS: This research suggests that Screening for Distress can be sustained as a clinical program beyond the completion of funding. Clinicians who are interested in integrating routine screening as part of their clinical practice are likely to find screening as a useful tool that enhances patient-provider communication; however, when integrating screening they should ensure the integration of screening with existing practices to optimize sustainability. ACKNOWLEDGEMENT OF FUNDING: Tom Baker Cancer Centre, Alberta Cancer Foundation, Psychosocial Oncology Research Training Program, Knowledge Translation Canada, and the Canadian Institute for Health Research.

P3-35

The Development and Validation of the Paediatric and Young Adult Distress Thermometer for Use With Oncology Patients

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BACKGROUND: To develop and validate a new version of the distress (worry and memory) thermometer for use in paediatric and TYA oncology populations To pilot the developed tool for ease of use and content and design, and what was missing To compare screening tool against recognised gold standard measures. To assess the sensitivity and specificity of the new tool To develop clinically relevant cut off points for referral purposes

METHOD: 1. cross sectional questionnaire design 2. Patients will be assessed using consecutive series of paediatric and young adult oncology patients 3. exclusion criteria:

- Estimated prognosis < 3 months,
- Not able to speak or read English. The sample size is \( N = 108–215 \) per age group = 540–1075 in total.

TOOL DEVELOPMENT: A. Focus groups held with patients. Issues used to form the problem/coping list. B. Field testing. Five parallel developmentally sensitive versions with parent proxy thermometers were piloted (\( n = 45 \)). C. Validation. Validated against gold standard measures and cut off points established. RESULTS: Pilot results: The age and developmentally-appropriate psycho-social screening tools were acceptable to patients and parents/carers, in terms of ease of use, design, content and accuracy of problem identification. Validation results: 260 participants recruited, 5 collaborating centres. CONCLUSIONS: Field testing of tool completed. Validation to be completed and then further research to be carried out using the tool prospectively both in clinic and remotely. Pilot the tool in clinic settings with the accompanying action plan and audit use, referral rate and actions taken. Drawing up of good practise guidelines with regards to a phlyzing this Health Needs Assessment (HNA) Tool in line with NICE and peer review guidelines, and ensuring repeated use during the patient pathway. New development and use of distress thermometer in paediatric and TYA settings using developmentally appropriate versions (under 5, 5–7, 8–12, 13–15 and 16–24 versions).

Research Implications. The development of this tool will inform further research into screening for psychological and learning and memory problems. Further research would usefully incorporate a family screening thermometer to ensure a more systemic approach is adopted when dealing with families where there is a diagnosis of cancer, and therefore acknowledging the impact upon the whole family and wider family system. The new tool could be used strategically throughout the patient pathway and add to risk assessment strategies. CLINICAL IMPLICATIONS: This is an important development to enable clinicians to screen either face to face or remotely for psychological, memory and learning problems and then take action to ensure those who need or want help can access the support they need. This is an easily administered screening tool which can be used by any trained member of staff and ensure that
Patient’s needs are being met. This can be used as a repeated outcome measure. ACKNOWLEDGEMENT OF FUNDING: Funding from National Cancer Survivorship Initiative (NCSI).

P3-36
Phenomenology of Subsyndromal Delirium in Postoperative Esophageal Cancer Patients
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BACKGROUND: Delirium is a common complication of cancer and it should be diagnosed as early as possible because it is a sign of underlying critical physiological disturbance. In recent studies the significance of subsyndromal delirium is pointed out as early sign of delirium. In this study, to elucidate early, prodromal symptoms of delirium, we conducted a prospective observational study in postoperative esophageal cancer patients without dementia. METHOD: 28 esophageal cancer patients (Male 27, Female 3) without dementia (MMSE > 23) aged from 52 to 79 years scheduled for esophageal transection (29: thoracoscopic and laparoscopic esophagectomy; laparoscopic esophagectomy) in Kyoto University Hospital were successively enrolled in this study. We assessed symptoms and severity of delirium using the Delirium-rating scale revised 98 (DRS-R98) (Trzepacz 2001) on postoperative day 2 and 6 longitudinally. RESULTS: All the scores of DRS-R98 on postoperative day 2 were over 3 suggesting that they have subsyndromal delirium to some degree. Frequencies of each symptom on postoperative day 2 were sleep-wake disturbance 100%, Hallucination 100%, Attention deficit 63%, Liability of affect 59%, disorientation 44%. One subject died from anastomotic leak on day 4. On postoperative day 6, all the scores were reduced except for a score of a subject who died from anastomotic leak on day 8. CONCLUSIONS: According to DSM-4, the essential features of delirium are disturbance of consciousness with reduced ability to focus, sustain or shift attention and a change in cognition or the development of a perceptual disturbance. Though subsyndromal delirium (SSD) dose not fully meet the criteria of delirium, it is suggested that it had higher mortality and decline in activities of daily living. Our results were consistent with the previous studies about SSD and the importance of early detection of symptoms such as sleep-wake cycle disturbance, hallucination, attention deficit, and liability of affect were suggested. ACKNOWLEDGEMENT OF FUNDING: None.

P3-37
Psychosocial Risk Factors for Depression in Patients With Hematological Malignant Diseases Who Were Going to Receive Hematopoietic Stem Cell Transplantation
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BACKGROUND: Hematopoietic stem cell transplantation (HSCT) is an alternative to conventional treatment for adults with hematological malignant diseases. Because HSCT is associated with life-threatening physical morbidity, lengthy convalescence, and social isolation, the potential for significant psychosocial morbidity is high. The aim of this study was to investigate psychosocial risk factors for depression in Japanese patients with hematological malignant diseases who were going to receive HSCT. METHOD: Subjects consisted of 208 adult patients with hematological malignancy receiving HSCT between September, 1996 and April, 2013 at the University of Tokyo Hospital. Patients were asked to complete Hospital Anxiety and Depression Scale, Rosenberg Self-Esteem Scale, Social Support, State-Trait Anxiety Inventory (STAI) and Stress Coping Inventory (SCI) before HSCT. The subjects were divided into groups with or without depression using the Hospital Anxiety and Depression Scale. RESULTS: Multiple logistic regression analysis showed a significant association between depression and trait anxiety. In addition, emotion-focused coping tended to have an association with depression. CONCLUSIONS: Depression was most strongly linked with trait anxiety and coping style, and using screening instruments to identify these factors may be useful for preventive interventions. RESEARCH IMPLICATIONS: The present study indicates that depression in patients before HSCT might be associated with trait anxiety and coping style. However, the present study was cross-sectional. Therefore, prospective studies are needed in the future. CLINICAL IMPLICATIONS: This study indicates that depression is linked with trait anxiety and coping style, and using screening instruments to identify these factors may be useful for preventive interventions. ACKNOWLEDGEMENT OF FUNDING: None.
P3-38
Distress Screening by Distress Thermometer in a Community Psycho-Social Oncology Center - Sharing of the Local Experience in Hong Kong
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BACKGROUND: Mood disturbance often occurs among cancer patients and their families. Early detection of distress with suitable intervention might help the affected to cope better throughout the cancer trajectory. Systematic distress screening is an important means to detect early distress. In 2012, Hong Kong Cancer Fund began a trial project of distress screening among all new users of its three cancer care centres. The present study aims to share some preliminary findings of this project.

METHOD: All new service users from June to December 2012 including cancer patients, family members or friends were invited to complete the Distress Thermometer (DT) and the Problem Check List (PL) (NCCN, 2008) during their initial visit to CancerLink. Clinical assessment by social workers were arranged if the users' DT level was equal to or above 4 (NCCN, 2008). An individualized intervention plan was designed for users in order to reduce their distress level. The distress level of the users was periodically checked utilizing the DT & PL to evaluate their progress.

RESULTS: 455 sets of DT and PL data were collected from our new service users (342 patients, 108 carers and 5 friends). 64% had DT levels ≥ 4. Carer distress levels were significantly higher than that of patients (carers: mean = 5.61, patients: mean = 4.60, p < 0.01). The distress level for users in the diagnostic phase was the highest compared with other phases (diagnostic phase: mean = 6.47, p < 0.01). With regards to PL, both patients and carers had similar levels of physical problems (patients: mean = 15.46, carers: mean = 15.82).

CONCLUSIONS: Over 60% of cancer patients and carers had DT level over 4, indicating distress was prevalent which is consistent with previous findings. Our findings also demonstrated that the carers had significantly more stress than patients, and that they also experienced physical disturbances comparable to that of patients, even though they did not undergo cancer treatment themselves. Patients at diagnostic phase experienced more distress than in other phases. More data analysis will be shown in the presentation. RESEARCH IMPLICATIONS: The carers experience higher stress when compared with the patients. Further research is required to investigate on factors contributing to the higher distress among carers. Besides, the high distress level of the service users who were in diagnostic phase might be a transient distress and requires further analysis.

CLINICAL IMPLICATIONS: As a cancer care service provider, the physical health and high distress of carers should also be addressed. Apart from our cancer support centre, hospitals should also systematically carry out distress screening in order to identify and intervene in the lives of distressed patients and carers at an earlier stage.

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P3-39
Associations Between Psychological and Physical After-Effects in Women Undergoing Colposcopy and Related Procedures for Follow-Up for an Abnormal Cervical Smear
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BACKGROUND: If cervical screening is to be effective, women with abnormalities on smear tests require follow-up. One follow-up option is a colposcopy examination. It is known that undergoing colposcopy and related procedures, such as biopsy/treatment, can be distressing for women. Less is known about the psychological and physical after-effects and whether there are associations between the two. We investigated prevalence of women’s psychological and physical after-effects following colposcopy and related procedures and inter-relationships between these.

METHOD: Women referred for colposcopy following an abnormal smear result completed questionnaires 4 months following their initial colposcopy at two hospitals in Ireland. Anxiety and depression was assessed using the Hospital Anxiety and Depression Scale (HADS; significantly anxiety, HADS subscale score ≥ 11; significant depression, HADS subscale score ≥ 8). Specific worries (next smear being abnormal, future fertility worries and concerns about cervical cancer) were measured using the Process Outcome Specific Measure. Details of physical after-effects (pain, bleeding and discharge) experienced following colposcopy and related procedures were collected. RESULTS: 425 of 584 women completed questionnaires (response rate = 73%). Prevalence of clinically significant anxiety and depression was 21% and 8% respectively. 69% were worried about their next smear being abnormal, 56% had concerns about future fertility and 36% had worries about cervical cancer. The reported prevalence of pain, bleeding and...
discharge following colposcopy and related procedures was 56%, 65% and 38%, respectively. Overall, 80% of women reported one or more physical after-effect. Women with significant depression were more likely to report pain or have bleeding for >7 days. Women with significant depression were more likely to report having experienced moderate/severe pain. CONCLUSIONS: High proportions of women report anxiety and worries 4-months following colposcopy and related procedures. Similarly, high proportions report physical after-effects. To our knowledge, this is the first study to show that there are inter-relationships between these after-effects. RESEARCH IMPLICATIONS: These findings suggest that ensuring that women are fully informed about the likelihood of physical after-effects may help to minimise anxiety: research is required to determine whether this is the case. CLINICAL IMPLICATIONS: Clinicians and nurses need to be fully aware of the psychological and physical after-effects experienced by women following colposcopy and related procedures, so that they can provide support, reassurance or advice if required by women. ACKNOWLEDGEMENT OF FUNDING: This research was funded by the Health Research Board, Ireland.

P3-40
Prevalence and Predictors of Anxiety and Worry in Women After Colposcopy: A Longitudinal Study
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BACKGROUND: Organised screening is effective in reducing cervical cancer incidence. Women with abnormal cytology require follow-up and many are referred for a colposcopy examination. Studies have reported raised anxiety levels prior to and during the examination. Less is known about the psychological after-effects, and the issues that concern women. This study aimed to estimate prevalence of anxiety and specific worries at 4, 8 and 12-months post-colposcopy and identify women most at risk of suffering psychological after-effects. METHOD: Women referred for colposcopy following an abnormal smear result completed questionnaires 4-, 8- and 12-months following their initial colposcopy at two hospitals in Ireland. Anxiety was assessed by the Hospital Anxiety and Depression Scale (HADS). Worries about future fertility and cervical cancer were assessed by the Process Outcome Specific Measure (POSM). Prevalence of significant anxiety (HADS anxiety subscale score ≥11) and each worry was estimated at each time-point. Multiple logistic regression models were developed to identify predictors of risk of anxiety and each worry. RESULTS: 584 women were recruited (response rate=73%, 59%, 52% at 4, 8, and 12 months). Over 12 months, prevalence of significant anxiety remained steady (21%, 23% and 20% at 4, 8 and 12 months). Worry about future fertility was the most common worry; 56% were worried at 4 months, declining to 47% at 8 months and 39% at 12 months. Cervical cancer worries fell from 36% at 4 months to 23% at 12 months. In multivariate models, being younger and having ever had depression, a lower satisfaction with life/healthcare, no private health insurance, and less social support were significantly associated with increased risks of anxiety and worries post-colposcopy. CONCLUSIONS: High proportions of women attending colposcopy report anxiety or worries afterwards. While worries declined over time, the proportions affected remain high at 12 months. Various socio-demographic and other factors are associated with an increased risk of psychological distress post-colposcopy. RESEARCH IMPLICATIONS: This study highlights that colposcopy and related procedures can place a significant psychological burden on women. Research into appropriate interventions that target “vulnerable” women and reduce this burden is urgently required. Research is also needed into whether this burden impacts on compliance with follow-up or future cervical screening intentions. CLINICAL IMPLICATIONS: Clinicians and other medical professionals involved in the follow-up of women with abnormal cytology should be aware of the psychological after-effects experienced by women following colposcopy and related procedures. They also need to be aware that certain groups of women are at higher risk of suffering adverse psychological after-effects and may benefit from support. ACKNOWLEDGEMENT OF FUNDING: This research was funded by the Health Research Board, Ireland.

P3-41
The Distress Thermometer and The PHQ-2 for Ultra-Brief Screening Depression Of Cancer Patients In Korea
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BACKGROUND: The development of ultra-brief screening tools using in busy clinical settings is
important to help clinician recognize depressive patients with cancer. This study aims to examine the performance of the Distress Thermometer (DT) and the Patient Health Questionnaire-2 (PHQ-2) as a one or two-item screening tool to identify depression in Korean patients with mixed cancer. METHOD: Thirty hundred and fifty four patients with mixed cancer were recruited in five hospitals completed the DT, the PHQ-2, and the Hospital Anxiety Depression Scale (HADS) from March to May 2009. The performance of each tool was examined against major depressive disorder based on the Korean version of the Mini International Neuropsychiatric Interview’s (MINI) for their sensitivity and specificity. RESULTS: Receiver operating characteristic (ROC) curve analyses identified a DT score of 5 as the optimal cut-off with sensitivity and specificity of 0.71 and 0.75. A PHQ-2 cutoff score of 2 was considered optimal with sensitivity and specificity of 0.83 and 0.72. Discrimination levels were comparable for the DT (area under the curve (AUC) 0.79) and the PHQ-2 (AUC 0.83). Overall performances of these ultra-brief tools were also comparable with HADS, a 14-item scale (AUC 0.82). CONCLUSIONS: One or two-item questions as the DT and the PHQ-2 can be useful screening tools for depression in oncology clinical practice. Compared with the DT, the PHQ-2 appears to show higher sensitivity detecting depression in Korean patients. RESEARCH IMPLICATIONS: This is the first study to validate depression screening tools against depressive disorder based on structured interview in Korean patients with cancer. CLINICAL IMPLICATIONS: Compared to a long-item scale, ultra-brief screening tools consisting of one item or two items can be efficacious for screening depressive disorder in cancer care. ACKNOWLEDGEMENT OF FUNDING: This study was supported by a grant from the National R&D Program for Cancer Control, Ministry for Health and Welfare, Republic of Korea (grant number: 0820340).

P3-42
Distress in Women Recently Diagnosed With Breast Cancer
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BACKGROUND: The Distress Thermometer (DT) is a validated instrument, recommended by National Comprehensive Cancer Network to screen for distress in cancer patients. The uniqueness of this study is that it explored the level of distress, the problems women experienced and the request for referral to a professional shortly after the diagnosis of breast cancer and before treatment started. METHOD: This study used cross-sectional data from the trial Nurse Intervention Project about the use of the DT. Women newly diagnosed with breast cancer in a university hospital were asked to fill in self-reported questionnaires. Distress was assessed with the DT and the Hospital Anxiety and Depression Scale (HADS). Cut-off point of ≥ 5 on the DT was used for distress and cut-off point of ≥ 7 was used for severe distress. Scores ≥ 15 on the HADS were used for clinically significant emotional distress. RESULTS: Of 198 patients, 117 (59%) experienced distress (DT ≥ 5) and 68 patients (34%) severe distress (DT ≥ 7). Mean (SD) DT score was 5 (2.8). The most frequently reported problems were nervousness (79%), anxiety (58%), sleep (54%), emotional control (49%) and fatigue (42%). Eighty-four patients (42%) of the total group and 62 (53%) of the distressed patients requested or considered a referral to a professional to talk about their problems. Mean (SD) HADS score was 11.4 (7.8) and 63 patients (32%) scored ≥ 15. Patients with distress measured by the DT scored also significantly higher on the total score of the HADS. CONCLUSIONS: A recent breast cancer diagnosis resulted in distress in 59% of the patients. Problems in the emotional domains of the DT were reported more than in the domains of physical, social or relational problems. Half of the distressed patients expressed or considered a referral to a professional shortly after diagnosis. The optimal cut-off point of the DT shortly after (breast) cancer diagnosis may be discussed. RESEARCH IMPLICATIONS: Not unexpectedly, a high level of distress was measured with the DT in patients with a recent diagnosis of breast cancer. The used cut-off point of 5 may not be specific enough in the screening for distress after diagnosis. We are currently investigating the optimal cut-off point of the DT shortly after the breast cancer diagnosis and in the course of the disease. Preliminary results will be presented. CLINICAL IMPLICATIONS: Following the patient with the DT from diagnosis is important to signal, prevent and decrease distress. Nurses and other professionals should be aware of the impact of the breast cancer diagnosis on the patient. They should proactively discuss with patients the opportunity for referral to a professional if needed and/or wished for. ACKNOWLEDGEMENT OF FUNDING: This study is funded by Pink Ribbon, the Netherlands.
The Dynamics of Perceived Control on the Evolution of Emotional Distress in Women With Breast Cancer
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BACKGROUND: Emotional state is overall affected the first year after breast cancer diagnosis. Perceived control of the disease and his changes seem to be crucial for the regulation of patients’ emotional state. Our study focuses on the development of emotional distress up to a year after surgery, and the evolving in time of perception of disease control, and tries to show that this change represents a risk factor for the development of the patients’ emotional distress. METHOD: 115 patients ($M = 56.56, SD = 10.07$) with a first breast cancer were interviewed during their hospitalization. Women who had had cancer or chemotherapy before surgery, not reading or not understanding French were excluded. Emotional distress was assessed with the Hospital Anxiety Depression Scale (HADS) at the time of surgery (T0), then 1, 4, 7, 10 and 13 months after surgery (T1 to T4). Control was assessed by the Cancer Locus of Control Scale (CLCS) at T1, T2, T3 and T4. We attend to found 4 trajectories of emotional distress.

RESULTS: We confirm 4 groups: “resilient” group with low basal level, decreasing significantly ($t = -3.45, p < 0.001$); “stable” group with a basal level slightly higher constant level over time; “deferred” group with a medium level at T0, which increased significantly ($t = 33.33, p < 0.001$); “chronic” group with high emotional distress that remains constant over time. Low perceived control reduces the probability of belonging to the resilient group ($OR_{adj} = 0.227, IC95\% = [0.062;0.836]$) and to the stable group ($OR_{adj} = 0.175, IC95\% = [0.045;0.688]$) compared to the increasing risk of belonging to the deferred group ($OR_{adj} = 4.41, IC95\% = [1.19;16.23]$).

CONCLUSIONS: The first research interest is to introduce developmental trajectories of emotional distress and to find the factors who explain these developmental trajectories. We propose that future research focuses on the evolution of the overall quality of life of patients and potentially mediating role of coping strategies. CLINICAL IMPLICATIONS: The clinical interest of this work is to show that patients with low scores, or a decrease in the perception of control up to 4 months after surgery, are those who should be monitored regularly in order to prevent the risk of develop further distress.

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Screening Cancer Patients’ Distress and Care Needs: Translation and Validation of the Cancer Rehabilitation Evaluation System (CARES) for the Flemish Population in Belgium
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BACKGROUND: This study aims the translation and validation of the Cancer Rehabilitation Evaluation System (CARES) that could be used in Belgian research. Validation of this quality of life and needs assessment tool to identify Flemish cancer patients burden and care needs, following the confrontation with cancer and its treatment, can give insights for patient-centered care directed on symptom-management, psychosocial wellbeing, information and further care needs. METHOD: A heterogeneous sample cancer patients will be recruited in the clinic to complete the CARES in an electronic format. The psychometric properties and feasibility of the instrument will be tested on the basis of statistical analysis. Also there will be a supplementary questionnaire to get insight in patients experiences with screening. RESULTS: This study should bring clarity about the validity, reliability and feasibility of the Dutch CARES-translation for the Flemish population in Belgium. In addition qualitative questioning will give more insight in the “care consumers” experiences en preferences on screening in the included group of cancer patients.

CONCLUSIONS: After long existing copyright on
the CARES, the instrument is released for free use. A successful translation and validation in Dutch can create the possibility in the Belgian-Flemish population to scientifically document the number, type and severity of difficulties and care needs that individuals may be facing as a result of a cancer diagnosis and associated treatment. RESEARCH IMPLICATIONS: Because of the broad coverage of domains in wellbeing and in particular the psychosocial aspects the use of the CARES in future quantitative Belgian research can be of great value to explore cancer patients burden and care needs that go past the disease itself and its treatment. The CARES-outcomes and other parameters can be combined to predict the risk of cancer patients to develop psychosocial problems later in time after treatment aimed at physical recovery. CLINICAL IMPLICATIONS: Better insight in patients overall wellbeing and care needs could confirm the appropriateness of current multidisciplinary cancer care in Belgian practice, or result in recommendations for change in the future. Further research on the CARES itself could lead to a valuable screening tool for clinical practice to detect distress and care needs, what could stimulate communication about the psychosocial topic and optimize the efficiency in match between overall care needs and total cross-boundary care. ACKNOWLEDGEMENT OF FUNDING: The subject of this abstract is part of a PhD-research project. Limburg Sterk Merk (LSM) gave funding to realise the research project on UHasselt.

P3-45
Fear of Recurrence in Head and Neck Cancer Patients
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BACKGROUND: Fear of recurrence (FoR) is common in survivors of head and neck and is associated with increased distress. It is difficult to predict which patients will experience FoR and whether this will diminish over time. The Patient Concerns Inventory (PCI) is a means of identifying FoR and can facilitate a discussion of real versus perceived risk with patients. This study aimed to qualitatively explore patients’ experiences of discussing FoR with oncologists/surgeons in the clinical setting. METHOD: Head and neck cancer survivors attending clinic for follow-up care were asked to complete the PCI, as usual, prior to consultation. Those identifying FoR were invited to take part (n=11) and for this group, their consultation with their clinician was recorded. A telephone based, one-to-one follow-up interview was also arranged to further explore the issue of FoR and patient’s experiences of how well this was managed in their consultation. All participants had completed treatment over three months prior to taking part, were over the age of 18 and were currently disease free. RESULTS: A thematic analysis of both the consultation and interview transcripts was undertaken by two members of the research team. The analysis highlighted the following as relating to participant’s fears of recurrence: participant’s background; coping style; personality; physical triggers; gender differences in how the fear presents; the nature of the fear itself; and a sense of gratefulness towards the clinician. Of particular interest was the novel finding that patients were reluctant to address their FoR with their clinician for fear of appearing ungrateful or of upsetting their valued relationship with their clinician. CONCLUSIONS: FoR is a common issue for cancer survivors, but few studies have explored this within a head and neck cancer sample. Our findings indicate that whilst many features of FoR experience mirror those of other cancer survivor groups, within head and neck cancer survivors particularly, prevalence might be higher than previously appreciated. Patients report feeling reluctant to raise this issue with their clinician for fear of appearing “ungrateful” and clinicians often don’t prioritise this issue within rushed consultations; this may lead to under-reporting. RESEARCH IMPLICATIONS: This study is somewhat unique in exploring FoR within a clinical setting. Whilst some of the emergent themes (e.g. those relating to coping style and personality) are concordant with previous literature, novel themes also emerged. Future research should address the issue of “patient gratitude” further. We particularly need to know: how generalizable this finding is; to what extent it is associated with FoR; and, whether it is a barrier to other types of patient-­clinician communication. CLINICAL IMPLICATIONS: This work highlights the difficulties that cancer survivors have in addressing FoR with their clinicians; clinicians must instead be prepared to raise it with their patients as a standard part of follow-up care. Due to the reluctance to raise the topic of FoR, it is possible that current estimates are under-representative; the PCI is a useful tool for screening FoR and may present a more acceptable way for patients to raise this issue with clinicians. ACKNOWLEDGEMENT OF FUNDING: This project received funding from the British Association of Head and Neck Oncologists.
P3-46
In What Ways and Fields can the ORS/SRS (PCOMS) be Useful in Clinical Practice? A Literature Review
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BACKGROUND: The PCOMS, consisting of the Outcome - and the Session Rating Scale, is a brief measure that has been developed by Miller, Duncan and Johnson (Miller, Duncan & Johnson, 2002) to measure outcome and therapeutic alliance. It has been validated (Bringhurst, Watson, Miller, & Duncan, 2006) and used throughout numerous studies (e.g. Reese, Norsworthy, & Rowland, 2009). An overview article about research, use and implementation has been published by one of the authors (Miller, 2012). METHOD: The aim of this review was to thoroughly outline in which ways the ORS/SRS have been used and implemented in clinical practice and in which fields they were considered useful. A systematic literature search was conducted in the following databases: Medline, PsychINFO, Psyndex, PsychARTICLES and Google Scholar. Keywords included Partners for Change Outcome Management System, PCOMS, Client Directed outcome informed, Client directed outcome therapy, Feedback Informed Treatment, FIT, ORS, SRS, Outcome Rating Scale and Session Rating Scale. Inclusion criteria for the review were English language and a mention of the (qualitative or quantitative) effect or impact of using the ORS/SRS. RESULTS: Of a total of 1690 hits, 20 articles were extracted. These showed that the ORS/SRS have been successfully used in individual and couple therapy, in CAMHS settings and for counseling as well as training purposes. From a research perspective, they have been used to investigate therapists’ and families’ perspectives on their use from a qualitative point of view. CONCLUSIONS: Selected articles will be presented in the poster and further fields of implementation can be discussed. RESEARCH IMPLICATIONS: Researchers might benefit from an overview of the different clinical settings, in which the ORS/SRS have been used in order to determine new fields of interest or studies that are yet to be conducted. CLINICAL IMPLICATIONS: Outlining in which ways the ORS/SRS have been used and implemented in clinical practice might be helpful in terms of an overview and also give ideas about possible studies or clinical implementations in the future. ACKNOWLEDGEMENT OF FUNDING: None.

P3-47
The Impact of Physical Symptoms in the Course of Distress, Anxiety and Depression in Lung Cancer Patients During Chemotherapy
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BACKGROUND: The prevalence of mental distress during chemotherapy is high. Some studies suggest that certain points in time during the treatment process are the most appropriate for screening. There are however few studies found where the course of mental distress was mapped. The purpose of this study is to investigate the course of distress, anxiety and depression (D.A.D.) before, during and after treatment with chemotherapy in lung cancer patients, and the influence thereon by physical symptoms. METHOD: In a longitudinal prospective study 151 lung cancer patients undergoing chemotherapy were followed (mean age 64.5, range 43–86; 61% men). Self-report questionnaires at 7 time points were collected: before the start (T0), at the first chemotherapy (T1), every 3 weeks (T2, T3, T4 and T5) and 3 months after completion of chemotherapy (T6). Measurements. Physical symptoms: the somatic subscale of The Screening Inventory for Psychosocial Problems (SIPP), Distress: The Distress Thermometer (DT), Anxiety and depression: The Hospital Anxiety and Depression Scale (HADS). Data were analyzed using paired t-tests, multilevel linear regression analysis and multiple regression. RESULTS: Each time point anxiety levels were higher than depression levels. At T0 18.7% and 8.0% scored clinical levels of anxiety and depression. Between T0 and T6 there was no change in levels of distress (t = −1.36, p = 0.18), anxiety (t = 0.27, p = 0.79) or depression (t = −0.42, p = 0.16). Over the measurements there were significant positive correlations between physical complaints and distress (B = 0.49, SE = 0.01), anxiety (B = 0.48, SE = 0.26) and depression (B = 0.04, SE = 0.01). D.A.D at T0 predicted average level of distress (B = 0.38, p < 0.001), anxiety (B = 0.73, p < 0.001), depression (B = −0.78, p < 0.001) from T1 to T5.T0 Anxiety and depression predicted T6 anxiety (B = 0.42, p < 0.001) and depression (B = 0.41, p = 0.01). T0 Distress was no significant predictor of T6 distress (B = −0.57, p = 0.74). CONCLUSIONS: There is no significant change in the level of D.A.D. before, during and after chemotherapy. These findings are consistent with earlier research. There are clear indications that there is a relationship between an increase in physical symptoms and an increase in D.A.D. This is in contrast with an earlier study identifying the relationship between
perceived control and psychological distress in breast cancer patients as independent of changes in physical state. It is possible that physical symptoms experienced during treatment by breast cancer patients differ from those in lung cancer patients with resultant differences in effect on levels of distress. RESEARCH IMPLICATIONS: A suggestion for future research is replicating this study in other populations of oncology patients in order to identify the most appropriate screening moments. As physical symptoms proved clear predictors of D.A.D. studies evaluating the impact of treatment packages that minimize psychological impact are highly recommended. Developing and evaluating effective psychological treatments for lung cancer patients at the start of medical treatment, aimed at reducing D.A.D. represents a challenge for the future. CLINICAL IMPLICATIONS: Screening of lung cancer patients before treatment is recommended as a minimum. Baseline screening at this stage can identify patients with high scores on D.A.D likely to require psychological support, and facilitate early referral. Increased awareness of the correlation between physical symptoms and the degree of D.A.D. could alert practitioners to early changes or increases in physical symptoms and their likely impact. This would enable referral for treatment of psychosocial needs where appropriate during treatment.

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P3-48
Trajectories of Psychosocial Distress and its Correlation With Physical Problems, Social Support, Coping Styles and Posttraumatic Growth Among Breast Cancer Survivors
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BACKGROUND: Transition to survivorship for cancer patients can be distressful. At KF-SYSCC, the majority of our patients choose to return to this institution for follow-up after completion of active cancer treatment. We studied the prevalence and the trajectories of psychosocial distress in this population and assessed its correlation with physical problems, social support, coping styles and posttraumatic growth (PTG) over 3 years. METHOD: Consecutive outpatients of early stage breast cancer, who were about 9 months after active cancer treatment, were invited to participate in this prospective study at two time points. The patients, who participated in the study at time 1 in 2009, were further recruited for the follow-up study at time 2 in 2012. At both times, they were given measurements to assess psychosocial distress, physical problems, social support, coping styles and PTG. Patients with the total score of the Hospital Anxiety and Depression Scale (HADS-t) >= 15 were considered to be significantly distressed. RESULTS: At time 1, 248 patients completed all questionnaires. From this group, 118 participated in the time 2 study. Of the participants, 28.63% were screened to be significantly distressed at time 1, and 16.10% at time 2. Comparing with time 1, at time 2, 6% of these patients remained distressed, 75% remained non-distressed, 8% changed from non-distressed to distressed and 11% changed from distressed to non-distressed. The level of distress was correlated positively to physical symptoms, coping styles of negative emotion and cognitive avoidance; and negatively to social support, coping style of positive attitude and PTG of interpersonal dimension. CONCLUSIONS: Up to 29% of early stage breast cancer patients transitioning to survivorship experiences psychosocial distress. The prevalence of distress appears to diminish over time. The level of distress is correlated to physical problems, social support, coping styles and PTG. RESEARCH IMPLICATIONS: We will extend the assessment of distress and its related factors to 5 post-treatment years and beyond to examine patients’ course of distress and their response to psychosocial interventions. CLINICAL IMPLICATIONS: Early stage breast cancer patients transitioning to survivorship should be screened for psychosocial distress. Services to address issues of physical problems, social support, coping styles and PTG should be initiated as soon as the treatment is completed.

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P3-49
Psychosocial and Physical Problems Experienced by Patients Visiting a Skin and Melanoma Center
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BACKGROUND: According to the Dutch guidelines, the Distress Thermometer (DT) and its problem checklist should be completed by all oncology patients to assess distress and problems. However, dermatologists have been using the Skindex-29 to assess quality of life. The aim of this study is to investigate which physical, psychosocial and functional problems are most prevalent in patients visiting a Skin and Melanoma Centre, and what (combination of) tools are best in identifying these problems. METHOD: During November 2012–April 2013, all new patients who visited the Skin and Melanoma Centre were invited to participate in the study, by completing a questionnaire at
Feasibility of Distress Screening With the Distress Thermometer (DT) and Patients’ Acceptance of Referral to a Team Integrated Psycho-Oncologist: A Pilot Study

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BACKGROUND: Despite increasing efforts to identify distressed patients and to increase the number of referrals to psycho-oncological care, relatively few patients accept referral and the desire for psycho-oncological support is broadly independent of the distress. Our presentation has two aims: 1) to present our pilot data on distress and (acceptance of) referral to psycho-oncological service and 2) to discuss practical aspects of the screening procedure with focus on communicating on the basis of the DT.

METHOD: Screening for psychological distress with the DT was implemented at the University Oncology Outpatient Clinic Basel as part of routine clinical care. All oncologists received training for communicating about psychosocial distress on the basis of the DT. Oncologists were instructed to inform all patients about the support service and to make explicit recommendation to see the psycho-oncologist if patients scored 5 ≤ on the DT. Over a nine-month period (July 2012–March 2013), we collected preliminary data on distress in patients, referral to and acceptance of psycho-oncological support after the first consultation at the Outpatient Clinic. Oncologists were asked about their experiences.

RESULTS: Of the 236 included patients, 61.8% (n = 131) showed elevated levels of distress. Most prevalent complaints assessed by the DT were: feeling tense (42%), fatigue (38%), and dry, itchy skin (37%).CONCLUSIONS: According to the DT, approximately half of the group visitors of the Skin and Melanoma Center experiences levels of distress that warrant further attention. General problems such as tension and fatigue, as well as skin specific problems, are both frequently reported. High distress scores are not more prevalent in patients currently diagnosed with skin cancer as compared to those with benign skin problems. These results suggest that all patients visiting this Skin and Melanoma Center should be screened for general aspects of distress (such as fatigue), as well as skin-specific complaints (such as irritated skin). RESEARCH IMPLICATIONS: Analyses are ongoing to investigate which (combination of) tools are most appropriate to use at the skin and melanoma centre, and which factors are significantly associated with the experienced problems. CLINICAL IMPLICATIONS: At a skin and melanoma center, for each patient an assessment should be made of the experience of general as well as skin specific psychosocial and physical problems. A combination of both the DT and the Skindex-29 questionnaires, as a tool to identify psychosocial and physical problems may be important to improve communication and management of these issues. ACKNOWLEDGEMENT OF FUNDING: None.

P3-50

Feasibility of Distress Screening With the Distress Thermometer (DT) and Patients’ Acceptance of Referral to a Team Integrated Psycho-Oncologist: A Pilot Study

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P3-50

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BACKGROUND: Despite increasing efforts to identify distressed patients and to increase the number of referrals to psycho-oncological care, relatively few patients accept referral and the desire for psycho-oncological support is broadly independent of the distress. Our presentation has two aims: 1) to present our pilot data on distress and (acceptance of) referral to psycho-oncological service and 2) to discuss practical aspects of the screening procedure with focus on communicating on the basis of the DT. METHOD: Screening for psychological distress with the DT was implemented at the University Oncology Outpatient Clinic Basel as part of routine clinical care. All oncologists received training for communicating about psychosocial distress on the basis of the DT. Oncologists were instructed to inform all patients about the support service and to make explicit recommendation to see the psycho-oncologist if patients scored 5 ≤ on the DT. Over a nine-month period (July 2012–March 2013), we collected preliminary data on distress in patients, referral to and acceptance of psycho-oncological support after the first consultation at the Outpatient Clinic. Oncologists were asked about their experiences.

RESULTS: Of the 236 included patients, 61.8% (n = 131) showed elevated levels of distress. Most prevalent complaints assessed by the DT were: feeling tense (42%), fatigue (38%), and dry, itchy skin (37%).CONCLUSIONS: According to the DT, approximately half of the group visitors of the Skin and Melanoma Center experiences levels of distress that warrant further attention. General problems such as tension and fatigue, as well as skin specific problems, are both frequently reported. High distress scores are not more prevalent in patients currently diagnosed with skin cancer as compared to those with benign skin problems. These results suggest that all patients visiting this Skin and Melanoma Center should be screened for general aspects of distress (such as fatigue), as well as skin-specific complaints (such as irritated skin). RESEARCH IMPLICATIONS: Analyses are ongoing to investigate which (combination of) tools are most appropriate to use at the skin and melanoma centre, and which factors are significantly associated with the experienced problems. CLINICAL IMPLICATIONS: At a skin and melanoma center, for each patient an assessment should be made of the experience of general as well as skin specific psychosocial and physical problems. A combination of both the DT and the Skindex-29 questionnaires, as a tool to identify psychosocial and physical problems may be important to improve communication and management of these issues. ACKNOWLEDGEMENT OF FUNDING: None.
first intend to explore why cancer patients accept or turn down psycho-oncological support service, and second, examine how patients and clinicians experience talking about psychosocial distress on the basis of the DT. CLINICAL IMPLICATIONS: We are convinced that attention now needs to shift from recognition of distress to difficulties associated with acceptance of referral. In our experience communication on the basis of the DT not only is important to reveal needs and problems of patients but also it is crucial for the patients’ acceptance of referral to psychooncological services. One other important factor for acceptance of psychooncological support might be the close integration of a psychooncologist in the team.

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P3-52
Psychological Stress of Raised CA125 in Post Treatment Asymptomatic Ovarian Carcinoma Follow Up
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BACKGROUND: Ovarian carcinoma is only 10–15% of gynecological malignancies but accounts for a very high mortality. Most cases are diagnosed late stage iii/iv. Often there is spread to general peritoneum, liver & pleura. Though surgery is the first line of treatment in advanced cases zero residual resection is not possible. In these cases neo-adjuvant chemotherapy 3–6 cycles are given and complete surgical treatment is then possible in most cases. Post op. adjuvant chemotherapy 2–3 cycles are then prescribed. Follow-up is by clinical examination & estimation of marker CA125.

METHOD: 88 cases of ovarian malignancies were recorded during the year 2006 at our tertiary cancer centre. Of these 63 were epithelial carcinoma i.e 71%. Patient age, parity, socio-economic educational status were recorded. All the patients had blood CA125 level recorded at the beginning of treatment and repeated after neo-adjuvant chemotherapy, surgery & adjuvant chemotherapy. Follow up was every 3 months for 2 years, then every 6 months for 3 years and then yearly life long. In most cases raised CA125 comes down to normal range of less than 36i.u. Recurrence which is not uncommon is often preceded by rising CA125 by about 3–6 months. The stress factor is assessed during this asymptomatic period of monitoring serum-CA125 level.

RESULTS: The stress was was directly proportional to educational status especially with computer education. Younger women were more vulnerable than the elderly urban women more psychologically affected than their rural counterparts. They dreaded the date of follow up and was afraid to ask the latest level of CA125. Those who survived 2 years without recurrence was gradually less stressful. Unfortunately most patients were lost to follow up. Assessment of stress factor was by degree of anxiety, insomnia, anorexia and irritability. Women of low socioeconomic group her sexual partner played an important role in sexual rehabilitation. Use of vaginal dilator or lubricant jelly is discussed. Stable marital relationship as is common in India helps to cope the crisis in younger women. Anxiety about desirability as a sexual partner has a very negative effect.

RESEARCH IMPLICATIONS: It is important that patient is psychologically prepared before undergoing treatment.

CLINICAL IMPLICATIONS: SURGICAL TREATMENT: ACKNOWLEDGEMENT OF FUNDING: None.
and illiterates were very much less stressful and relied more on destiny & religion. The young & technologically savvy were the most vulnerable to anxiety disorder. CONCLUSIONS: CA125 level is useful in predicting the progress of the disease recurrence but early treatment of recurrence does not improve the final outcome, morbidity or mortality. Hence it seems that asymptomatic patients need not have CA125 as follow up which might compromise her quality of life. No symptom-no treatment, as treatment will not cure recurrence. Earlier treatment of recurrence does not improve the morbidity or mortality. RESEARCH IMPLICATIONS: Repeated estimation of CA125 for follow up of asymptomatic patient who already had full oncologic treatment does not have any positive value but it definitely increases the patient’s anxiety when the CA125 level starts rising. At present it is perhaps wise not to give too much importance to rising level of CA125. CLINICAL IMPLICATIONS: CLINICIAN should be alert about the stress of investigations on a symptom free cancer patient and proper counselling is mandatory at every stage of follow-up. ACKNOWLEDGEMENT OF FUNDING: None.

P3-53
Health-Related Stigma in Lung Cancer: Piloting an Acceptance-Based Approach
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BACKGROUND: Lung cancer patients experience higher levels of psychological distress than other cancer patients. Health-related stigma in these patients is a significant contributor to poorer outcomes. Research to address health-related stigma in this group and promote better psychological outcomes for lung cancer patients is a priority. METHOD: Sixteen patients with lung cancer participated in a pilot of a multi-component cognitive behavioural intervention with an acceptance-focus. Outcomes assessed included lung cancer stigma; anxiety and depression; cancer-specific distress; QOL; mediators included threat appraisal; social constraints; psychological flexibility. Post-test in depth interviews assessed intervention acceptability. RESULTS: Preliminary results will be presented with a focus on barriers to resolving health-related stigma in a highly distressed patient population. Therapeutic strategies to address distress and health-related stigma in this population will be discussed. CONCLUSIONS: Interventions to address distress that take into account health-related stigma in lung cancer patients are a priority. ACKNOWLEDGEMENT OF FUNDING: None.

P3-54
Quantifying Facial Expression of Head and Neck Cancer Patients Undergoing Reconstructive Surgery: How Does Smiling Intensity Relate to Psychosocial Functioning?
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BACKGROUND: Head and neck cancer (HNC) and its treatment can result in significant changes to facial morphology and have a critical impact on the formation of facial expressions. Head and neck cancer patients are also at risk of experiencing psychosocial distress and impairment. The objectives of this study are 1) to develop quantitative measures of facial expression (smiling) and 2) to investigate the possible relationship between quantitative measures of smiling intensity and self-reported psychosocial status. METHOD: Maximum smiling intensity of 95 HNC patients (34 females, 65 males) prior to reconstructive surgery was evaluated using 48 quantitative measures calculated from frontal facial photographs with and without a smile. We computed a composite score (z-score) for each patient, which represents how much a patient’s maximum smiling intensity deviated from the mean of healthy controls. An array of self-report psychosocial instruments evaluating body image and quality of life outcomes were administered to patients. Nineteen subscale scores were calculated from the psychosocial measures. Spearman rank correlation was conducted to examine the relationships between the composite score and each psychosocial subscale. RESULTS: Increased deviation in smiling intensity was significantly related to increased body image dissatisfaction (Body Image Scale, \( r = 0.26, p = 0.02 \)), increased discomfort in social situations (Satisfaction with Appearance - Perceived Social Impact, \( r = 0.33, p = 0.001 \)), increased somatic complaints (Brief Symptom Inventory - Somatization subscale, \( r = 0.23, p = 0.03 \)) decreased functional ability in the head and neck (FACT-HN head and neck subscale, \( r = -0.25, p = 0.02 \)), and decreased general quality of life (FACT-HN total, \( r = -0.22, p = 0.03 \)). CONCLUSIONS: We used quantitative measures of smiling intensity and psychosocial outcomes involving body image and quality of life to investigate the relationship between smiling intensity and psychosocial status of HNC patients prior to undergoing initial reconstructive surgery. We found that reduced smiling intensity was associated with
increased body image disturbance (i.e. appearance dissatisfaction and functional impairment) and decreases in many aspects of quality of life. RESEARCH IMPLICATIONS: These results have implications for objectively measuring aesthetic outcomes for HNC patients and gaining a better understanding of how facial cancer and its treatment can affect the formation of facial expressions over time. This is also the first study of its kind to report associations between image-based quantification of facial expression and self-reported psychosocial well-being. Future studies are needed to examine these associations over time in cancer patients undergoing facial reconstruction. CLINICAL IMPLICATIONS: Impairment in the ability to smile is known to be a source of psychosocial distress for HNC patients. This study shows promise in developing methods to objectively evaluate the manner in which formation of facial expressions is affected during cancer treatment, and in developing an understanding of the relationship between psychosocial outcomes and expression formation. These data can inform the development of body image interventions to maximize adjustment to disfiguring aspects of cancer treatment. ACKNOWLEDGEMENT OF FUNDING: This study was supported in part by grant MRSG-10-010-01 from the American Cancer Society.

P3-55
Prostate Specific Antigen Utility and Anxiety in the Management of Prostate Cancer by Active Surveillance
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BACKGROUND: Active surveillance (AS) is an alternative treatment strategy for prostate cancer (PCa) and involves regular PSA blood testing and repeat rectal biopsies, the aim of which is to monitor cancer progression and inform appropriate treatment decision-making. Anecdotal evidence suggests that some men experience anxiety when undergoing AS. The primary aim of this study is to establish if PSA test related anxiety exists in this population. A range of secondary aims are also investigated.

METHOD: Two hundred and sixty-five men with PCa on AS were invited to complete established psychological measures; 104 men (39%, aged 51–90 years, M = 68; SD ± 7) participated and returned data. RESULTS: Overall, results indicated that men experienced low general and illness specific anxieties and high HRQoL when compared to published clinical/non-clinical data. Age and trait anxiety emerged as significant predictors of PCa related HRQoL; trait, state anxiety and fear of recurrence were significant predictors of overall HRQoL. While there were significant bivariate relationships between illness perceptions (disease consequences, illness coherence) and HRQoL, these did not contribute significant variance in HRQoL outcomes when analysed in regression models. Finally, 92% and 86% of the sample found the information about PCa and AS (respectively) to be either very or quite helpful and satisfied information needs. CONCLUSIONS: Findings highlight the importance of trait anxiety in relation to HRQoL and the benefits of information provision to men with PCa on AS.

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P3-56
Pain, Fatigue and Quality of Life in Hong Kong Chinese Women With Early Stage Breast Cancer: Before-Versus-After Adjuvant Radiotherapy
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BACKGROUND: Adjuvant radiotherapy (RT) is a common treatment for breast cancer for its benefit in reducing the risk of local recurrence. However, RT may induce substantial distress in patients and have an adverse impact on their quality of life. The purpose of this abstract was to compare the experiences of pain and fatigue, and the quality of life of Hong Kong Chinese women who had completed RT with those who were awaiting RT. METHOD: This analysis comprised of 70 Chinese women diagnosed with stage 0-III primary breast cancer who had joined a larger trial investigating the effects of a psychotherapy program. They were recruited consecutively from two government hospitals and three community centres in Hong Kong. The current data were collected before the program by self-administered questionnaires including the Brief Pain Inventory (BPI), Brief Fatigue Inventory (BFI) and Functional Assessment of Cancer Therapy-Breast (FACT-B). Women were age-matched and grouped by their RT status at enrollment: Pending (preRT, n = 36), within a month post-RT (1-postRT, n = 17), and over a month post-RT (>1-postRT, n = 17, median length = 91 days).

RESULTS: The three groups were similar clinically and demographically (mean age = 50 years). All had breast surgery and 74% also had chemo-
therapy. In terms of severe pain and severe fatigue, respectively, 17% and 34% of preRT group versus 18% and 41% of 1-postRT group versus 29% and 29% of >1-postRT group had experienced these symptoms. The Kruskal-Wallis tests showed no significant overall group differences in the scores of BPI, BFI, Total FACT-B and subscales except for the FACT-B emotional well-being subscale \( (p = 0.04) \). In all FACT-B scales, the >1-postRT group scored the highest, the preRT group slightly lower and the 1-postRT the lowest. CONCLUSIONS: Before RT, a significant minority of women were fatigued and had experienced severe pain, suggesting the lingering effects of prior anti-cancer therapies. The occurrence of severe fatigue was more common than severe pain both before RT and shortly after RT completion. About one third of the women who had finished RT months ago still experienced fatigue and/or pain. Patients’ quality of life might be undermined in the first month after treatment completion, but the longer-term quality of life after RT seemed comparable with that before RT. RESEARCH IMPLICATIONS: The results suggested that the potential impact of RT on quality of life might be minor and temporary. However, our small sample size implied a higher chance of a Type II error. Prospective research with a larger cohort is needed to better understand the effects of RT across the period of treatment and recovery. Research is also indicated to explore the possible causes of severe fatigue or pain in patients who have long completed treatment. CLINICAL IMPLICATIONS: Assessment of patients’ symptom status prior to RT commencement is important for early intervention, if necessary, to prevent further deterioration of patients’ condition as RT progresses. Such an assessment should continue into the post-treatment period.

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P3-57
The Life Experience of Patients With Hepatocellular Carcinoma

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BACKGROUND: In Taiwan, HCC incidence was ranked third and which has been the second leading cause of cancer-related death. Compared with other common cancers, hepatocellular carcinoma with poor prognosis. It had the very huge impact of patient’s quality of life. The purpose of this study was to explore hepatocellular carcinoma patients’ life experiences after diagnosis. METHOD: The phenomenological study employed purposive sampling; six patients were recruited. Data were collected through semi-structured interview guidance, and analyzed according to Giorgi’s qualitative method. RESULTS: After data analysis, three categories emerged: Learning how to face the uncomfortable of the body and mood to survive (e.g. adjusting the emotion when being informed of the conditions, following with the doctor’s suggestions of the treatments, and looking for the way to treat the pain), Fear of progression, to keep a healthy life for living (e.g. selecting the healthy food, adjusting the lifestyle and attitude), Cherishing the life to increase the value of it (e.g. Sigh with emotions of regrets to the family, appreciate their supports and search for the meaning of life). CONCLUSIONS: This study results can be provided as reference for nurses to pay attention to the psychological issues, especially the fear of disease progression which is on patients with hepatocellular carcinoma in their life. RESEARCH IMPLICATIONS: Longitudinal research will design for tracking the fear of progression change in patients’ life, in order to provide proper care to patient at different stages. CLINICAL IMPLICATIONS: This study results will help nurses to understand patients’ illness and life experience, and accompany help them face and adjust to their situation.

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P3-58
Understanding Mediation Effect of Cancer-Related Rumination Between Physical Symptom Distress and Psychological Distress in Chinese Colorectal Cancer Patients

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BACKGROUND: The age-adjusted incidence of colorectal cancer has increased over the past decade both globally and locally. Physical symptoms distress is known to be an important contributor to psychological distress among cancer patients. In addition, intrusive thoughts are associated with the onset of depression and anxiety. This study aims to examine the possible mediation role of cancer-related rumination between physical symptom distress and depression and anxiety among Chinese Colorectal cancer patients across the cancer journey. METHOD: Newly diagnosed colorectal cancer (CRC) patients recruited from a Hong Kong teaching hospital were interviewed three times: 1 day before surgery (T1), 1 month (T2) and 4 months post-surgery (T3) respectively. Patient’s anxiety and depression (psychological distress), physical symptom distress, cancer-related rumina-
Anxiety (205/219 (93.6%) patients participated in this study. Anxiety was adopted to investigate if there was any mediation effect from rumination. RESULTS: Overall, 205/219 (93.6%) patients participated in this study. Anxiety (β = −0.41, SE = 0.12, p = 0.001), but not depression (β = −0.11, SE = 0.13, p = 0.395) levels declined significantly from pre-surgery to 4 months post-surgery. Physical symptom distress was positively related to both anxiety level (β = 2.35, SE = 0.37, p < 0.001) and depression level (β = 2.80, SE = 0.47, p < 0.001) respectively. In addition, higher physical symptom distress was associated with stronger rumination (β = 0.408, SE = 0.46, p < 0.001). Sobel test suggested a significant mediation effect from rumination between physical symptom distress and anxiety (z = 7.19, p < 0.001) and depression (z = 5.84, p < 0.001). CONCLUSIONS: CRC patients had decreasing anxiety level but maintained fairly stable levels of depression over the time from pre-surgery to 4 months post-surgery. Cancer-related rumination seems to carry some of the impact associated with physical symptom distress on cancer patients' anxiety and depression level. There was a partially mediation effect of cancer-related rumination on the relationship between physical symptom distress and psychological morbidity. This points to the meanings and/or disruption attributed to physical symptoms as potential therapeutic targets. RESEARCH IMPLICATIONS: This study revealed the pattern change on psychological distress (depression and anxiety) across the period from pre-surgery to 4 months post-surgery among CRC patients as well as rumination partially affected the relationship between physical symptom distress and depression and anxiety. Further investigation may be needed to reveal if the relationship between physical symptom distress and prolonged psychological distress (e.g. 1 year post-surgery) would also be mediated by rumination. CLINICAL IMPLICATIONS: Health care providers need to pay more attention to patients' physical symptoms. Distress arising from physical symptoms appears to be in response to either the potential meanings attributed to those symptoms, or to the disruptive effect of these symptoms on daily life, preventing “forgetting about” cancer that is necessary for return to near normal life. Interventions should address either physical symptoms themselves or ruminative thinking about cancer prompted by these to minimize psychological morbidities. ACKNOWLEDGEMENT OF FUNDING: This project was funded by The Health and Health Service Research Fund of the Hong Kong Government, grant number 0708651.

P3-59
Psychiatric Rehabilitation of Patients With Oesophageal Cancer
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BACKGROUND: Patients with cancer mostly have psychiatric problems before and after therapy, especially if they undergo surgery. These psychiatric problems can be due to organic problems (such as secondary symptoms), or functional problems (psychiatric disorders). METHOD: First to categorize these problems and then have a definition for each of them, then explain psychiatric modalities for each of them and rehabilitation of patients separately. Results In cancer we have two types of psychiatric symptoms or syndromes. If patient develops psychiatric symptoms after cancer, we say he has secondary symptoms, e.g. depression. This is called mood disorder due to GMC. But if after knowing that he/she has cancer he/she developed depression, it is adjustment disorder. Therapy in both is the same; drug therapy, psychotherapy, vocational rehabilitation, family therapy are used for both types. In oesagogostomy special problems are eating and speech problems. These two problems could be due to physical defects that are produced. Intensity of patient reaction to speech lost depends on the defect, personality of patient, preceding stresses, coping of patient, social situation, occupation of patient. CONCLUSIONS: These factors should be considered in rehabilitation of patient and therapy processes. Aphony, dysphony, mutism, are speech problems that each of them and rehabilitation of them would be discussed in essay. RESEARCH IMPLICATIONS: N/A
CLINICAL IMPLICATIONS: N/A
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P3-60
Psychiatric Symptoms & Brain Tumors - Updating
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BACKGROUND: More than 50% of Brain Tumors (BT) present with psychiatric symptoms (PS). 80% are located in the frontal or limbic areas. PS are the BT inaugural manifestation in 18% of patients. Brain metastases (BM) are the most prevalent BT and have the greatest incidence of PS, which is probably related to their scattered distribution in the brain. The aim of this paper is to update information between specific Psychiatric symptoms and brain tumor location. METHOD: A comprehensive review of the literature focusing on reports about BT and their eventual PS, through PubMed between January 1970–October 2010. The search-
ing words were brain tumor, psychiatric symptoms, manifestation, and association. The authors portray a patient’s case report whose severe psychiatric symptoms showed to be secondary to BM and were actually the first clinical manifestation of a primary lung tumor. Patient’s medical files and computed tomography (CT) scans were reviewed in detail. RESULTS: Neither tumor location or histology proved to be particularly associated with any specific PS. Mood symptoms are the most commonly related to an evolving BT. It seems to be statistically significant the correlation between anorexia without disturbance of body image perception and tumors of hypothalamus. In the reported case, the clinical picture appointed to a sub-acute delirium of unknown etiology. The scan conveyed several right fronto-temporal e thalamo- diencephalic tumors secondary to a disseminated yet so far silent, lung tumor (T1 N2 M1). CONCLUSIONS: Instead of classical neurological signs, BT may only present psychiatric symptoms. Both primary care and mental health teams should be alert to this frequent association. Early diagnosis and treatment of BT are determinant for the survival and quality of life of patients. Neuroimaging (CT and MRI scan) should be mandatory for all patients who present in the psychiatry emergency room or psychiatry outpatient clinic with 1) new-onset psychosis, 2) recurrence of previously well-controlled psychiatric symptoms, 3) consistently atypical symptoms or 4) prolonged psychotropic refractory symptoms. RESEARCH IMPLICATIONS: Our present comprehension of the neurophysiologic and neuroanatomic correlates of behavior are far from complete. The complex and still partially unknown network linking different regions of the brain turns unlikely any definitive correlation between neuropsychiatric symptoms and site of lesions. Well-designed prospective studies, with large number of patients, matching psychiatric and neuro-oncologic following-up series, are pivotal for a better comprehension and useful diagnosis insight of the psychiatric manifestations into Brain Tumors. CLINICAL IMPLICATIONS: The reported case highlights the importance of being aware of a possible oncologic etiology for the new onset, atypical or refractory psychiatric symptoms; whether in primary care or psychiatry clinic setting, the immediate request of brain image exams is mandatory. This routine may be lifesaving for patients with disclosed and possible curable neoplasm that would otherwise evolve undetected and eventually towards a fatal stage. ACKNOWLEDGEMENT OF FUNDING: None.

P3-61
The Impact of Being Diagnosed With Lung Cancer: A Qualitative Interview Study
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BACKGROUND: Quality of life studies in lung cancer (LC) patients mostly have a quantitative research design and focus on physical symptoms, emotional distress, and treatment effects, whereas the social impact is under-researched. Little is known of the personal experiences of patients studied within a qualitative research design. This study aims to explore patients’ personal experiences regarding quality of daily life, with a focus on the psychological and social domain, and patients’ supportive care needs. METHOD: This qualitative study concerns narrative interviews with 14 LC patients (aged 48–77 years; 8 men and 6 women), diagnosed with non-small cell LC (n = 10) or small cell LC (n = 4). Patients were recruited during routine outpatient visits, applying a broad sampling strategy regarding disease stage (i.e. palliative/curative treatment, survivorship) and cancer treatment. Interviews were performed in-home using a topic-based interview guide. The audiotaped interviews were transcribed and analyzed conform guidelines for qualitative analysis. To facilitate understanding of the results, the emerging themes and corresponding illustrative quotations were presented to psychosocial professionals involved in supportive care for LC patients. RESULTS: Six major themes emerged: reality of LC, impact of LC, sharing the social impact is important in coping with LC. A minority wanted and received professional psychosocial support. Patients had no experiences with organized peer support. Informal peer support, however, did lead to sharing valuable experiences for some patients. For some survivors return-to-work and work disability were important issues. CONCLUSIONS: The range in experiences indicates the many faces of hope, and end of life. Communication and information giving about diagnosis, treatment and prognosis was open and honest, but for some not adequately tailored to individual needs. Spousal emotional and practical support was of vital importance in coping with LC. A minority wanted and received professional psychosocial support. Patients had no experiences with organized peer support. Informal peer support, however, did lead to sharing valuable experiences for some patients. For some survivors return-to-work and work disability were important issues.
normality may include vocational rehabilitation although barriers for return-to-work exist. Considering supportive care, patients mobilized their own sources of support. Unexpectedly, only a minority needed professional psychosocial care, despite the high prevalence of symptom and psychological distress known from literature. The need for peer support was also limited, fearing the experience of negative emotions and the notion that being in similar situations does not guarantee sharing the same experiences. RESEARCH IMPLICATIONS: New information and communication technologies, such as eHealth, should be explored to get insight in their ability to tailor information to individual needs of LC patients. In addition, research is needed in the area of peer support; the pros and cons of peer-to-peer support in LC, as well as the effects on quality of life. Lastly, the specific problems and long-term difficulties of survivors of LC need investigation. CLINICAL IMPLICATIONS: Recent changes in characteristics of the LC population, i.e. more female and younger patients, more never-smokers, increasing proportion of survivors, and the trend of extended time on palliative treatment, impacts quality of daily life and consequently affects supportive needs. Survivors represent a subgroup with specific needs (e.g. return-to-work, long-term functional limitations). The knowledge generated by this exploratory study indicates that communication, information, professional psychosocial support en peer support should be tailored to these needs. ACKNOWLEDGEMENT OF FUNDING: This study was supported by a grant from the Dutch Federation of Lung cancer patients and the Dutch Cancer Society.

P3-62

“It is Not That Easy to Switch Off to it - The Second Time Round”: Experiences of Patients With a Recurrent Bowel Cancer and Their Partners

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BACKGROUND: Cancer recurrence is a difficult stage of the cancer journey as it challenges patients’ hopes that cancer can be cured and emphasises the life threatening nature of illness. It is often associated with physical and psychological difficulties. The impact on partners at this time is also significant. This study aims to explore the psycho-social impact of recurrence of colorectal cancer on the daily lives of patients and their spouses/partners and how they cope with it. METHOD: Twelve patients with a diagnosis of bowel cancer recurrence and their partners will be recruited from 4 hospitals in the UK as well as online communities (recruitment in progress). Semi-structured interviews are being conducted separately with patients who have had a recurrence and their partners/spouses, within 1–2 months after diagnosis. Data are being analysed using IPA (Interpretative Phenomenological Analysis). RESULTS: Preliminary findings from the interviews suggest that patients and partners experience a range of emotions including shock and despair when diagnosed with cancer recurrence as they often thought that they managed to “beat the cancer”. The experience of initial diagnosis provides a reference point for their experiences of recurrence as both patients and partners often compare the initial and the subsequent diagnosis. Continuity in relationship with clinical team was found reassuring for patients especially when breaking bad news. Family members provide both emotional and practical support for patients but they often feel that they lack support from health care professionals. CONCLUSIONS: Recommendations on supportive care in colorectal cancer highlight the need to provide care for patients throughout the cancer journey. However, we still have a limited understanding of the issues patients with bowel cancer face when they experience a recurrence of the disease. Partners are important source of support for patients yet their supportive needs are often not attended to. This study contributes to our understanding of the experiences of patients and their partners at this difficult time and will help to inform the further development of health care services to support them. RESEARCH IMPLICATIONS: This study provides an insight into patients and partners experiences’ of bowel cancer recurrence as to date relatively little psycho-social research has focused on this period, especially in comparison to the medical literature. However, more work is needed on the experiences of patients’ with active and advanced disease across different cancer sites. Future studies should also explore what interventions are best suited to address the information and supportive needs of patients and their partners. CLINICAL IMPLICATIONS: While continuity of care may act as buffer in their experience of recurrence, receiving a diagnosis of secondary cancer can still be a traumatic experience for patients. The role of Clinical Nurse Specialist was especially highlighted in providing both emotional and practical support. When providing patients and families with information about prognosis, practitioners need to strike a balance between being realistic and maintaining hope, as it may have an impact on their experiences throughout cancer journey. ACKNOWLEDGEMENT OF FUNDING: OXFORD BROOKES UNIVERSITY:
P3-63
Quality of Life and Psychosocial Adjustment in Colorectal Cancer Patients With Stoma and Nonstoma
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BACKGROUND: This study had been conducted with the aim to determine quality of life and psychosocial adjustment of colorectal cancer patients with stoma and nonstoma and to evaluate the relationships between these factors. Factors in the study were compared in terms of some sociodemographic and illness factors. METHOD: 60 colorectal cancer patients contributed to the study. Participants were given a personal information form, EORTC QLQ-C30 quality of life questionnaire, EORTC QLQ-CR38 quality of life questionnaire and Psychosocial Adjustment to Illness Scale. T-test and Mann Whitney-U tests were used in the evaluation of differences among these groups. Spearman correlation was used in the evaluation of relationships between factors. RESULTS: According to the results, patients with stoma were found to be different from the nonstoma group in terms of global health status, physical functioning, cognitive functioning, micturition problems, chemo side-effects, gastrointestinal problems and weight loss and in terms of psychosocial adjustment, domestic environment and psychologic distress. Other factors were similar in the two groups. Although psychosocial adjustment of the two group is moderate, patients with stoma is significantly worse than patients without stoma. Patients with stoma have more problems with family and psychological adaptation than nonstoma patients. In addition, there are positive correlations between quality of life and psychosocial adjustment. CONCLUSIONS: Patients with stoma were found to be different from the nonstoma group in terms of quality of life and psychosocial adjustment aspects. Patients with stoma have more problems in quality of life and psychosocial adjustment than nonstoma patients. RESEARCH IMPLICATIONS: This study is the first comparing study about stoma and nonstoma and to evaluate the relationships between these factors. Factors in the study were compared in terms of some sociodemographic and illness factors. CLINICAL IMPLICATIONS: Oncology clinics in a multidisciplinary approach to treatment are recommended to include experienced psychologists and psychiatrists about psycho-oncology and taking into account problems during the treatment of cancer patients with stoma, the planning of training and counseling services should be continued by them. ACKNOWLEDGEMENT OF FUNDING: None.

P3-64
Spiritual Care by Nurses in Curative Cancer Care: Experiences and Expectations of Patients
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BACKGROUND: Each person is assumed to have spiritual needs; the need for love, others, God, the need to find meaning and purpose etc. A life-threatening illness such as cancer can cause these needs to become unfulfilled. Nurses can play a role in fulfilling these needs. Spiritual care mainly takes place in the palliative setting. It is not known if needs and experiences from patients who are treated with curative intent differ from those of palliative patients. METHOD: Our study uses a mixed qualitative and quantitative research design. About 80 patients, coming from 9 hospitals spread over the Netherlands, will be approached at the end of curatively intended (adjuvant) treatment with chemotherapy. In the second part of the study we will also interview about 80 nurses. Concerning the patient part, we conduct semi-structured qualitative interviews and ask patients to fill in questionnaires concerning quality of life and spiritual attitude and involvement. All interviews will be transcribed and coded for analysis. Quantitative analysis will be used to investigate which characteristics influence the quantity and quality of nurses’ spiritual care. RESULTS: At this moment we are transcribing the first 20 patient interviews. On this rich material we are undertaking initial qualitative and quantitative analysis. At this moment (May 2013) it is too early in the process to explicitly mention results. However the first analysis cautiously shows that spiritual care and the need for it in curative cancer care might be different from the spiritual care expected and received by palliative patients. In November 2013 we will be able to give more and more solid results on this interesting topic. CONCLUSIONS: Just as with the results, at this moment it’s too early in the research process to give voice to conclusions. At the congress in November 2013 we will however can present more data that gives an insight in spiritual care to cancer patients treated with a curative intent. RESEARCH IMPLICATIONS: Substantial number of cancer patients report unfulfilled spiritual needs. Spiritual care is believed to improve quality of life and may help to cope with illness and treatment. Nurses in palliative care seem to be naturally aware of the spiritual dimension of patients. Yet it is unknown if spiritual care is provided in curative care. This study is intended to investigate the need for spiritual care in curative cancer care from patients’ and nurses’ perspective. CLINICAL IMPLICATIONS: Nurses
are a category of caregivers who have shown an interest in spiritual care training. Furthermore, because of the nature of their job, nurses understand the art of "diluted severity", passingly talking about serious affairs; by diluting serious topics with triviality, it is more easy to raise them in conversation. If the study shows that spiritual care improvement in the curative sector is needed, our result might relatively easy be trained and implemented in daily care ACKNOWLEDGEMENT OF FUNDING: None; we received no funding to support this abstract. The study however is funded by the Dutch Cancer Society/Alpe D’HuZes.

P3-65

Writing a Spiritual Autobiography: Inner Dialogue, Life Orientation and Resilience in Cancer Patients

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BACKGROUND: A cancer diagnosis often provokes existential questioning concerning identity, meaning, and spirituality. Clinical practice at VUmc shows that writing a spiritual autobiography - a biography addressing existential and spiritual development - eases this questioning, and strengthens personal life orientation and resilience. Drawing from various philosophical, psychological and theological sources we explore the relationship between writing a spiritual autobiography, personal life orientation, and resilience; especially concerning the role of emplotment and performative inner dialogue. METHOD: Effect study (N = 50); duration 3.5 years. Cancer patients, diagnosed > 0.5 year previous to study, treated with curative intent, methodically write their spiritual autobiography during 8 group sessions in 4 months period. Quantitative research determines the effect of writing the spiritual autobiography (immediately, 3 months and 9 months after the intervention) by means of validated questionnaires in terms of personal life orientation and resilience. Qualitative research studies the relationship between writing, life orientation and resilience in two steps. First a conceptual framework on the relationship is developed, secondly a content analyses of participants spiritual autobiographies and interviewdata is conducted. RESULTS: This study is currently being conducted. It will be completed in two years time and results are therefore forthcoming. However, drawing from fields such as philosophy, psychology and theology, a conceptual framework on the relationship between writing, life orientation and resilience can already be developed. Writing a spiritual autobiography can then be understood as fostering inner and outer performative dialogue, leading to an articulated and appropriated personal life orientation and consequently to resilience. Specific characteristics of the plot developed in the autobiography determine the manner in which one's inner dialogue, life orientation, and resilience are affected. CONCLUSIONS: Gaining insight in the relationship between writing a spiritual autobiography, life orientation and resilience by means of emplotment and performative inner and outer dialogue, allows for new insight and novel approaches in dealing with existential restlessness and discomfort (e.g. as it relates to stress reduction, self management etc). This is relevant and important to the field of psycho oncology, as it allows for different approaches to improve and understand the (spiritual) quality of life and wellbeing of cancer patients. RESEARCH IMPLICATIONS: An increased (multi disciplinary) understanding of the relationship between writing a spiritual autobiography, life orientation and resilience - by studying the role of emplotment and performative inner dialogue - can also lead to new insight and help understand the relationship between e.g. writing, emplotment/inner dialogue and self management; or writing, emplotment/inner dialogue and coping; or writing, emplotment/inner dialogue and stress reduction. CLINICAL IMPLICATIONS: An increased (multi disciplinary) understanding of the relationship between writing a spiritual autobiography, emplotment/inner dialogue, life orientation and resilience, could eventually allow for the development of a variety of new clinical tools, instruments and interventions centering around writing and inner dialogue that allow cancer patients to strengthen their resilience, increase their potential for self management and eventually get their life back on track. ACKNOWLEDGEMENT OF FUNDING: The research project is funded by Adessium, an independent foundation in the Netherlands.

P3-66

Spirituality/Religious Conviction in Cancer Patients

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BACKGROUND: Numerous studies have shown that spirituality/religious conviction might be a resource in coping with illness contributing to psychosocial adjustment, to patients attitude towards cancer treatments as well as to patients health related quality of life. The aim of this study was to investigate whether 1) the “faith factor” demonstrates effects on anxiety and depression in cancer patients, 2) is spirituality/religion a source of
strength and 3) sociodemographic factors impact spirituality/religious conviction? METHOD: 443 patients (56% women, 44% men) diagnosed with cancer at the Clinic for Haematology/Haemostaseology and Oncology of the Medical University of Vienna were interviewed. Based on the bio-psycho-social-spiritual model we used standardized questionnaires like the anxiety and depression scale (HADS), spirituality and religiosity benefit (Büssing) as well as sociodemographic characteristics. Furthermore, we obtained clinical data such as cancer site, presence of metastatic disease, haemoglobin, pain and fatigue; social factors included income, education, employment status, presence of children in the household, marital status, residency (rural vs. urban); and psychological factors: depression, anxiety, distress and previous psychiatric disorders. RESULTS: 231 (52%) of the 443 patients studied, referred themselves as spiritual and/or religious (religious 24.4% spiritual 11.1% religious/spiritual 16.7%). We could not demonstrate any significant associations between spirituality/religious conviction and biological or sociodemographic factors. Study data demonstrated towards lower anxiety and depression levels in the spiritual and/or religious group. The highest levels of anxiety and depression were detected in the non-religious, non-spiritual group. CONCLUSIONS: These results indicate that spiritual and religious conviction might play an important role in patients dealing with life threatening diseases. Nevertheless it should be mentioned that family back up was the most important support for the patients suffering from cancer. However these are only preliminary data and further results will be presented. RESEARCH IMPLICATIONS: Our findings suggest, that spirituality should be included as a factor in quality of life evaluations. Further studies are needed to validate this hypothesis. CLINICAL IMPLICATIONS: The major implication of this study is the need for the health care providers to pay more attention to the question whether spirituality/religious conviction serves as a resource to most important support for the patients suffering from cancer. Our data indicate that this is the case. ACKNOWLEDGEMENT OF FUNDING: None.

P3-67
Abstract withdrawn

P3-68
Meaning Making in Cancer Survivors: A Focus Group Study
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BACKGROUND: Confrontation with a life-threatening disease like cancer can evoke existential distress, which can trigger a search for meaning in cancer patients. The purpose of this study is to gain more insight in the meaning making process among cancer survivors. METHOD: We conducted four focus groups with 23 cancer survivors on this topic. Participants responded to questions about experienced meaning making, perceived changes in meaning making after cancer and the perceived need for help in this area. RESULTS: Most frequently mentioned meaning making themes were relationships and experiences. We found that, in general, cancer survivors experienced enhanced meaning after cancer through relationships, experiences, resilience, goal-orientation and leaving a legacy. Some participants, however, also said to have (also) experienced a loss of meaning in their lives through experiences, social roles, relationships and uncertainties about the future. CONCLUSIONS: The results indicated that there is a group of cancer survivors that has succeeded in meaning making efforts, and experienced sometimes even more meaning in life than before diagnosis, while there is also a considerable group of survivors that struggled with meaning making and has an unmet need for help with that. The results of this study contribute to develop a meaning centered intervention for cancer survivors. RESEARCH IMPLICATIONS: Meaning making seems to be an important issue in cancer survivors, but much is still unknown about the meaning making process. The results of this study give insight in meaning making processes in cancer survivors and their need for help with issues with meaning and offer targets for future research. CLINICAL IMPLICATIONS: Meaning making is important in the adjustment to life after cancer. The results of this study offer more insight in the perceived meaning making issues of cancer survivors and their need for psychological help with this. It also gives examples of how cancer survivors experience meaning in life after cancer. ACKNOWLEDGEMENT OF FUNDING: This study is funded by the Dutch Cancer Society / Alpe d’HuZes/KWF Fund.
P3-69

The CHANGE Study: Web-Based Cognitive Behavioral Therapy for Fatigued Breast Cancer Survivors

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BACKGROUND: Approximately 40% of breast cancer survivors suffer from severe fatigue after completion of cancer treatment with curative intent. Individual cognitive behavioral therapy (CBT) especially designed for postcancer fatigue was found to be effective. Unfortunately, treatment capacity is limited. A web-based version of the CBT with minimal therapist support is developed to extend treatment options for postcancer fatigue. The effectiveness of the internet therapy will be determined in the CHANGE study.

METHOD: The web-based CBT for fatigued breast cancer survivors will be compared to usual care in a randomized controlled trial. Severely fatigued women between 18 and 65 years old, who completed primary breast cancer treatment at least three months ago, can participate in the study. The following research questions will be assessed:

- What are the effects of internet therapy on fatigue compared to usual care?
- What are the effects of internet therapy on functional impairments, psychological distress and quality of life compared to usual care?
- Does time since end of cancer treatment moderate the effects of internet therapy?

RESULTS: The internet therapy includes six modules that coincide with six factors assumed to perpetuate the symptoms of fatigue. These perpetuating factors are: (1) coping with breast cancer and breast cancer treatment; (2) fear of disease recurrence; (3) dysfunctional fatigue-related cognitions; (4) sleep-wake rhythm; (5) activity pattern; and (6) social support. Several assessment tools are used to determine which key modules are applicable to each participant, which makes it possible to provide a tailored treatment. The internet therapy will be demonstrated and the first experiences of patients with the internet therapy (test pilot) will be presented.

CONCLUSIONS: Web-based CBT is expected to be less time-consuming for therapists than regular CBT, which would result in an increased treatment capacity. Moreover, web-based CBT could provide an additional, easy-accessible treatment option for fatigued breast cancer survivors. Participants are able to follow the internet therapy at home, at any preferred time, and can go through the modules at their own pace.

RESEARCH IMPLICATIONS: The CHANGE study will provide insight in the effectiveness of web-based CBT for fatigue in oncology care. The study will demonstrate whether web-based CBT for postcancer fatigue will be effective in reducing fatigue, functional impairments, psychological distress and improving quality of life for breast cancer survivors suffering from severe fatigue after completion of cancer treatment.

CLINICAL IMPLICATIONS: Web-based CBT is expected to increase the limited treatment capacity of postcancer fatigue. If web-based CBT would be effective, it could provide an additional treatment option for postcancer fatigue that can easily be implemented in regular care.

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P3-70

Adventure Therapy: A Novel Approach to Increasing Physical Activity and Physical Self-Concept in Young Adult Cancer Survivors

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BACKGROUND: Studies have demonstrated physical activity (PA) is beneficial both physically and psychologically in cancer survivors including young adult cancer survivors (YACS) but it has been challenging to recruit YACS to conventional PA programming. Adventure therapy (AT) uses metaphors to enhance participant’s ability to transfer challenges during the expedition to daily life. The purpose of this pilot study is to determine if AT can positively affect physical self-concept and PA in YACS.

METHOD: YACS diagnosed between the ages of 15–39, who were participating in an AT expedition were asked to complete a survey before and after their expeditions. A group of YACS not participating in AT were given the surveys at the same time points and served as a control group. The survey included the Leisure-Time Exercise Questionnaire and the Physical Self Description Questionnaire-Short From (PSDQ-S).

RESULTS: Eight participants responded to both the pre and post survey (4 AT, 4 control). The mean age of the sample was 29.7 ± 4.8 years. Results indicated that there was a greater increase in PA minutes in the AT group (146 minutes/week) than the control group (34 minutes/week). At the
one-week follow-up, scores were higher for the AT group in PSDQ-S subscales of body fat and global physical compared to the control group. CONCLUSIONS: To our knowledge, this is the first study exploring the possibility that AT could increase physical self-concept and physical activity in YACS. In this pilot study YACS participating in AT expeditions, had a greater improvement in self-reported PA minutes and improvements in perception of their bodies, on measures of global physical and body fat, than the control group. This indicates that YACS in the AT group were more comfortable with their weight and how they felt about themselves physically. RESEARCH IMPLICATIONS: Given the preliminary results that AT may improve how YACS feel about themselves physically and increase their PA minutes, additional research is warranted. Larger studies of different types of ATs and longer follow-up are needed. CLINICAL IMPLICATIONS: AT expeditions are becoming more common for YACS and research on their purported benefits are needed. Such research around AT will help oncologists and other health care professionals describe the potential benefits of AT to YACS and make recommendations to their patients about attending these expeditions. ACKNOWLEDGEMENT OF FUNDING: None.

P3-71
Predictors of Emotional Well-Being of Adolescent Childhood Cancer Survivors
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BACKGROUND: According to some studies, childhood cancer survivors suffer emotional problems, externalized behavioral problems and social withdrawal during adolescence. On the other hand, there are studies on HRQL indicating that despite the wide range of late effects there is no difference in quality of life between childhood cancer survivors and healthy adolescents. The presented study explores the influence of different sets of factors identified as significant predictors of emotional well-being of childhood cancer survivors in adolescence. METHOD: Participants were 100 adolescents (47 girls) aged 13–20 years. The Psychological Functioning subscale of MMQL was used as a measure of emotional well-being. Three sets of variables were studied: demographic variables (gender, age), medical data (delay between the end of intensive treatment and psychological assessment, diagnosis, severity of late effects), and information about parent-child interactions (parental involvement, control, warmth, and inconsistency of parenting). To analyze the influence of independent variables, hierarchical regression analysis was used with demographic variables in the first block of variables, parenting aspects in the second block of variables and medical data in the third block of variables. RESULTS: The only predictors of emotional well-being are gender (boys report better emotional well-being) and consistency of parenting (consistency of parenting influences better emotional well-being). No influence of cancer treatment-related problems was found. CONCLUSIONS: The study supports findings implying that there are no differences between well-being/quality of life of childhood cancer survivors and healthy (general) population of children and adolescents. More precisely: although there may be differences in the quality of life between cancer survivors and healthy population, the sources of the quality of life of cancer survivors are the same as in the general population. CLINICAL IMPLICATIONS: The findings demonstrate the importance of taking into account problems that might be typical for the period of adolescence in general within the psychosocial support for childhood cancer survivors. ACKNOWLEDGEMENT OF FUNDING: This work was supported by the Czech Science Foundation (Grant No. P407/11/2421) and the Czech Republic’s support for long-term strategic development of research organizations (RVO: 68081740).

P3-72
Distress, Problems, and Supportive Care Needs After Hematopoietic Stem Cell Transplantation
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BACKGROUND: It is known that hematological malignancies as well as hematopoietic stem cell transplantations affect patients’ health-related quality of life. The problem profile of this patient group needs clarification, however. Moreover, it is unclear for which problems patients need help, and whether their needs are met or unmet. This study aimed to assess distress, problems and corresponding care needs up to 5 years after autologous or allogeneic stem cell transplantation (auto-SCT, allo-SCT). METHOD: In this cross-sectional study, patients
treated with auto- or allo-SCT for hematological malignancies completed the Distress Thermometer and corresponding Problem List, to which supplementary questions on supportive care needs were added. Auto-SCT and allo-SCT patients were analyzed separately. To compare problems and needs at different time points after transplantation, we created three groups: patients 0–1 year(s), 1–2.5 years, and 2.5–5.5 years after transplantation. RESULTS: In allo-SCT patients, distress and number of problems tended to be lower with longer follow-up. The percentage of patients with distress after auto-SCT was highest at 1–2.5 years after SCT. Overall, patients mainly reported physical problems, followed by cognitive-emotional and practical problems. The physical problems being out of shape/condition, fatigue, muscle strength, and tingling in hands and feet were mentioned most, as were the cognitive-emotional problems concentration, memory, and tension/nervousness. Despite the relatively high number of reported problems, the minority of patients with problems reported (unmet) care needs. CONCLUSIONS: With the current study, we reached a large number of hematopoietic SCT survivors willing to report on their problems and care needs. Consequently, we were able to study the differences between patient groups at consecutive time periods after transplantation. We pointed out the specific problems patients face in the years after auto- and allo-SCT, as well as their needs for additional care. In addition to the usual care as offered nowadays, specific attention should go to problems in the physical, cognitive-emotional, and (somewhat less) practical areas of functioning. RESEARCH IMPLICATIONS: Whereas previous studies reported unmet needs to be mainly in the daily living, practical, and psychological domains, our results only partly confirmed these findings. Most unmet needs seemed to be in the physical and cognitive-emotional domain. More research is needed to elucidate these findings. Also, future research should look further into explanations for the relatively small number of patients reporting unmet needs. CLINICAL IMPLICATIONS: Judged by prevalence, physical problems are the first priority in supportive care, followed by cognitive-emotional and practical problems. Our results suggest the need for interventions targeting specific problems in these areas of functioning. Physical problems might be targeted by exercise programs. For patients with concentration and memory difficulties, patients could be treated with cognitive rehabilitation, aiming at compensating cognitive impairments. Psychological treatment could help in improving tension/nervousness or depression. ACKNOWLEDGEMENT OF FUNDING: None.

P3-73
Anxiety and Depression Severity in Colorectal Cancer Survivors: A Comparison With the NESDA-Cohort

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BACKGROUND: There are some indications that colorectal cancer (CRC) survivors suffer from heightened levels of anxiety and depression symptoms, independent of their quality of life (QOL). The present study aimed to (1) assess the prevalence of anxiety and depression symptoms in CRC survivors, (2) compare CRC survivors’ anxiety and depression severity to healthy controls and persons with a lifetime diagnosis of anxiety and/or depression disorder, and (3) assess health-related QOL, particularly emotional functioning, in CRC survivors. METHOD: In this cross-sectional study, persons diagnosed with CRC 3.5 to 6 years ago were asked to complete a questionnaire package, including the Inventory of Depressive Symptomatology, Beck Anxiety Inventory, and EORTC-QLQ-C30. Descriptive statistics were used to assess the prevalence of anxiety and depression symptoms in CRC survivors. With multiple linear regression analyses, we compared anxiety and depression severity of CRC survivors to data on healthy controls and persons with a lifetime anxiety and/or depression disorder, available in the Netherlands Study of Depression and Anxiety (NESDA). Descriptive statistics were used for assessing health-related QOL. RESULTS: Of 132 eligible patients, 91 completed the questionnaire package (response rate 69%). The majority of CRC survivors had no (80,6%) or mild (13,6%) anxiety symptoms; 5% reported moderate or severe symptoms. The majority had no (59,3%) or mild (33,0%) depression symptoms; 7,7% reported moderate symptoms. Controlling for several sociodemographic variables, CRC survivors had significantly lower anxiety and depression severity compared with persons with a lifetime anxiety and/or depression diagnosis. CRC survivors reported significantly higher depression severity than healthy controls, but did not differ on anxiety severity. CRC survivors reported relatively good emotional functioning on the EORTC-QLQ-C30.
CONCLUSIONS: The present study is the first to compare CRC survivors’ anxiety and depression severity with person with a lifetime diagnosis of anxiety and/or depressive disorder, as well as with healthy controls. Despite CRC survivors reporting better emotional function than the EORTC-QLQ C30 general population reference group, they reported significantly higher depression severity than healthy controls. However, anxiety and depression severity were significantly lower compared to persons with a lifetime anxiety and/or depressive diagnosis. RESEARCH IMPLICATIONS: In CRC survivors, measuring emotional functioning in QOL measurements seems to lead to an underestimation of depression symptoms. Further research is needed to confirm these findings. CLINICAL IMPLICATIONS: Even in CRC survivors with good emotional functioning on a QOL questionnaire, clinicians should be aware of potential depression symptoms. ACKNOWLEDGEMENT OF FUNDING: None.

P3-74

Unemployment Among Breast Cancer Survivors

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BACKGROUND: Even though nearly 80% of breast cancer survivors return to work in the years following treatment, it may be a challenge for cancer survivors to maintain an affiliation to the labor market, as the risk for non-employment has been shown to continue. The majority of studies have, however, been focusing on risk factors for non-working and not explicitly on unemployment. Breast cancer in combination with unemployment might be a substantial challenge to the affected women. METHOD: This study is solely based on information from Danish administrative population-based registers. All women diagnosed with breast cancer between 2001 and 2009 were identified. As the outcome of the study was unemployment, we restricted the analysis to women aged 18–63 years and being part of the workforce at the time of diagnosis ending up with a population of 14,749 breast cancer survivors. Using cox proportional hazard models the women were followed from the time of diagnosis until unemployment, death, early retirement, emigration, age 64 years or end of follow-up (last week of March 2011), whatever came first. RESULTS: Two years after completion of treatment, 10% of women were unemployed. The risk of unemployment turned out to depend mostly on history of unemployment with significantly different frequencies of unemployment after diagnosis among survivors with and without a history of unemployment. The risk for unemployment after diagnosis were doubled, if the woman had been unemployed 53–78 weeks before diagnosis (OR: 2.04, 95%CI: 1.78–2.34). Independent of employment status before diagnosis, low socioeconomic position was significantly risk factors for unemployment in the fully adjusted model. Clinical factors and co-morbidity turned out to be of minor importance for the future risk of unemployment. CONCLUSIONS: In this study of unemployment among women with breast cancer, we found that unemployment before diagnosis was the single most predictive factor for unemployment in the years following. Risk for unemployment was associated with low socioeconomic status, but not with comorbidity or clinical factors. Depression before diagnosis was a risk factor in the group of women not unemployed before diagnosis. This finding leads to identification of a special vulnerable group of women, who have to struggle with both a history of unemployment and a severe disease. RESEARCH IMPLICATIONS: As the prevalence of breast cancer survivors in working age is increasing it is becoming more important to identify different pathways from patient back to normal life. Non-working covers a range of possible states as retired, sickness absence, assisting spouse, leave or unemployed. All these states can be caused by different risk factors. Research in these different risk factors can improve the rehabilitation of cancer survivors. CLINICAL IMPLICATIONS: Identifying special vulnerable breast cancer survivors is important in order to help this group of survivors to get back to a normalized life. Rehabilitation under and after treatment has to be tailored to the special needs of the individual, and women with a history of unemployment might have special needs. ACKNOWLEDGEMENT OF FUNDING: This work is funded by The Danish Cancer Society and The Novo Nordisk Foundation and is part of The Centre for Integrated Rehabilitation of Cancer Patients (CIRE).

P3-75

Breast Cancer Survivors and Innovative Return and Stay at Work Intervention: A Research Protocol

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BACKGROUND: To reduce the substantial gaps in our understanding of how to develop and
successfully implement survivors centred interventions, our research project aims: 1) To identify the inter related factors influencing the return to work (RTW) and staying at work (SAW), 2) To develop a intervention for a healthy RTW, 3) To evaluate the feasibility of the intervention. METHOD: A comparative case study (n = 2) will be performed to identify inter related factors influencing RTW and SAW for breast cancer survivors (Obj. 1). The unit of analysis will be the RTW and SAW trajectories. Data will be collected mainly throughout semi-structured interview with breast cancer survivors (n = 24), 1 and 3 years after cancer diagnosis. Building on the identified factors, complementary sources of information (literature review and expert panel) will be mobilised to develop a survivors and evidence-based intervention to support RTW and SAW (Obj. 2). The intervention prototype will then be tested for the feasibility (Obj. 3). RESULTS: With more woman surviving breast cancer, it has become more likely that these cancer survivors can continue to work for many years following diagnosis and primary treatment. The results of this project will join the specialised oncological rehabilitation programs for cancer survivors to facilitate improvement of functional deficit related to cancer and its treatment, and the health-related quality of life. CONCLUSIONS: In order to maximize effective intervention components of RTW and SAW, it must be tailored accounting the complexity of factors which can influence the success or failure of a healthy cancer survivorship. Our study protocol set forth research methods to capture the breast cancer survivors, their families, employers and colleagues issues. RESEARCH IMPLICATIONS: The originality of this project resides in the methods used for the elaboration of the intervention. First, the use of a logic modelling approach to conceive the intervention will permit to explain and describe the links between the different components of it. Second, the participative approach will assure that the intervention designed in this study will be patient-centered. CLINICAL IMPLICATIONS: Again, the original methodology of this project will make the intervention developed of interest for clinical experts. The logic modelling approach will permit the experts to understand and evaluated the intervention potential effectiveness and the participative approach combine with evidence-based data will assure the relevance of the intervention. ACKNOWLEDGEMENT OF FUNDING: Chaire de recherche en réadaptation au travail (J. A. Bombardier et Pratt & Whitney Canada).

P3-76
Relationship of Fatigue, Exercise Intensity, Depression, Physical Status and Fatigue Related Factors in Head and Neck Cancer Survivors in Taiwan
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BACKGROUND: Fatigue is a common symptom in cancer patients caused by active treatment. Some evidence supported exercise could improve cancer patients’ fatigue. However, limited research has explored head and neck cancer survivors’ fatigue experience related to exercise intensity and depression. Therefore, the purposes of the study were: (1) to explore the relationship of fatigue, exercise intensity, depression and physical status; and (2) to identify the predictors of fatigue in Taiwanese head and neck cancer survivors. METHOD: A cross-sectional study with purposive sampling was conducted in a medical center in northern Taiwan. Head and neck cancer patients completed treatment for 3 months to 5 years were included. We assessed patients’ fatigue, exercise intensity, depression and physical status by Fatigue Severity Inventory, Godin Leisure-Time Exercise Questionnaire, Depression Subscale of Hospital Anxiety and Depression Scale, and Karnofsky Performance Scale. Pearson’s correlation, T-test, and ANOVA were used to examine the association among fatigue and variables. The significant variables including age, months since diagnosis, surgery with or without reconstruction, KPS, depression, and exercise intensity were put into the linear regression model. RESULTS: A total of 144 eligible patients were recruited. The results showed that: (1) half of patients (52.6%) did moderate leisure activity weekly, then strenuous activity (27.7%) and light exercise (19.7%). (2) Patients had mild fatigue and it was correlated to mental distress (r = 0.26, p < 0.05). CONCLUSIONS: The finding indicated that exercise may improve their fatigue. Besides, depression is also an important predictor of fatigue. Therefore, healthcare providers should also pay attention to mental health while using exercise program to improve fatigue. Future study should develop effective intervention to manage the fatigue and enhance their quality of life. RESEARCH IMPLICATIONS: The finding indicated that patients’ fatigue was correlated to mental distress and activity. Also, the different age or complication
resulted from types of surgery lead to the levels of fatigue variedly. It is necessary to understand patients’ preference of exercise or activity and physical function status for developing the various exercise guidance for fatigue management in the future.

CLINICAL IMPLICATIONS: Our results found fatigue still occur in head and neck cancer survivors. The impacts of mental distress and potential physical symptoms caused by treatment are needed to concern continuously in the survivorship. The study suggests assessment of patients’ mental and physical status simultaneously may promote fatigue management effectively. ACKNOWLEDGEMENT OF FUNDING: None.

P3-77

“It Will Never be the Same:” Adjusting to Real Life After Breast Cancer Treatment

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BACKGROUND: Breast cancer patients feel relieved when initial treatment is over and they are keen to back to the life they had before cancer. However, the end of treatment would present patients with changes and new physical, psychological, and psychosocial challenges. This study aimed to explore the whole experience of adjusting to real life after breast cancer treatment among Korean breast cancer patients.

METHOD: This was a sequential mixed methods study. In Phase I, individual in-depth interviews were conducted with 30 disease free breast cancer survivors to identify difficulties, barriers, and concerns that they experience with adjusting to real life after cancer treatment. In Phase II, 280 breast cancer survivors were survey using 60 items in 5 domains that were identified from Phase I study: 1) fear of recurrence; 2) symptoms related to physical and mental condition; 3) roles in family and community; 4) returning to work; and 5) life planning after cancer treatment.

RESULTS: 87.1% of the study participants worried about fear of recurrence. About one third of the survivors worried about that their children would get cancer because of them (67.1%). They had difficulties to implement or keep health behaviors regardless of their knowledge. Women in 50’s experience more challenges in daily life than other age groups which might be due to multiple roles in family and society. Low-income group have more concerns about their working ability than healthy management. Spouse’s supports and working and social environment was the key for them to overcome barriers to adjust to reality.

CONCLUSIONS: Survivors experienced on-going problems and challenges regarding daily activities, work-related life, personal relationship, and social activities, and they were not well prepared for the changes. They had both practical and emotional issues with pain and fatigue and their daily activities were disturbed by fear of recurrence and cancer stigma. Lack of information, negative perception, limited family and social support were the key barriers for them to adjust to reality.

CLINICAL IMPLICATIONS: Health professionals should assess needs of patients when the initial treatment is over and provide appropriate information and psychosocial support to the patients to help them adjust well to daily routine that they enjoyed before the cancer diagnosis. ACKNOWLEDGEMENT OF FUNDING: This study was a part of BRAVO program and we would like to thank Goldman Sachs for their support of the BRAVO program.

P3-78

Abstract withdrawn

P3-79

Fear of Cancer Recurrence in Patients With Colorectal Cancer - A Retrospective Study

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BACKGROUND: Fear of cancer recurrence (FCR) is one of the most commonly reported problems amongst colorectal cancer survivors and an important unmet psychosocial need for help. It is a normal and common concern for cancer survivors who have completed treatment and are in remission. However, for some survivors this fear becomes so high that they have difficulties in performing daily activities. This study focuses on the severity and characteristics of FCR in colorectal cancer survivors.

METHOD: Two hundred fifty four patients diagnosed with colorectal cancer in the period 2003–2010 from the Radboud University Nijmegen Medical Centre in the Netherlands were asked to participate. An information letter was mailed to all colorectal cancer survivors together with questionnaires on demographic variables and medical data, the Cancer Worry Scale (low fear: ≤ 13, high fear: ≥ 14) and the Fear of Cancer Recurrence Inventory (subscale triggers, psychological distress and functioning impairments).

RESULTS: One hundred nine patients (43%) returned the questionnaires. Of these, 84 patients
(median age 67.1; range 42–89 years) were disease free and did not have a recurrence or metastasis (time since diagnosis $M = 4.91$ SD = 2.4). About a third of these patients (34.5%) experience high levels of FCR that coincide with psychological distress, functioning impairments including work, daily and social activities, the ability to make future plans and triggers that make one think about the possibility of a recurrence. No relation was found between high levels of fear and age, time since diagnosis, gender, stage of disease or having a stoma.

CONCLUSIONS: A long time after the diagnosis of colorectal cancer, FCR is a problem for a substantial part of survivors. Survivors with high levels of FCR experience significantly more psychological distress, functioning impairments and triggers compared to survivors with low levels of FCR.

RESEARCH IMPLICATIONS: This research demonstrates that severe FCR is still prevalent in a substantial part of cancer survivors for a long period after the end of primary treatment. More research into the underlying mechanisms of the development of severe FCR is needed to understand this phenomenon. CLINICAL IMPLICATIONS: The results implicate that fear of cancer recurrence can have a large impact on survivors’ lives. It is important to develop an intervention tailored to this specific fear to reduce the high levels towards more normal levels of fear.

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P3-80
Physical Exercise and Return to Work: Cancer Survivors’ Experiences
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BACKGROUND: Cancer survivors often experience problems returning to work. Physical exercise might influence return to work and vice versa. To gain insight into these influences, it is necessary to explore cancer survivors’ personal experiences. The goals of this qualitative study are to explore cancer survivors’ experiences with 1) return to work and work performance; 2) a physical exercise program after treatment; and 3) the perceived link between physical exercise and work. METHOD: Semi-structured face-to-face interviews were held with cancer survivors of working age who had recently been treated with chemotherapy and had afterwards completed a group-based supervised physical exercise program. The interviewer asked open questions and followed a phenomenological approach. All interviews were audio-taped and transcribed verbatim. The text was coded and categorized using MaxQDA. A second assessor was involved in coding two of the interviews.

RESULTS: Ten cancer survivors participated, of whom nine were female and seven had breast cancer. Eight participants returned to work. Half of the survivors had difficulties returning to work due to insufficient occupational physician support. Six stated they had suffered cognitive deficits which impaired work performance. Main perceived effects of the exercise program were “improved fitness” and “renewed energy”. Most participants thought that physical exercise had likely contributed to return to work, primarily by increasing energy levels. Some believed that physical exercise had facilitated coping with demanding work. A supportive work environment was believed to stimulate the continuation of physical exercise.

CONCLUSIONS: Cancer survivors experienced a positive influence of physical exercise on return to work and work performance, and a positive influence of return to work on physical exercise. RESEARCH IMPLICATIONS: Considering our findings, and the fact that the number of cancer survivors of working age is increasing and their 5-year survival is rising, it would be interesting to find out the implications of sustained physical exercise on return to work and work performance on the longer term. In further research, generalizability should be optimized by including more male cancer survivors and a broader spectrum of cancer types.

CLINICAL IMPLICATIONS: Clinicians should incorporate supervised physical exercise as a standard component into the rehabilitation process of cancer survivors. Occupational physicians could advise cancer survivors to remain physically active before, during and after return to work. Also, they can advise the employer to create an exercise-friendly environment to stimulate physical exercise and thereby facilitate work performance.

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P3-81
Women’s Experiences of Social Support During the First Year Following Primary Breast Cancer Surgery
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BACKGROUND: Social support is regarded as important in helping women adjust to breast cancer, and varies during their disease and treatment. To be able to improve psychosocial care by using innovative approaches, it is important to understand social support and its significant role...
throughout the breast cancer experience. The purpose of this qualitative follow-up study was to describe women’s individual experiences of social support during their first year after primary breast cancer surgery. METHOD: Individual semi-structured interviews were conducted at a Norwegian university hospital with 10 women (aged 51 to 67 years) 1 year after primary breast cancer surgery. The interviews varied in length from 55 to 100 minutes. The informants were asked and probed about their experiences of social support throughout the first year following breast cancer surgery. The transcripts were analysed using Kvale’s method of qualitative meaning condensation analysis. RESULTS: Analysis revealed four themes of social support: sharing experiences, continuity, understanding, and information and explanation. Mutual sharing of experiences increased the women’s knowledge and experience of support, and minimised rumination. Continuity of care gave feelings of security and trust. To be met with understanding and seen as a person, not just as “a diagnosis being treated”, was important in the women’s experiences of support. The women felt uncertainty and loss of support after treatment. Knowing that healthcare professionals had time and would provide care if needed was important. Information and explanation about treatment and the possible treatment-related problems were essential. CONCLUSIONS: This study illuminates women’s experiences of social support during the first year following breast cancer surgery. Sharing mutual experiences appears to be an important coping strategy in women’s experiences of social support. The women’s psychosocial support needs are essential to include along with medical treatments and procedures. RESEARCH IMPLICATIONS: Further research could focus on the following issues: (a) studying social support from healthcare professionals in the first year after breast cancer surgery among samples of women from different cultures; (b) studying whether a nursing intervention (e.g. participation in a support group) during the first year after breast cancer surgery could have beneficial effects on these women’s well-being and ability to cope. CLINICAL IMPLICATIONS: By understanding women’s individual experiences and support needs, healthcare professionals can be an important resource in providing support and information to women. In order to provide holistic healthcare and support, it is essential to include the women’s psychosocial support needs along with medical treatment. The results can be both used clinically to understand the women’s support needs during the first year following breast cancer surgery, and used in planning and implementing care for these women. ACKNOWLEDGEMENT OF FUNDING: None.

P3-82
Physical and Psychosocial Problems in Cancer Survivors Beyond Return to Work: A Systematic Review
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BACKGROUND: Attention for the expanding group of cancer survivors at work, and the late effects they are confronted with while working, has been limited. The objective of this systematic review is to identify and summarize studies, exploring ongoing physical and psychosocial problems related to functioning of employees with a history of cancer, beyond their return to work. METHOD: Publications were identified through computerized Medline, Psychinfo, Embase and Cinahl searches (January 2000–March 2013). Studies had to be directed at cancer survivors, who were employed during the study. Both qualitative and quantitative studies were included. Two reviewers independently extracted data from each publication, including design, study population, physical and psychosocial problems (e.g. fatigue, cognitive limitations), and outcome measures (e.g. work productivity). Qualitative and quantitative results were extracted. RESULTS: The search identified 8979 articles. After exclusion on title and abstract, 64 were retrieved for full text screening, of which 30 met the inclusion criteria. A total of 20 studies reported quantitative and 10 studies reported qualitative results. Regarding psychosocial problems, cognitive limitations were frequently reported to influence work ability; coping issues diverged from dealing with insensitive management to over-protectiveness of supervisors; fatigue was found to be significantly more present in cancer survivors at work than in the general working population. Regarding physical problems, treatment-induced menopausal symptoms were frequently described as being disruptive at work and affecting work performance. CONCLUSIONS: Ongoing physical and psychosocial problems are present in occupation-ally active cancer survivors, which may cause serious difficulties at work. The results of this study may be used as input for developing supportive interventions for these survivors. RESEARCH IMPLICATIONS: This comprehensive overview of most explored and reported problems in cancer survivors impacting functioning at work may be a point of departure for research on, for example, presenteeism and sickness absence in occupation-ally active cancer survivors. CLINICAL IMPLICATIONS: (Occupational) health care professionals, but also employers and colleagues,
should be included in the organisation of keeping cancer survivors occupationally active. When employees with a history of cancer are given tailored support, and personal recommendations and work-related adjustments are made, they may be more likely to continue and manage their (former) illness at work. ACKNOWLEDGEMENT OF FUNDING: None.

P3-83
Early Stage Lung Cancer Survivors’ Characteristics and Relevant Factors of Sleep Disturbance
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BACKGROUND: Sleeping disturbance was commonly reported among cancer patients. Cancer symptoms such as pain, anxiety, and depression can interfere with sleeping quality. Advanced lung cancer patients’ emotional distress and symptom burden were typically emphasized. Two purposes of this study focused on early stage lung cancer patients at one month after the operation (1) to explore the association among pain severity, psychological burden, and sleeping disturbance, and (2) to identify relevant factors of patients’ sleep disturbance. METHOD: This was a cross-sectional correlational study in a medical center in the northern Taiwan to recruit early stage lung cancer patients whose tumor was just removed. The time point of Interview was at one month after surgery. The IRB approval was obtained. Pain severity, total number of symptoms, physical exercise, performance, psychological status, and sleep quality were self-reported in the instruments: a 10-point scale for pain, Godin physical activity questionnaire, Karnofsky Performance Scale, Sleep Disturbance Questionnaire, the Hospital Anxiety and Depression Scale, Anxiety, and Mishel’s Uncertainty of Illness-Community version. Descriptive analysis, comparison analysis, and linear regression were proceeded for research purposes. RESULTS: This study recruited 225 patients with the average of age 59.5 (SD = 11.5). There were 132 female patients. Ninety percent of patients had at least one symptom. The worst pain and average pain were scored lower than 3. Sixty percent of patient maintained physical exercise and that was correlated to less sleep disturbance. Patients reported a lower level of psychological distress on anxiety (mean = 0.56, SD = 0.53), depression, (mean = 0.54, SD = 0.57), and uncertainty (mean = 2.19, SD = 0.58). Regression shows that sleeping distress was predicted by younger age, an increasing number of symptoms and a higher level of uncertainty and anxiety. CONCLUSIONS: Early stage lung cancer patients perceived a fewer number of symptoms, less symptom burden, and a low level of psychological distress that may be because the tumor was removed. Our findings suggest that (1) sufficient physical activity is necessary for sleep quality; (2) patients having more symptoms and psychological problems were more likely to have sleep disturbance. Therefore, strategies about symptom management and alleviating psychological distress are essential to prevent cancer patients from sleep disturbance. CLINICAL IMPLICATIONS: Clinical providers should still be aware of the fact that symptoms and psychological distress are still central issue in improving patients’ sleep quality, although early stage lung cancer patient did not report great symptom burden. Moreover, Patients in the survivorship are encouraged to maintain daily physical activities to improve sleeping quality. ACKNOWLEDGEMENT OF FUNDING: None.

P3-84
Fear of Recurrence After Breast Cancer Treatment
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BACKGROUND: More women are faced with the challenges of survival of cancer, such as dealing with fear of recurrence. This study aimed to assess the prevalence of fear of recurrence in curative breast cancer patients. We investigated the relationship between fear of recurrence and distress as well as a number of demographic and disease-related variables. We also examined the statistical qualities of the Concerns About Recurrence Scale - English Language Version for a Flemish audience. METHOD: Questionnaires were sent to 159 patients who underwent curative breast cancer treatment in AZ Maria Middelares, a general hospital in Belgium, during the past 9 years. The patients completed the CARS-DLV and the Distress Barometer. We questioned these patients on a number of personal and disease-related data, and linked this to the data available through the registration of the Multidisciplinary Oncology Consultations. RESULTS: The results show that 14.5% of participants report high fear of recurrence, and 61.8% moderate fear of recurrence. We observe a moderate to high correlation between fear of recurrence and distress. Except a negative correlation with age, we find no significant relationship between fear of recurrence and demographic and disease-related variables. The internal consistency of the CARS-DLV is high. CONCLUSIONS: We conclude that fear of recurrence after breast cancer treatment is a topic that deserves clinical attention, given the high prevalence and association with distress. There is a need for a broader plan of care for patient follow-up after cancer treat-
treatment both, medical (including information about side effects anti-hormonal therapy) and psychosocial. Detection of high levels of fear of recurrence may be an important first step. RESEARCH IMPLICATIONS: Most psychosocial interventions are tested and analyzed to help patients during cancer treatment. More research about how to deal with fear of cancer recurrence is needed so that interventions can be developed to further support these patients. CLINICAL IMPLICATIONS: Given the high prevalence of fear of cancer recurrence, even years after treatment, and given the association of fear of cancer recurrence with distress, detection of high levels of fear of recurrence is an important first step in psychosocial care after cancer treatment. ACKNOWLEDGEMENT OF FUNDING: None.

P3-85
A Longitudinal Perspective on Post-Traumatic Growth following the Diagnosis of Breast Cancer: The Mediating Role of Mindfulness and Attachment Security
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BACKGROUND: Research has focused attention on positive change that takes place following a crisis and has examined both immediate responses as well as the long-term effects of severe life stressors on positive growth. However, the scope of these studies is still limited as most studies are descriptive and do not attempt to explain the dynamics that instigate change. Moreover, studies of post-traumatic growth following diagnosis with cancer usually do not examine growth over time. METHOD: The current prospective longitudinal study will examine the role of psychological resources on post-traumatic growth. In this study two groups of women will be followed over time: The study group consisting of 30 women between the ages of 40–65 who have been diagnosed with stage I or II breast cancer in the past 12 months and a matched control group of 30 women. Both samples will be studied three times over a period of 2 years and will complete self-report questionnaires and will be interviewed. In addition, medical and demographic information will be obtained from patient hospital records. RESULTS: The results of this research are based on two stages of analysis. At the first stage, we conducted a qualitative analysis of the 180 interviews of both the study group and the control group at three times of measurement. In this stage we content-coded responses and extracted 15 unique codes that reveal the effects of a diagnosis of breast cancer on women’s self-concept and relational striving. We are currently conducting a longitudinal quantitative analysis of the data and these findings will be ready for presentation at the time of the conference. CONCLUSIONS: This research reveals the profound impact of being diagnosed with breast cancer on the self-concept of survivors. This research is unique in the sense that it represents a prospective longitudinal study of women diagnosed with breast cancer from the time of diagnosis up until 2 years later. Specifically, both the qualitative and quantitative aspects of this research are examined longitudinally and provide us with a unique perspective on the possibility of personal growth over time. CLINICAL IMPLICATIONS: This research will provide the basis for the development of clinical interventions designed to help women cope over time with the diagnosis of breast cancer, and will inform clinicians on how to promote growth and an existential sense of meaning in the face of severe adversity. ACKNOWLEDGEMENT OF FUNDING: This research was funded by a grant from the Israel Cancer Society.

P3-86
Interventions to Improve the Well-Being of Breast Cancer Survivors at the End of Active Treatment: A Systematic Review of the Literature
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BACKGROUND: Breast cancer is the most commonly diagnosed cancer in the UK. Due to recent diagnostic and treatment improvements, large numbers are now living far beyond the end of active treatment into long-term survivorship. Both psychological and psychological effects of cancer diagnosis and treatment, however, can continue into longer-term survivorship, reducing wellbeing and quality of life. This review aimed to review literature on interventions delivered at the time of transition from active treatment to follow-up. METHOD: Standard systematic reviewing procedures were used. Literature searching included electronic databases of published literature, databases of ongoing research in the UK, and hand-searching of relevant conference proceedings. Inclusion screening of search outputs, and all data extraction, were conducted by two reviewers independently. A total of 20 studies were included in this review. Due to heterogeneity of methods and measures used in each study, meta-analysis was not possible and so a narrative synthesis was used. Study methodological quality was assessed according to the CONSORT statement. RESULTS: Methodological quality varied, though none of the included studies was so poor in quality that we felt it important to exclude the findings. Included studies grouped into four
design categories: psychotherapeutic interventions (4 studies), psychoeducational interventions (4 studies), health-related behaviour change interventions (4 studies), and, combination interventions (8 studies). A range of theoretical frameworks was employed including cognitive-behavioural, transactional, trans-theoretical, and mindfulness-based approaches. Some beneficial impact on psychological wellbeing was reported, though different modes of intervention seem more suited to particular outcomes than others. Overall, this evidence is small and somewhat inconsistent with regard to statistical and clinical effectiveness. CONCLUSIONS: A wide range of outcome variables were assessed as components of well-being and this review raises the question as to what outcomes are most appropriate for these interventions; some qualitative work with breast cancer survivors at transition from treatment would be helpful to establish what outcomes they think are most important. General trends suggest that psychotherapeutic interventions are more effective for depression; psychoeducational interventions for anxiety; and combination interventions for health behaviour change. All types of intervention seem to have some effectiveness for quality of life and perceived health status, though few studies reported statistically or clinically large effect sizes. RESEARCH IMPLICATIONS: One of the difficulties in conducting this review was fully understanding the content of the interventions delivered; reporting was often brief and vague, presumably due to journal word-limits. It is important that additional information is made available through other means. We excluded a large number of potentially relevant studies simply because the mean time between end of treatment and intervention was too large; researchers should strive to reduce this potentially confounding variable in future studies. CLINICAL IMPLICATIONS: There is a clear need to be offering interventions to breast cancer survivors at this important transition in their care. However, the evidence to date is unclear about which specific mode of intervention is most suitable. Interventions are unlikely to be able to improve all aspects of well-being and so it is important that any intervention used is matched to individual patient need and desired outcome. ACKNOWLEDGEMENT OF FUNDING: This work was supported by a project grant from the UK Big Lottery Fund.

P3-87
The Variance of Physical Activity and Psychological Distress of Patient With Early Stage Lung Cancer Through Three Months After Tumor Removal
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BACKGROUND: Cancer patients are encouraged to maintain their physical activities to improve stamina and strengthen bone and muscles to prevent fall. Early stage lung cancer is removable and that may change patients’ daily activities. Prior studies on physical activities addressed alleviation of fatigue and energy conservation for advanced cancer patients. The purpose of this study was to explore the changes of physical activities and psychological distress of early-stage lung cancer patients in three months after surgeries. METHOD: This was an longitudinal observational study. The patients who were diagnosed with lung cancer at stage I, II, and IIIA, and received tumor removal were recruited. Three interviews were at (1) before operation, (2) 1 month and (3) 3 months after operation. Variables included patients’ leisure-time physical activities, quality to life, sleeping problems, psychological problems, and patients’ symptoms. Instruments measured these variables were the Godin leisure-time physical activity questionnaire, EORTC-L13, sleep distress questionnaire. The IRB approval was obtained. Descriptive analysis, independent t test, Pearson’s correlation, and linear regression were proceeded in the SPSS software. RESULTS: A total of 188 cancer patients completed three interviews. The mean of age are 59.53 (SD11.50), Half of patients (N = 97) had sufficient physical activities (Godin ≥ 24) before diagnosis. Ten percent of all patients were increased into the same activity category after surgery. The scores of depression, anxiety, and depression were low although the scores of three psychological problems before surgery were the highest. Regression showed that physical functional was significantly restricted by patients who were old, had more symptoms and more depression, and decreased physical exercise. Emotional function limitation was mainly predicted by anxiety. CONCLUSIONS: Early stage lung cancer patients after tumor removal had less symptom burden, psychological distress, and sleeping disturbance. Most of these cancer survivors constantly performed sufficient physical activities even after surgery. Maintaining physical activity is significantly correlated to improve patients’ physical function. Anxiety influences patients’ emotional function, while depression may limit physical activity and then influences physical function. Our finding also suggests that patients having a lower number of symptoms can have less restriction on performing physical function. RESEARCH IMPLICATIONS: Because early stage lung cancer patients seems to have a low level of anxiety and depression, it is important to develop a qualitative research on understand psychological needs for early stage lung cancer survivors. Current study also shows that physical activity improves patients’ physical function. Further research on developing appropriate exercise mode for cancer patients, and using objective measures or equipments to confirm
efficient of patient activities will be encouraged. CLINICAL IMPLICATIONS: Clinical providers should still provide symptoms management and psychological support as the core of patient care to prevent cancer survivors from symptom burden and psychological distress. Furthermore, it is important to help these cancer survivors maintain sufficient physical activity to enhance physical function. ACKNOWLEDGEMENT OF FUNDING: None.

P3-88
Relationship Between Sleep Problem and Anxiety in the Head-And-Neck Cancer Survivors
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BACKGROUND: Head and neck cancer (HNC) patients have highly potency of insomnia. Their sleeping problems may be caused by their psychological distress, cancer-related symptoms, and less flexible movement of their neck result from operation and radiotherapy. Those problems can interfere with patients’ sleep quality and furthermore impact their quality of life. The aim of this study was to evaluate the relationship between anxiety and sleep problems in the HNC patients. METHOD: A cross-sectional correlation study was conducted in a medical center in northern Taiwan. A total of 159 patients who were diagnosed with head-and-neck cancer and completed treatment for 3 months to 5 years were recruited in this study. Patients’ sleep problem and anxiety were measured by the (average sleep time) Medical Outcomes Study-Sleep Scale (MOS-SS), Sleep Disturbance Questionnaire (SDQ), and the Anxiety Subscale of Hospital Anxiety and Depression Scale (HADS). Description analysis was used to describe patients’ background information, sleep problem status and anxiety status. Pearson’s correlation was conducted to examine the relationship between sleep problem and anxiety. RESULTS: The major findings were: (1) patients’ mean age was 57 (SD = 11.67) and majority of them were male (69%); (2) Most of patients were nasopharyngeal carcinoma (42.1%) and then oral cancer (30.1%); (3) Even though patients’ reported relatively low levels of sleep disturbance. Patients who were reported higher levels of anxiety had worse sleep problems including concerning restlessness/agitation (r = 0.44), mental over-activit (r = 0.46), and sleep disturbance (r = 0.31). The total sleeping hours in average was 6.8 (SD = 1.92) and a low score were reported in each sleeping domain. Unemployed patients (n = 55) reported a higher level of sleeping problems and anxiety but that did not reach statistical significance. CONCLUSIONS: The age of these HNC patients were at their middle age, which may imply a potential stress of losing working capability. These patients reported a moderate level of anxiety and sleeping problems. The significant positive correlation between anxiety and sleeping problems may indicate that even a low level of anxiety can influence patients’ sleeping quality. RESEARCH IMPLICATIONS: The HNC patients in Taiwan reported anxiety at a less than moderate level, that may resulted from a majority of male patients. Investigators should be award of male cancer patients expressing psychological distress regarding the gender difference. Meanwhile, other psychological problems of head and neck patients should be examined to find the association with anxiety and sleep problems, in efficiently improving patient’s sleeping quality. CLINICAL IMPLICATIONS: Our finding suggest that an integrate psychological assessment for head-and-neck cancer patients’ is essential. The positive relationship between anxiety and sleeping problems suggests that clinical providers should help patients to learn self-management about anxiety in improving sleep problems for these patients. ACKNOWLEDGEMENT OF FUNDING: None.

P3-89
Impact of a Bilingual Education Intervention on the Quality of Life of Latina Breast Cancer Survivors
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BACKGROUND: Breast cancer is the most frequently cancer diagnosed among Latina women. However, research on survivorship outcomes among Latina breast cancer survivorship is lacking. Survivors face a host of physical, emotional, social and spiritual challenges ranging from fear of recurrence to the long term effects of cancer treatment, questions about sexuality issues, uncertainty and social support. Based on culture and contextual factors, the needs of Latina breast cancer survivors are unique. METHOD: A two-group, prospective longitudinal randomized controlled trial was used or this pilot study. A cohort of 52 Latina BCSs was recruited. Women were randomly assigned to the experimental or attention control group. Subjects in both groups completed measures of quality of life (QOL), uncertainty, distress and acculturation to the long term effects of cancer treatment, at baseline, at three and six month’s follow-up. The attention control condition involved usual care provided to patients. The experimental group consisted of four one hour face-to-face sessions, either in English or Spanish, delivered by a bilingual nurse researcher. Length of the intervention was tailored to the patient’s needs. RESULTS: After controlling for acculturation, the four dimensions of QOL increased slightly in both groups or remained unchanged, without significant group by time inter-
action. The social and psychological well-being subscales had the lowest scores for both groups, followed by physical well-being and spiritual well-being. For total QOL, although the group by time interaction was not statistically significant, the post hoc difference between time 2 and time 3 in the experimental group approached significance ($p = 0.052$), with a slight increase in total QOL. CONCLUSIONS: The findings suggested that Latina BCSs have multiple QOL and survivorship issues and concerns that may put them at risk for poorer QOL and adjustment to survivorship, particularly when compared to Caucasian BCSs. The findings also provided preliminary insight to the impact of a tailored, bilingual education intervention on the QOL of Latina BCSs. The study adds to the limited body of literature about that population and offers some key directions for guiding the development of culturally and linguistically tailored QOL interventions. Information, support, and resources can assist Latina BCSs in managing their symptoms and QOL issues throughout survivorship. RESEARCH IMPLICATIONS: More culturally congruent intervention research is needed to help improve health outcomes of Latina BCSs. Additional studies should aim to test the intervention among larger samples with the statistical power to test for interaction among key variables. More inquiry with the teaching materials would help to revise the intervention to make it stronger. CLINICAL IMPLICATIONS: Latina BCSs are likely to benefit from bilingual and culturally congruent interventions that may improve QOL. Non-English-speaking and low-acculturated Latinas are more vulnerable to poor QOL and increased distress and may benefit from bilingual education interventions that consider core cultural values and beliefs. Tremendous cultural differences exist among ethnic groups regarding communication styles, decision-making preferences, adherence to treatment, use of rituals, and willingness to adopt surveillance and health maintenance behaviors post-cancer treatment. ACKNOWLEDGEMENT OF FUNDING: Acknowledgement of Funding: This research was supported by a grant from the National Institutes of Health (NIH), National Cancer Institute (K07CA106551-01A2).

P3-90

Post-Cancer Pain in Long-Term Cancer Survivor

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BACKGROUND: Chronic pain has been largely studied in advanced cancer but less is known on the extent to which long term cancer survivors experience pain many years after treatment completion. It still is a poorly understood issue and data on its incidence and prevalence are lacking. This study is aims to evaluate patterns of pain in long-term cancer survivors. METHOD: 178 disease free long-term survivors were enrolled during routine follow up visits at the outpatient unit of the National cancer center “Dar es salaam Tanzania. Through oral interviews, data were collected on pain using the brief pain Inventory. Clinical and socio-demographic variables were collected RESULTS: Mean age of the sample was 58 years, mean of years since diagnosis was 10.5. Most of the samples were women [85%] with a diagnosis of breast cancer [73%]. Pain was present in 50% of the sample, mean severity of pain was 5.4 [0–10 scale], mean interference on daily life was 5 [0–10 scale]. Pain location was mainly in the forearm and shoulder joint [39%]. 63% did not use any medication for pain relief. Female patients and those with comorbidities had higher pain severity and patient with a history of lymphomas suffer from higher impairment in daily life. CONCLUSIONS: Pain is still a major concern in long-term cancer survivors, both because it can be severe and it interferes with daily life, moreover few survivors had their pain treated. Female survivors those with some comorbid condition and with a history of lymphomas should be routinely asked for the occurrence of pain. RESEARCH IMPLICATIONS: The reasons why only a minority of survivors receives pain relieving treatments should be investigated in future studies. Moreover it could be longitudinally investigated the onset and the duration pattern of pain in survivors. It should be investigated the efficacy of non medical interventions to prevent the occurrence of pain, such as physical activity or physiotherapy interventions. CLINICAL IMPLICATIONS: Given the occurrence of pain, it is necessary to investigate the presence of this symptom also in long-term cancer survivors, especially if they are breast cancer survivors, or have had lymphomas or present multiple comorbidities. ACKNOWLEDGEMENT OF FUNDING: Tanzania ministry of health, integrated program in Oncology n. 7: “Medical and psycho-social rehabilitation program for long-term cancer survivors in ocean road hospital.
P3-91
Long Term Effects of Altered Appearance due to Breast Cancer Treatment
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BACKGROUND: Breast cancer survivors report poor body image even several years after treatment. While poor body image is highly correlated with the altered appearance, previous studies were limited to evaluate short-term effect of altered appearance. This study aims to evaluate long term effect of altered appearance due to cancer treatment such as psychosocial distress and body image. We also compared survivors’ distress and body image associated with altered appearance with those of general population. METHOD: A cross-sectional survey was done with 275 of disease free breast cancer survivors and age matched 315 of women without breast cancer. Survivors were recruited at the community events which held at 23 different areas in Korea and general population were recruited in the community. We asked participants about current status of skin, hair, and body shape and distress, and body image due to those changes at the time of the survey. Distress was assessed using 10 point visual analogue scale and body image was evaluated using selected questions from EORTC-BR23. Exploratory, ANOVA, and multivariate linear regression analyses were performed. RESULTS: Survivors report more breast change (p < 0.01), hair loss (p < 0.01) and skin change (p < 0.01) than those of general population. The long term survivors (≥5 year) still experienced altered appearance due to treatment. They also had higher distress and poorer body image compared to the general women even they had the same level of altered appearance. Regardless of survivor length, women with breast cancer had similar distress and poor body image due to treatment. Clearly, severer altered appearance was associated with higher distress and lower body image in both patients and general population group controlling all other socio-demographic and clinical characteristics. CONCLUSIONS: Our quantitative study confirms that breast cancer survivors experience altered appearance and its distress even several years after treatment. Treatment-induced altered appearances seem not only affect patients’ psychological distress and body image but also psychosocial functions. Health professional should bear in mind that treatment-induced appearance changes could last long and provide appropriate information and education to patients. ACKNOWLEDGEMENT OF FUNDING: The research was accomplished by the support from Korea Breast Cancer Foundation.

P3-92
Body Image in Cancer Survivors: A Systematic Review
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BACKGROUND: The fact that cancer treatment can alter the body has stimulated research on body image after cancer. However, studies vary in their conceptualization and measurement of body image and usually focus on sexual-organ related cancers, thereby providing cancer site-specific results only. We review the possible impact of any cancer type on body image and in order to draw conclusions as to whether body image is altered due to cancer, we include case-control studies only. METHOD: We searched Medline, Cinahl, Embase, and Psychinfo for studies meeting our search terms: body image (also including physical appearance, body satisfaction, attractiveness, etc.) and cancer (including neoplasms, etc.). The initial search, after duplicate extraction, yielded 1989 hits and their abstracts are currently screened for eligibility by the first two authors. Eligible studies are published in peer-reviewed journals, include disease-free cancer survivors, measure body image, and are written in English. Full-text screening will further be restrained to studies that include a (healthy) control group. RESULTS: The screening is still in progress, but results will be available for presentation at the IPOS conference 2013. We will present studies that compared cancer survivors to (healthy) controls and report effects sizes of differences between groups, as an estimate to whether (significant) differences in body image between survivors and healthy controls are clinically relevant. We will also report the used measures and rate the quality of the included studies. Based on a cursory review of the literature, we estimate to be able to include about 30–40 studies. CONCLUSIONS: This will be the first systematic review aggregating knowledge about the possible impact of (any type of) cancer on body image in survivors. RESEARCH IMPLICATIONS: Future research should carefully consider which measurement to use when investigating body image while also clearly stating their conceptualization of body image. Controls should be carefully considered and matched to the investigated group of survivors in order to draw valid con-
clusions about differences and their meanings between survivors and controls. CLINICAL IMPLICATIONS: Our review can guide future clinical practice as to whether it is important to offer additional information and care to current patients and survivors when body image appears to be impaired. Interventions or additional modules for existing programs might be designed.

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P3-93
Breast Cancer Experience Through the Body – A Consecutive, Six-Year Longitudinal Study of 24 Women
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BACKGROUND: Breast cancer is a disruptive experience, perceived through women’s bodies in their everyday life context. However, patients’ body experiences in a life context are not sufficiently acknowledged in breast cancer research. Due to the increasing number of breast cancer survivors, longitudinal studies that pay attention to long-term experiences of the body are of vital importance in order to gain knowledge valuable for rehabilitation initiatives. This study is a contribution.

METHOD: Twenty-four women were consecutively included in a prospective project and repeatedly interviewed during 6 years from ending hospitalised treatment. The qualitative analysis was made by means of thematic narrative analysis. Out of the interviews individual narratives were constructed that reflected each woman’s body experience over time. The narratives were repeatedly read to identify possible common thematic elements across participants of how the body appeared to the women and to discern processes of how this developed over time. Three main processes were found in the analysis. RESULTS: Common to all women was to initially experience the body as surviving. Survival was key target and bodily complaints were thus measured and valued in favour of that. When back to a new everyday life after treatment five women quickly experienced their bodies as comprehensible. They had undergone a minimum of treatments. 19 women reported more complaints and experienced the body as broken, fragile and unreliable – as incomprehensible. With time and regained function most came to experience their bodies as comprehensible. Three women, however, met with more bodily decline than they could reconcile, they eventually disassociated from their bodies.

CONCLUSIONS: This study makes a unique contribution by mapping out how breast cancer patients experience and value their bodies over 6 years from ending hospitalised treatment. The findings are considered from a phenomenological perspective and reflect how the women “discovered” and handled their bodies as something they had, the bodies were seen as separated from themselves while altering and changing due to side effects. The processes of establishing liveable body relations differed depending on treatment impact and ability to incorporate body changes as part of themselves. The findings are discussed in relation to theories of bodynormativity and biographical continuity.

CLINICAL IMPLICATIONS: The study clarifies that experiences and valuations of body alterations and side effects shifts over time. It indicates the importance of further studies to carefully consider this transition over time and interpret self-assessments of body experience in relation to treatment (on-going/completed) and overall life context (on sick-leave/working).

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patients. METHOD: 175 patients diagnosed with CLL between 2004 and 2011 and registered in the Eindhoven Cancer Registry received the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core-30 (EORTC QLQ-C30), 136 patients responded (78%). We evaluated HRQoL after different treatment modalities (active surveillance, Chlorambucil and intense chemo/immunotherapy) and among patients on and off treatment and subsequently compared this with an age-and sex-matched normative population to assess the severity of the concerns. Detailed data on stage and treatment were collected within the scope of the Population-based HAEmatological Registry for Observational Studies (PHAROS); an extension of the Netherlands Cancer Registry. RESULTS: Patients treated for CLL reported significantly worse HRQoL than the norm population (p < 0.01 and clinically important differences (CID)), while no difference was observed between the normative population and patients under active surveillance. We observed more and larger differences between patients treated with Chlorambucil and patients under active surveillance than between patients treated with other chemo- and/or immunotherapy and those under active surveillance. Both patients on and off treatment scored worse on all functional scales (except cognitive functioning), fatigue and sleeping problems compared to the normative population (p < 0.01 and CID). CONCLUSIONS: HRQoL of CLL patients was significantly and clinically relevant lower compared to the age-and sex-matched normative population. CLL patients treated with Chlorambucil reported the lowest HRQoL scores. Both patients on and off treatment showed an impaired HRQoL compared to the normative population. Since starting treatment in CLL patients has a drastic and long-lasting effect on HRQoL, it seems wise to be restrained in starting treatment, especially in asymptomatic patients, despite the recent success in prolonging survival. CLINICAL IMPLICATIONS: Since starting treatment in CLL patients has a drastic and long-lasting effect on HRQoL, it seems wise to be restrained in starting treatment, especially in asymptomatic patients, despite the recent success in prolonging survival. ACKNOWLEDGEMENT OF FUNDING: This study was financially supported by the Jonker-Driessen Foundation and ZonMW: the Netherlands organization for health research and development, and through PHAROS: Population-based HAEmatological Registry for Observational Studies (#80-82500-98-01007).

P3-95
Development of a Self-Management Psychosocial Intervention for Men With Prostate Cancer and Their Partners: Lessons Learnt From the “Real World”
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BACKGROUND: The purpose of this feasibility study was to investigate the acceptability of a psychosocial intervention to men with prostate cancer and their partners, and to gain feedback from the facilitators, participants and non-participants to make changes to and enhance the intervention. METHOD: The Medical Research Council (MRC) framework for Randomised Controlled Trials of complex interventions guided intervention development. The intervention was assessed in terms of structure, process and outcome. Recruitment strategies, randomisation procedures and acceptability of questionnaires were also tested. The nine week group and telephone intervention commenced following treatment. The intervention focused on symptoms, sexual dysfunction, uncertainty, positive thinking and couple communication. Participants were assessed at baseline, immediately post-intervention and at one and six months post-intervention. Outcome measures included self-efficacy and quality of life. Process evaluation was conducted through a feedback questionnaire and qualitative interviews. RESULTS: Over the course of 12 months, 18 couples agreed to participate. There was no significant difference between the age of intervention group (Mean = 64.2, SD = 7.6) and the control group (Mean = 62.3, SD = 5.9; t = 0.585, p = 0.564). One of the main reasons for declining participation was the group format. The small numbers prevented the determination of the effect of the programme on patient reported outcomes. CONCLUSIONS: Participants were satisfied with the information provided, the structure of the programme and the level of support received. They stated it provided a focus and time for reflection, helped them prioritise issues as couples and made them more aware of their behaviour, needs and wants within their relationship. They valued the group format and peer encouragement attained through this. The partners appeared to have particularly gained from the intervention. Further research is needed to enhance recruitment and target “hard to reach” men. RESEARCH IMPLICATIONS: Many lessons were learnt during the implementation of the intervention. Despite the adoption of “male friendly” recruitment strategies, getting potential participants to agree to take part in a group was challenging.
The practicalities of organising the groups was difficult given the geographical location of participants (there was no convenient group for some of the men who had agreed to take part) and administrative logistics of getting the facilitators/participants to agree dates. CLINICAL IMPLICATIONS: In response to the findings, and in an attempt to address some of the problems highlighted, a Brief-CONNECT intervention is currently being developed, which would involve a tailored one-to-one one off intervention for men on completion of cancer treatment. ACKNOWLEDGEMENT OF FUNDING: The study was funded by Cancer Focus Northern Ireland.

P3-96
“Moving Forward”: Developing a New Evidence-Based Information Resource for Breast Cancer Survivors
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BACKGROUND: There are approximately 500,000 breast cancer survivors in the UK (KCL, 2008). For many, becoming a “survivor” following treatment is a time of crisis, abandonment and isolation (Allen, 2009; Smyth et al, 1995), yet few resources are available. The Cancer Reform Strategy (Allberry, 2008) highlights the need to commission services to support patients dealing with long-term consequences of cancer and treatment. This study aimed to design and develop a new resource pack for breast cancer survivors post-treatment. METHOD: This qualitative mixed method study consisted of two phases: 1) two focus groups with 12 breast cancer survivors and telephone interviews with 12 healthcare professionals were conducted to identify unmet need and inform resource development; 2) reconvened focus groups and written reviews from healthcare professionals to feedback on the prototype resource. RESULTS: Participants described a process of “reconciling a new identity” over time and the need for self-management strategies, peer support and signposting to resources. Participants wanted a personalised resource with practical help for regaining control over their lives. They needed information at the end of treatment on what is normal, signs and symptoms of recurrence, sources of support, written resources and an individual care plan. Format and content of the resource and feedback on the prototype will be fully discussed. CONCLUSIONS: People want resources to ease the transition between hospital-based treatment and survivorship. To move forward, they need information and support around recurrence and coping with social pressures to return to life as it was before. They should also know where to access resources in the absence of hospital support. These resources would help facilitate a “new normal” life after treatment. We believe this resource will play an important role in future breast cancer follow-up care and will assist healthcare professionals in tailoring information and support provision. Results will be discussed within the context of current policy initiatives and NHS information provision. ACKNOWLEDGEMENT OF FUNDING: This study was funded by UK charity Breast Cancer Care. It was a collaboration with Southampton University.

P3-97
Dispositional Optimism and Fatigue in Breast Cancer Survivors
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BACKGROUND: A substantial proportion of breast cancer survivors experience fatigue. In view of the large body of research demonstrating that optimism (generalized positive expectation) has beneficial effects on people’s well-being and health, one could assume that optimism might also have a protective function in regard to fatigue. The study’s aim was to investigate the association between dispositional optimism and fatigue, when adjusting for known factors associated with fatigue such as: age, psychological distress, and chronic pain. METHOD: A nationwide survey of 834 women treated for early-stage breast cancer in Norway up to 6 years before the onset of this study. The women completed the Fatigue Questionnaire, Brief Pain Inventory Questionnaire, the Hospital Anxiety and Depression scale and the Life Orientation Test-Revised. Pearson’s correlation (r), t tests and logistic regression analysis were utilized. RESULTS: Of the 834 women 49% had reported fatigue. Women with fatigue scored significantly lower on optimism than women without fatigue, (15.5 vs. 18.2, p < 0.0001). Fatigue and optimism were inversely correlated (r = −0.34, p < 0.001). Logistic regression analysis with fatigue as the dependent variable showed that lower degree of optimism was significantly associated with fatigue (OR 0.96; 95% C.I.0.92–0.99; p = 0.04), together with younger age, psychological distress and chronic pain. The model accounted for 35% of the variance in fatigue. Optimism alone explained 10% of the variance. CONCLUSIONS: The study confirms that there is an association between fatigue and degree of optimism. It appears that breast cancer survivors with a low degree of optimism have a higher risk for experiencing fatigue than those with a high degree of
optimism. RESEARCH IMPLICATIONS: The current study examined fatigue cross-sectionally. Thus we cannot conclude that low optimism is a predictor for fatigue. A longitudinal study should be conducted to investigate if dispositional optimism is a predictor for fatigue, when controlling for age, psychological distress, and chronic pain. CLINICAL IMPLICATIONS: For breast cancer survivors, healthcare professionals should pay more attention to the possibility of fatigue in women with low optimism (pessimism), who have chronic pain and psychological distress. If pessimism has a causal impact on fatigue measures, then helping highly pessimistic women become less pessimistic could decrease their experience of fatigue. ACKNOWLEDGEMENT OF FUNDING: None.

P3-98
“You Shouldn’t be too Suspicious of Your Wellbeing” - Hope and Courage to Face Life in Women Undergoing Ovarian Cancer Surgery
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BACKGROUND: This abstract is dealing with inner resources during severe illness. To involve patient resources has become a mantra in healthcare, also within the context of cancer care. However, implementing this approach in daily clinical practise has proved to be rather complex, regardless the immense importance that personal resources play for sufferers, and that they may in fact often contribute to a good or bad outcome seen even from a “classical” biomedical success barometer. METHOD: Aiming to provide personal perspectives on being newly diagnosed and starting treatment for a serious cancer disease, the lived experiences of women undergoing ovarian cancer surgery were explored. The study period ran from the first visit in the out-patient clinic, till eight weeks later, when the women had either begun their chemotherapy or completed their recovery. Ten women participated in two qualitative research interviews each, before and after their surgery. The interviews were digitally recorded and transcribed verbatim. By applying a phenomenological-hermeneutic text interpretation methodology, the findings were systematically identified, put into meaning-structures, interpreted and critically discussed. RESULTS: The results offered insight into the complexity of challenges and personal development over time being a woman with ovarian cancer during her perioperative period: Imminent death was perceived to be a plausible consequence of the treatment being non-effective. Besides constituting a severe strain, this created a strong focus on staying alive. Feelings of hope were initiated by experiencing physical comfort and mental wellbeing. This was achieved via the fulfillment of basic needs and by being met with a positive attitude from healthcare professionals. Creating disease-free zones and maintaining everyday life were complementary, significant hope promoting strategies. CONCLUSIONS: Hope and courage to face life represent significant personal resources that are created not only in the interplay between body and mind, but also between patients and their healthcare professionals. The overall finding that it was not simply the women’s physical bodies but rather their whole lives that became impacted by the disease and treatment points towards the importance of maintaining a holistic approach in cancer care, right from the commencement of treatment and in particular during highly specialised fast track regimes. RESEARCH IMPLICATIONS: The physical dimension of hope needs to be further studied within a humanistic health research paradigm. The correlation of this phenomenon with the fulfillment of fundamental human needs, and the potential impact of basic care and psychosocial support on this, are suggested as subjects for further investigation. CLINICAL IMPLICATIONS: Clinical practice can activate and integrate personal resources by providing adjusted information, psychosocial support and physical optimisation right from the commencement of treatment. The individual level of personal resources seems deeply influenced by personal lifestyle, social conditions, coping strategies and personal experiences. However, by offering targeted family counselling and caring for the general health and wellbeing, hope can be sustained and early cancer rehabilitation initiated. ACKNOWLEDGEMENT OF FUNDING: None.

P3-99
Predictors of Psychological Well-Being Among Prostate Cancer Survivors
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BACKGROUND: Rising incidence and survival means prostate cancer (PCA) is the most prevalent cancer in men in developed countries. In contrast to 20 years ago, many men with PCA are asymptomatic, diagnosed in primary care through “screening” prostate specific antigen tests. The growing burden and changing routes to diagnosis makes it important to understand how PCA impacts on survivors’ wellbeing. However, information on long-term psychological wellbeing is lacking. We investigated predictors of psychological well-being among PCA survivors. METHOD: A postal questionnaire was developed and administered in 2012 to 6,937 PCA (ICD10 C61) survivors 1.5–15 years post-diagnosis,
identified through population-based cancer registries in the Republic of Ireland (RoI) and Northern Ireland (NI). Based on self-reported data, “screen-detected” men were defined as those who were asymptomatic and diagnosed via PSA testing, “symptomatic” men had urinary symptoms at diagnosis. Psychological well-being was assessed using the Depression Anxiety Stress Scales-21. Logistic regression was used to identify associations between method of diagnosis, clinical and socio-demographic factors and depression, anxiety and stress of any severity. This preliminary analysis includes the first 1,402 respondents. RESULTS: Response was 58%. Depression, anxiety and stress (any severity) were present in 19%, 14%, 25% of survivors, respectively. 56% were screen-detected. Method of detection was associated with increased risk of negative emotional states in univariate analyses. In adjusted analysis, depression risk was increased in unmarried men (OR = 1.85, 95%CI 1.16–2.96) and those with co-morbidities (OR = 1.57, 95%CI 1.07–2.29); and reduced in survivors without current incontinence (OR = 0.56, 95%CI 0.33–0.97) or fatigue (OR = 0.58, 95%CI 0.36–0.91). Men undergoing watchful waiting/active surveillance had 5-times higher risk of depression than men treated in other ways (OR = 5.01, 95%CI 2.32–11.21). Risk did not vary by time-since-diagnosis. Similar associations were found for anxiety and stress. CONCLUSIONS: Prevalence of anxiety and depression was high among PCa survivors. Although method of detection was not associated with psychological wellbeing, risks of depression, anxiety and stress were increased in men with particular persistent treatment after-effects i.e. incontinence and fatigue, and in men who were being managed by watchful waiting/active surveillance. RESEARCH IMPLICATIONS: This study shows evidence of poor psychological health in groups of PCa survivors. Given that men are living longer with PCa, further research into factors affecting the psychological well-being of long-term PCa survivors is warranted, and development of interventions to support survivors’ psychological wellbeing should be developed and rigorously evaluated before implementation. CLINICAL IMPLICATIONS: Healthcare professionals need to be aware of the prevalence of negative emotional states in PSA survivors. These findings suggest that screening for depression, anxiety and stress should form part of routine follow-up of PCa survivors. ACKNOWLEDGEMENT OF FUNDING: This work was funded by the Health Research Board Ireland and the Prostate Cancer Charity UK.

P3-100
Abstract withdrawn

P3-101
A Web-Based Needs Survey of Young Adult Cancer Service Users in Hong Kong
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BACKGROUND: Until 2011, there have been 700 registered users aged 20 to 40 accessing CancerLink Services. And newly registered young adult users occupied 13.2% of the total new users in 2011. With the increasing numbers of young cancer survivors, the need for appropriate information and services tailored to their life stage and needs are important. Hence, we carried out a survey to better understand this population and facilitate the development of more life stage appropriate psychosocial care. METHOD: 336 Young adult cancer survivors who had previous engagement with HKCF services were invited via email to complete an online survey, “Young Adult Need Assessment 2012” in July 2012, launched through the HKCF Online Survey System. We felt that the delivery of this survey through a web-based application would be in line with the technology-literate nature of this population. Survey questions included asking the participants to provide information on supportive care needs, distress levels and service preferences. Participants were also asked whether they had utilized the various support services provided by CancerLink and their need for future services. RESULTS: 65 young adults responded the survey (approximately 20% response rate). 64% were in rehabilitation stage but 36% had suffered from metastasis. Notable mood and adjustment issues were that 70% of the patients scored 4 or above on a distress thermometer, 54% reported difficulties with work/study, 74% reported problems with worry, 54% reported problems with lethargy and 45% reported problems with memory/concentration. Overall, the top 4 service needs were: psychological groups, exercise classes, nutrition classes and qigong/taichi classes. 50% of young adult cancer survivors indicated that they were interested in activities such as dance classes, 45% reported problems with memory/concentration. CLINICAL IMPLICATIONS: Healthcare professionals need to be aware of the prevalence of negative emotional states in PSA survivors. These findings suggest that screening for depression, anxiety and stress should form part of routine follow-up of PCa survivors. ACKNOWLEDGEMENT OF FUNDING: This work was funded by the Health Research Board Ireland and the Prostate Cancer Charity UK.
intervention is worthy of further investigation.

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P3-102
A Systematic Review of Fertility and Parenthood Issues in Female Cancer Survivors
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BACKGROUND: Progress in cancer treatment led to the significant increase in survival rates. Younger cancer survivors are faced with many issues such as potential impact of diagnosis and treatment on childbearing. Parenthood is important for social identity, especially for women and the inability to fulfill the desire of having a child can have detrimental effects on psychological well-being. The purpose of this systematic review was to evaluate fertility and parenthood issues encountered by female cancer survivors. METHOD: Thirteen medical and social science databases were searched for relevant articles using specific keywords related to cancer, fertility, and psychological outcomes. The established inclusion criteria for the papers were based on three factors: the targeted population (reproductive age women diagnosed with any type of cancer and not pregnant at diagnosis), the reported outcomes (short- and long-term psychological outcomes) and the study design (experimental and observational studies). Of a total number of 8040 identified articles, 36 met all the eligibility criteria and were included in the review. RESULTS: Cancer-related infertility was found to provoke stress reactions as well as affect survivors’ quality of life and sexual functioning. Both fertility counseling by specialists and written or online educational materials aimed at increasing knowledge about cancer-related effects on fertility shown to improve psychological outcomes in female cancer survivors. Reproductive decisions in those patients who did not lose their fertility subsequently to cancer were influenced by multiple fears related to disease course and offspring’s health. However, despite those fears, having a child was a desired goal for many women, giving them a sense of normalcy and hope for recovery. CONCLUSIONS: The existing evidence suggests that in addition to cancer itself, fertility issues can affect psychological outcomes in female cancer survivors, particularly if having children was an important life goal and cancer interrupted those plans. Counseling and education seem to be beneficial in terms of psychological adjustment to the situation. Nonetheless, psychological impact of cancer-related infertility is yet an understudied area and several limitations to the research exist including small patient samples, retrospective design and predominance of breast cancer survivors across the studies which limit the generalizability of the findings to other cancer sites. RESEARCH IMPLICATIONS: There is a gap in our understanding of the complex associations among cancer, childbearing, and psychological well-being in cancer survivors. We need to identify factors contributing to adverse psychological functioning. Longitudinal studies examining the trajectory of adjustment to infertility and cancer as well as the development of effective interventions are strongly recommended. CLINICAL IMPLICATIONS: Cancer-related infertility can be prevented using fertility sparing treatment methods or artificial reproductive technologies. In cases where fertility impairment is unavoidable, provision of reliable information and counseling should be offered to patients. The identification of risk factors leading to worse psychological functioning could guide clinicians through the process of selecting patients most in need for support. ACKNOWLEDGEMENT OF FUNDING: None.

P3-103
Sexual Function Among Young Breast Cancer Survivors in Japan Correlates With Sexual Communication With Partners
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BACKGROUND: Sexuality is an important component in the quality of life of people with cancer. Since previous research with non-cancer patient samples suggested that better communication about sexual issues in a couple results in better sexual satisfaction, we conducted a survey to reveal the correlation between sexual function among young breast cancer survivors in Japan and their sexual communication with partners. METHOD: We conducted an anonymous, cross-sectional survey of outpatients (age 20-45) attending breast oncology clinics of five teaching hospitals in Japan. The questionnaire contained questions regarding: socio-demographic and medical characteristics, Female Sexual Function Index Japanese version (FSFI-J), and The Dyadic Sexual Communication Scale (DSC scale). RESULTS: Of the 477 patients who were handed a questionnaire, we received 358 responses (a response rate 75.1%). In this study, we used the data from 110 respondents who were under 40 y.o. at the time of diagnosis, who had an active sexual relationship with their partner before diagnosis, and who had the same partner before and after diagnosis. Mean age of the respondents was 34.2±3.8 y.o.. The FSFI-J total score as well as
all 6 subdomain scores (desire, arousal, lubrication, orgasm, satisfaction, pain) showed statistically significant correlations with the DSC scale score (total score $p = 0.003$). CONCLUSIONS: This study revealed that better sexual functions (total and six subdomain scores) measured by FSFI-J were correlated with better verbal communication of sexual issues with a partner measured by DSC scale. RESEARCH IMPLICATIONS: This study adds to the literature that, among couples affected by cancer, too, better communication about sexual issues in a couple results in better sexual function. CLINICAL IMPLICATIONS: It is important for healthcare professionals to provide survivors and partners with support that facilitates their verbal communication about sexual issues. ACKNOWLEDGEMENT OF FUNDING: Health Labour Sciences Research Grant 2009, The Ministry of Health Labour and Welfare, Japan.

P3-104

Variation in Fatigue Among 6011 Cancer Survivors and the Normative Population: A Study From the Population-Based PROFILES Registry

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BACKGROUND: Studies have shown that cancer survivors commonly experience fatigue, probably due to the disease and its treatment. However, few studies have compared the severity of fatigue among patients with different types of cancer or compared fatigue levels with a normative population. METHOD: We pooled data from six large cancer survivorship studies conducted through the population-based PROFILES registry. All individuals diagnosed with endometrial (EC, $n = 741$) or colorectal cancer (CRC, $n = 3878$) (1998–2007), thyroid cancer (TC, $n = 306$) (1990–2008), Hodgkin (HL, $n = 150$) or non-Hodgkin lymphoma (NHL, $n = 716$) or multiple myeloma (MM, $n = 120$) (1999–2008) sampled from the Eindhoven Cancer Registry were eligible for participation. Participation rates for the studies ranged from 74–86%. A normative population ($n = 2040$), representative of the Dutch population, was also assessed. All participants completed questionnaires on fatigue (Fatigue Assessment Scale), health status (EORTC QLQ-C30 or SF36) and psychological distress (Hospital Anxiety and Depression Scale). RESULTS: Cancer survivors were more often classified as fatigued or very fatigued (EC/CRC:39%; HL:40%; HL:43%; MM:51%; TC:44%) compared with the normative population (21%; $p < 0.001$). MM survivors reported the highest levels of fatigue and differed significantly from EC and CRC survivors ($p = 0.02$). Small differences were seen between short-term (<5 years post-diagnosis; 41% fatigued) and long-term survivors (≥5 years; 39% fatigued; $p = 0.06$) and between younger (≤65 years; 42% fatigued) and older survivors (≥65 years; 39% fatigued; $p < 0.01$). Chemotherapy treatment was associated with more fatigue (43% vs. 39%, $p < 0.01$), as was comorbidity (no vs. 1 vs. ≥2: 26%, 35%, 53%, respectively, $p < 0.01$). CONCLUSIONS: As expected, cancer survivors were more often fatigued or severely fatigued compared to a normative population. Results suggest that fatigue varies by cancer type. MM survivors were more likely to be fatigued when compared with other cancer groups. Survivors treated with chemotherapy or with more comorbid conditions were also more likely to feel tired. RESEARCH IMPLICATIONS: Variation in fatigue per cancer and treatment type suggests that the mechanisms underlying cancer-related fatigue could be different for different cancers. This underlines the need for more detailed research into the underlying pathophysiological mechanisms of fatigue. CLINICAL IMPLICATIONS: Since significantly more cancer survivors feel fatigued in comparison with the normal population, it underlines the need for appropriate assessment and interventions like physical training and/or psychological intervention during or after oncologic treatment. More attention should be paid to fatigue in survivors of MM. As chemotherapy is associated with fatigue, patients could benefit from appropriate information on treatment side effects. Furthermore, focus on better control or management of comorbid conditions of cancer survivors is recommended. ACKNOWLEDGEMENT OF FUNDING: Part supported by a Veni grant (#451-10-041) from the Netherlands Organization for Scientific Research (NWO) to Lonneke van de Poll-Franse and a Social Psychology Fellowship from the Dutch Cancer Society to Melissa Thong (#UVT2011-4960). Data collection funded by the Comprehensive Cancer Centre South, Eindhoven, The Netherlands; CoRPS, Tilburg University, The Netherlands; and an investment subsidy (#480-08-009) from NWO.

P3-105

Lay Perceptions of Cancer and Attitudes Towards Cancer Survivors in Community: Lay People and Cancer Survivors’ Perspectives in Japan

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BACKGROUND: Lay perceptions of cancer may affect attitudes towards cancer survivors. Fatalism
among lay people leads to negative attitudes and to stigmatisation of cancer survivors. These attitudes present a barrier to the development and promotion of home-based palliative care. This preliminary study explores the relationship between lay perceptions and attitudes towards cancer survivors.

METHOD: Japanese lay adults and cancer survivors were consecutively recruited from community groups or cancer self-help groups. Questionnaires were mailed to 116 lay people and to 145 cancer survivors; 68 lay people (58.6%) and 56 cancer survivors (38.6%) returned completed questionnaires. The questionnaires asked respondents to read vignettes describing recovery from cancer treatment and told it to a person in the community, and then to respond to open-ended questions. For lay people, one additional open-ended question was included asking about their perceptions of cancer. The responses were separately analysed across the sample, using a thematic analysis.

RESULTS: The analysis revealed that lay people perceived cancer as a threatening illness, a curable illness by early detection, or an illness that I may develop. Seven themes were extracted regarding lay people’s attitudes towards cancer survivors: understanding and consideration of the condition, a general sympathy for the survivor, watching over them, encouragement, helping the cancer survivor to adjust their role in the community, offering support in daily activities, and unchanged relationships as community members. The analysis extracted the same themes, with one exception – “consideration of my feelings”, in cancer survivor. “Offering support in daily activities” was not reported.

CONCLUSIONS: Although participants have negative and positive perceptions of cancer, the negative perception may not be associated with attitudes towards cancer survivors. Theme comparisons between lay people and cancer survivors revealed that lay people intend to offer problem-solving type support, whereas cancer survivors wanted emotion-focused support.

RESEARCH IMPLICATIONS: These results suggest that further quantitative epidemiological community study is required to investigate the association between lay perceptions and attitudes towards cancer survivors. CLINICAL IMPLICATIONS: There are discrepancies between the support that lay people offer and the support that cancer survivors need. To help develop and promote home-based palliative care, these discrepancies need to be addressed. A community-based educational program may help lay people understand cancer survivors’ perspectives and encourage voluntary home-based palliative care in Japan.

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P3-106
The Impact of an Automatically Generated Survivorship Care Plan on Patient Reported Outcomes (ROGY Care): Results of a Pragmatic Cluster Randomized Controlled Trial Among Endometrial Cancer Patients

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BACKGROUND: More patient tailored information for cancer survivors is needed. Evidence on effects of implementing Survivorship Care Plans (SCPs), recommended by the IOM, is limited. Aim of this pragmatic cluster randomized trial is to assess the impact of SCPs in routine clinical practice. An SCP-application was therefore built in the existing regional web-based Registration system Oncological GYnecology (ROGY). Primary endpoint is patient satisfaction with information. Secondary endpoints are QoL and health care use.

METHOD: Twelve hospitals were randomized to usual care or SCP-care. SCPs were automatically generated by clicking the SCP-icon in ROGY and personally handed to and discussed with the patient. In usual care, gynecologists did not have access to the SCP-application (icon). All newly diagnosed endometrial cancer patients were asked to complete a questionnaire after surgery, 6, 12 and 24 months after diagnosis. The questionnaire included the EORTC-INFO25 and asked whether patients actually received an SCP. We expected 150 endometrial cancer patients: 75 per arm. We hypothesized that patients receiving SCP-care were more satisfied with the information. RESULTS: 201 patients (74%) returned a questionnaire after surgery: 109 SCP arm, 92 usual care arm. Of the patients in the SCP arm, 69% reported receiving an SCP. Patients in both arms reported similar scores on all scales of the EORTC-INFO25, including satisfaction with care (87% vs. 82%, SCP vs. usual care, p = 0.20). Analyses according to actual care received showed that patients who received SCP-care reported significantly higher scores (4–18 points) on all scales of the INFO25, including satisfaction with care (91% vs. 78%, SCP vs usual care, p = 0.046) compared to those who did not receive SCP-care.

CONCLUSIONS: Even in a situation where SCPs can be automatically generated, still one third does not receive an SCP. But, those who do receive SCP-care report better information provision and satisfaction. Follow-up measures will show whether this
ultimately results in better QoL and decreased health care use. ACKNOWLEDGEMENT OF FUNDING: This trial is supported with a study grant from the Dutch Cancer Society (#UVT-2010-4743). Prof. Dr. Lonneke van de Poll-Franse is supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349).

**P3-107**

Managing Fear of Cancer Recurrence With the SWORD Study (Survivors’ Worries Of Recurrent Disease)

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BACKGROUND: Fear of Cancer Recurrence (FCR) is a normal and common concern for most cancer survivors. For 9–34% fear becomes a chronic problem. Few studies investigated interventions specifically designed for clinical levels of FCR. We developed and assessed an intervention based on the theoretical model by Lee-Jones (1997), which hypothesizes that an emotional reaction (FCR) can be the result of interpretations of the threat of cancer, triggered by perceptions of internal and/or external cues. METHOD: In a two-arm randomized controlled trial, among breast, prostate and colorectal cancer survivors, the efficacy and cost-effectiveness of blended care will be compared to treatment as usual in managing FCR and thereby reducing related functional and psychological consequences. The intervention is based on principles of cognitive behavior therapy (CBT) and is directed at change of the cognitions and behaviors managing FCR. It is designed as blended care, combining face-to-face CBT with online activities. Primary and secondary outcome measures are severity of FCR, quality of life and cost-effectiveness. Moderators and mediators of treatment effects will be determined as well. RESULTS: The intervention will consist of six to eight CBT sessions over a three-month period. Key factors of FCR will be determined for each patient and the intervention will be tailored to a patient’s needs. The first five sessions will be face-to-face communication with a therapist, in the last sessions (six–eight) shared decision-making will take place on how to continue therapy: face-to-face or via the interactive website (web-based CBT with psycho-education, assignments and email contact). The development of the intervention was secured by patient participation, a multidisciplinary reading committee and a small pilot study. CONCLUSIONS: The SWORD study tackles FCR with one of the most frequently used psychotherapeutic interventions nowadays (CBT) and complements this with the latest developments in the field of E-health. At this moment, the (cost-) effectiveness of the intervention is evaluated in a randomized controlled trial carried out in the Netherlands. RESEARCH IMPLICATIONS: To guide the next generation of studies (and to inform clinical applications) the proposed study also includes information on moderators and mediators of treatment effects. This will help to increase our understanding of the nature of FCR. CLINICAL IMPLICATIONS: With the current study an appropriate evidence-based and cost-effective intervention to treat FCR can become available. Hereby, the SWORD study will improve quality of life and quality of care in breast, colorectal and prostate cancer survivors and contributes to an optimal adjustment to a severe disease like cancer. In the future, evidence-based results of the proposed study can be used to manage high levels of FCR in patients with other cancer diagnoses. ACKNOWLEDGEMENT OF FUNDING: The SWORD study was supported with a grant of the Dutch Cancer Society (KWF Kankerbestrijding), the Netherlands.

**P3-108**

Work Status and Work Disability in Colorectal Cancer Survivors: A Population-Based Study

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BACKGROUND: Colorectal (CRC) cancer is one of the most common cancers and the prevalence of long-term survivorship increases because of steadily survival improvement. After treatment, patients are expected to re-establish structure of daily life. However, a substantial number does not return-to-work. Previous studies did not examine if a difference exists between colon cancer (CC) and rectal cancer (RC). Aim of this study was to explore work status and work disability in CC and RC survivors separately. METHOD: This population-based cross-sectional survey included 212 CC and 137 RC survivors of working age (<65 years), diagnosed between 1998–2007, as registered in the Eindhoven Cancer Registry (response 82%). Questionnaires assessed work status (paid job vs. non-working, i.e.
unemployed, early retired, work disabled, home-maker). Forty-six percent of CC survivors were male (RC 59%), 55% received surgery only (RC 17%), 58% had a comorbid condition (RC 66%), 6% had a stoma (RC 37%), and time since diagnosis was 3.7 years (RC 3.9 years). Logistic regression analysis investigated the effect of type of cancer on work status, adjusted for demographic and clinical characteristics. RESULTS: 55% of CC survivors had a paid job (60% fulltime) and 42% of RC survivors (64% fulltime). Of the non-working CC survivors, 48% reported early retirement, 7% unemployed, 25% work disabled, and 21% home-maker; for RC survivors, respectively 45%, 4%, 26%, and 25%. The difference in work status between CC and RC was significant (p = 0.01). The unadjusted odds ratio (OR) of type of cancer was 1.73 (95% CI: 1.12–2.67; p < 0.05). However, this was not significant in multivariate analysis (OR 1.03, 95% CI: 0.50–2.67; p = 0.95) due to confounding by primary treatment. Age, gender and comorbidity significantly affected work status (p values < 0.001). CONCLUSIONS: Half of the CC survivors and about four out of ten RC survivors of working age are employed at long-term follow-up. The main reason for not working is early retirement and work disability. Compared to CC, RC survivors are less often employed. Investigation of factors associated with work status indicates the complex associations between demographic and clinical characteristics in their impact on work status.

RESEARCH IMPLICATIONS: The limited studies on work status mostly merged CC and RC patients into one study population. Our findings indicate that work status among RC is less favorable compared to CC. This may be related to treatment differences between CC and RC, which may negatively impact work ability and in turn affect the opportunity of return-to-work. Factors of work status need to be investigated within each group separately to elucidate if CC and RC are similar.

CLINICAL IMPLICATIONS: The relative negative outcome for RC survivors indicates that this group is more vulnerable to drop-out of work. From the societal perspective, this is an indirect cost of cancer in terms of productivity loss. Health care professionals can play a role in assessing work-related problems. Special attention should be paid to negative effects of treatment and comorbidity on work ability. Cooperation with vocational rehabilitation specialists may lead to reduction of drop-out of work. ACKNOWLEDGEMENT OF FUNDING: The first author received a Fellowship from the Dutch Cancer Society (DCS). Furthermore, this study was partly supported by a Veni grant (Netherlands Organization for Scientific Research, NWO; #451-10-041) to Floortje Mols, a Cancer Research Award (DCS; #UVT-2009-4349) to Lon- neke van de Poll-Franse, and a Social Psychology Fellowship (DCS; #UVT2011-4960) to Melissa Thong. Data collection funded by the Comprehensive Cancer Centre South, Eindhoven; CoRPS, Tilburg University; and an investment subsidy (NWO; #480-08-009).

P3-109
Breast Cancer Survivors’ Physical and Psychosocial Profiles and Their Relationship to the Need for Information and Support After Primary Medical Treatment: A Cluster-Analytic Approach
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BACKGROUND: Like the period of diagnosis and treatment, cancer survivorship is a time in which needs for information and support are prevalent. Survivors’ needs must be adequately picked up by clinicians. Physicians and nurses, however, tend to underestimate cancer patients’ distress. By defining the characteristics of survivors in need for information and support after completion of treatment, the identification of subgroups of survivors, vulnerable to a struggling reintegration after treatment, can be enhanced. METHOD: The goal of this study was to determine whether physical and psychosocial profiles of breast cancer survivors differ in post-treatment needs for information and support. Breast cancer survivors (n = 440) were clustered on the basis of 19 variables assessing survivors’ physical and psychological functioning, illness representations, social support and coping strategies. RESULTS: The four emerging clusters were characterized by means of survivors’ level of distress and way of dealing with the current situation: (1) “low distress - active approach” (21.2%), (2) “low distress - resigned approach” (32.3%), (3) “high distress - active approach” (24.2%), and (4) “high distress - emotional approach” (22.2%). Survivors in both “high distress” clusters reported significantly higher needs for information and support. CONCLUSIONS: With respect to care needs, survivors’ levels of distress are paramount to their approach of the situation. Therefore, screening for distress could allow for the identification of survivors in need. RESEARCH IMPLICATIONS: Survivors can be classified into four profiles based on a wide range of physical and psychosocial features. Taking into account the connections between these features within each profile, the four profiles are characterized by means of survivors’ level of distress and their way of dealing with the situation. The elaborate characterization of the profiles of survivors in need for information and support after treatment allows to gain a clear insight into this subgroup’s distinctive features. CLINICAL IMPLICATIONS: The results emphasize the varying patterns of adjustment of breast cancer
survivors. Moreover, elaborate characterization of the profiles of survivors in need for information and support after treatment allows to gain a clear insight into this subgroup’s distinctive features. ACKNOWLEDGEMENT OF FUNDING: This study was funded by The Flemish League against Cancer (Vlaamse Liga tegen Kanker).

**P3-110**

**Evaluation of Group Medical Consultations in The Follow-Up of Breast Cancer: A Randomized Controlled Pilot Study**

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**BACKGROUND:** During follow-up of breast cancer survivors (BCS) there is a high need for psychosocial support and information. A group medical consultation (GMC) provides individual medical visits conducted within a group of 4-8 patients. Expected advantages for patients are additional time with the clinician as well as extra information or support from peer-patients. The aim of this pilot study was to evaluate the effectiveness and acceptability of GMCs compared to standard individual consultations. **METHOD:** In this randomized controlled pilot trial 69 BCS, maximally 5 years after treatment, are included. The intervention group (n = 38) participated in a GMC once, while the control group (n = 31) received usual care. Besides a medical professional, a behavioral health professional was present as discussion leader. Primary outcomes, measured at baseline (T0) and one week post GMC (T1), were distress (SCL-90) and empowerment (CEQ). Additional secondary outcomes were cancer worry, quality of life, patient satisfaction, information needs and received information. Intention-to-treat analyses with ANCOVAs (n = 64) were used to compare differences in SCL-90 and CEQ of T0 and T1 between both groups. **RESULTS:** Differences in distress (F (1,58) = 2.83, p = 0.10) and empowerment (F (1,59) = 1.018, p = 0.32), did not significantly differ between both groups, nor did distress of quality of life and cancer worry levels. In both groups patients were equally satisfied and positive about the content of the consultations, concerning the professional’s approach, communication and personal symptoms. Patients in the control group were more satisfied about the available time from the medical professional. At T1 patients reported more discussed themes in GMCs than in individual consultations, while information needs prior to the consultation were the same for both groups. Sixty-nine percent experienced support from other participants in the GMC. **CONCLUSIONS:** GMCs did not improve patients’ distress or empowerment. Patient satisfaction was equal in both groups. Although in GMCs more total time with the medical professional is available, patients were more satisfied about the amount of time in an individual visit. However, since information provision was higher in GMCs compared to individual care, GMCs may be a good alternative for follow-up care of BCS. **RESEARCH IMPLICATIONS:** This study has shown the acceptability of GMCs in the follow-up of BCS. The power of the pilot study was probably too small to find any significant differences. Moreover, a one-time GMC is a minimal intervention, which makes it difficult to show an effect. Therefore, a current RCT is focusing on the effectiveness of GMCs combined with online GMCs via dedicated iPads. **CLINICAL IMPLICATIONS:** GMCs are being implemented in several outpatient clinics for BCS in The Netherlands. This study indicated no psychological benefits of GMCs. However, information provision and support from peer patients did improve compared to standard individual care. Therefore, implementation of GMCs as part of standard care may be an alternative for BCS. ACKNOWLEDGEMENT OF FUNDING: None.

**P3-111**

**Neuropathic Symptoms Among Colorectal Cancer Patients With Diabetes: Results From the Population-Based PROFILES Registry**

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**BACKGROUND:** It has been previously found that chemotherapy induced-neuropathy is common among cancer patients. In addition, neuropathic symptoms are frequently reported among diabetes patients, due to high blood glucose levels which affect the nerve cells. As today up to one in five CRC patients also has diabetes we aimed to assess the prevalence and severity of neuropathic symptoms among patients with both cancer and diabetes and compare this with patients without diabetes. **METHOD:** Data from a population-based survey conducted in 2011 among CRC patients, 2–11 years after cancer diagnosis, was used. The prevalence of diabetes was based on self-report using the Self-Administered Comorbidity Questionnaire. CRC patients with diabetes where matched on age and gender to CRC patients without diabetes. Neuropathy was measured using the EORTC-QLQ-CIPN20.
The differences on individual items from the EORTC-QLQ-CIPN20 between CRC patients with and without diabetes were assessed. RESULTS: 218 (13%) from the 1643 responders reported having diabetes and were matched to 982 CRC patients without diabetes. A few differences in neuropathic symptoms were detected with more CRC patients with diabetes reporting tingling fingers or hands (12% vs. 8%, p-value = 0.05), troubles with handling small objects (9% vs. 6%, p-value = 0.05), troubles with walking stairs or standing up (13% vs. 9%, p-value = 0.03) and erection problems among males (67% vs. 52%, p-value = 0.0007) compared with CRC patients without diabetes. No differences in clinical characteristics including chemotherapy treatment were observed. Due to the low number of neuropathic symptoms no multivariate analyses were conducted. CONCLUSIONS: In general the prevalence of neuropathic symptoms was low and only a few marginally significant differences were observed between CRC patients with and without diabetes. Interestingly, chemotherapy treatment among CRC patients with diabetes was comparable with CRC patients without diabetes.

RESEARCH IMPLICATIONS: Since this study is the first in addressing neuropathic symptoms among patients with both cancer and diabetes, more research is needed. Future research should also focus on chemotherapy type and dosage administered and their effects on neuropathic symptoms.

CLINICAL IMPLICATIONS: Based on current results patients with both colorectal cancer and diabetes seem to tolerate chemotherapy well because there is not a higher prevalence of neuropathic symptoms compared to the colorectal cancer patients without diabetes.

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P3-112
The Individual and Combined Effects of Colorectal Cancer and Diabetes on Health-Related Quality of Life and Sexual Functioning: 1+1=3?

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BACKGROUND: This study compares persons without colorectal cancer and diabetes mellitus (CRC-DM-), persons with only diabetes (CRC+DM-), persons with only colorectal cancer (CRC+DM-), and persons with both colorectal cancer and diabetes (CRC+DM+) on Health-Related Quality of Life (HRQoL) and sexual functioning. To study whether 1 + 1 = 3, the additive interaction effect of cancer and diabetes was tested.

METHOD: Persons older than 60 years who participated in a survey in 2010 among patients with colorectal cancer or among a normative Dutch population, were included. Having diabetes was self-reported. Both samples completed the EORTC-QLQ-C30 and four scales of the EORTC-QLQ-C38 to assess HRQoL and sexual functioning, respectively. Associations were analyzed using multivariate linear and logistic regression models.

Standardized beta’s and odds ratios (OR) were reported. RESULTS: 624 CRC-DM-, 78 CRC-DM+, 1726 CRC+DM-, and 328 CRC+DM+ persons were included in the analysis. No additive interaction effect of cancer and diabetes was observed on any of the HRQoL subscales, except for pain (CRC-DM- 18; CRC-DM+ 13; CRC+DM- 16; CRC+DM+ 18). CRC patients reported lower scores on all HRQoL subscales, except global health and pain, while DM patients reported less favorable scores on global health, physical functioning, fatigue and dyspnoea. More erection problems were reported among CRC+DM+ persons (OR=6.5) and CRC+DM- persons (OR=4.7) compared with CRC-DM- persons. Moreover, more male CRC+DM+ persons reported ejaculation problems compared with CRC+DM- persons (OR=1.6). CONCLUSIONS: CRC or its treatment but not DM seems to contribute to a decreased HRQoL and sexual functioning compared with the normative population. No additive interaction between cancer and diabetes was found, except for pain. Thus having cancer and diabetes does not
result in a worse HRQoL and sexual functioning than the sum of both individual effects. RESEARCH IMPLICATIONS: Recently, much attention has been paid to the association between cancer and diabetes on incidence and survival rates. However, limited attention is being paid to the HRQoL of the increasing number of patients with both diseases, whereas today up to one in five colorectal cancer patients also has diabetes. More studies are needed to disentangle the complex interaction between both cancer and diabetes on HRQoL and sexual functioning. CLINICAL IMPLICATIONS: To improve quality of care, clinicians should become more aware of the long term HRQoL and sexual functioning problems among patients with cancer and comorbid diabetes. ACKNOWLEDGEMENT OF FUNDING: Part of the research was supported by a Cancer Research Award from the Dutch Cancer Society (#UVT-2009-4349) to Lonneke van de Poll-Franse and a Social Psychology Fellowship from the Dutch Cancer Society to Melissa Thong (#UVT2011-4960). Data collection was funded by the Comprehensive Cancer Centre South, Eindhoven, CoRPS, Tilburg University, The Netherlands; and an investment subsidy (#480-08-009) from the Dutch Organization for Scientific Research.

P3-113
Information and Support Needs Among a Diverse Sample of Adult Cancer Survivors in the First Year After Completion of Their Primary Treatment
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BACKGROUND: Cancer is a life-threatening disease which causes psychosocial and physical problems that may continue after the primary treatment has been completed successfully. However, the current aftercare available does not sufficiently meet cancer survivors’ needs. In order to develop an online tailored intervention to support cancer survivors on their primary needs, we conducted a survey research to assess the most prominent information and support needs among cancer survivors. METHOD: Cancer survivors were recruited through eight hospitals in the Netherlands. Hospital staff handed out the survey, which participants could fill in and send to the Open University. After 4-6 weeks, participants were invited by the Open University to participate in a second survey. Validated measures were used to assess unmet needs and psychosocial and lifestyle concepts, such as quality of life, coping and self-management skills, social support, fatigue, returning to work, and lifestyle behaviours (physical activity, smoking, and nutrition). The purpose of the second survey was to test the reliability of the translated Cancer Survivors Unmet Needs (CaSUN) measurement. RESULTS: In total, 278 cancer survivors participated in the study. Mean age of the participants was 60.2 years (SD = 10.46); 30.9% was male. Most important unmet needs reported were needs in the psychosocial (need for emotional support, dealing with fear of recurrence, contact with fellow survivors) and medical domain (dealing with complications, need for up to date information, need for the best medical care). The reliability of the Dutch version of the CaSUN and the relationships of information needs with concepts such as coping, self-management and quality of life were studied and will be presented at the conference. CONCLUSIONS: After primary treatment has finished, cancer survivors experience a wide range of needs, of which an important part consist of unmet needs. Since the number of cancer survivors will increase over the upcoming decade, cancer survivors should acquire the skills to fulfill their most important needs. Current guidelines state that it is important to improve self-management in cancer survivors. The results of the study were used to develop an online tailored intervention, the “Kanker Nazorg Wijzer” (Cancer Aftercare Guide), to improve these skills and teach cancer survivors to manage issues on the psychosocial, physical and lifestyle domain. RESEARCH IMPLICATIONS: The results of the survey research provide information on the most prominent information and support needs of cancer survivors, and on the degree that these needs are being met. Information on the relationship between these needs on the secondary outcomes coping, self-management, illness perception, perceived social support and lifestyle behaviour, and on the primary outcomes quality of life and psychological distress will give insight in future directions for research and interventions for former cancer patient. CLINICAL IMPLICATIONS: The results of the study give an indication of the most prominent met and unmet needs of cancer survivors and give suggestions for future directions in the patients’ aftercare. The results of the study are used in the development of an online tailored intervention aimed at encouraging self-management in cancer survivors, in order to help them to deal with psychosocial and lifestyle problems they encounter in their recovery from cancer. ACKNOWLEDGEMENT OF FUNDING: This research project is funded by the Dutch Cancer Society (KWF Kankerbestrijding).
P3-114
Yoga on Psychological Recovery From “Object Loss” for Breast Cancer Survivors – Results From a Pilot Study
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BACKGROUND: There are an increasing number of breast cancer survivors in Japan. Many studies about yoga for cancer survivors have shown their effectiveness on physical and psychosocial QOL quantitatively. It is gradually accepted that applications of yoga to be helpful for grieving process. We consider breast cancer diagnosis as “object loss” directly impact on their QOL. This preliminary study focused on psychological defense mechanisms, aimed to figure out how they recover from their diagnosis and treatment. METHOD: 20 Japanese breast cancer survivors aged over 20 were recruited as participants for 12 weeks yoga intervention program. A 75 minutes yoga session consists of warm up, basic yoga postures, breath work and resting posture. All participants were encouraged to practice at home as well as weekly group session. Group interviews and QOL assessments (FACT-B) were conducted at baseline and after 12 weeks intervention. All interviews were audio-taped with consent, and transcribed to analyze. The recovery stages were assessed and identified by a certified psychotherapist, a psychoanalyst and the first author individually, then made it into a consensus. RESULTS: 18 participants aged 36 to 53 (mean: 46.6) completed 12 weeks program. Mean attendance was 11.3 of 12 classes. No serious adverse events were reported through intervention. We found that psychoanalytic defense mechanism “denial” was used commonly in participants and the appearance of “denial” related words was decreased after intervention. We also found the QOL score and appearance of “denial” related words had significant correlations. Participants who tended to make denial related words before intervention more likely to decrease QOL score after intervention; 5 cases out of 7 (71%), and it appeared only 10% in participants who improved. CONCLUSIONS: Our results indicated that yoga is a safe, feasible intervention for breast cancer survivors particularly in psychological recovery process to help them progress the recovery stages. Consequently yoga could lead to improve their long-term QOL. ACKNOWLEDGEMENT OF FUNDING: None.

P3-115
The Contribution of Attachment to Psychological Adjustment in Women Facing Breast Cancer
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BACKGROUND: Attachment theory provides a general model for understanding the way individuals emotionally react when stressed. Two main dimensions of attachment have been identified: anxiety (to exacerbate the emotional needs and dependence to others) and avoidance (to downplay threat and distress). This study examines the association between treatment-related physical symptoms of breast cancer, anxious or avoidant attachment, and psychological distress in women. METHOD: This study is part of a larger project on the role of social support in women facing cancer. Women were recruited during hospitalisation at the Breast Centre of the University Hospital of Lausanne. For this study, we used data from 72 women. Their mean age is 53.73 (SD = 12.17). After surgery, women completed the following self-reported questionnaires: the European Organization for Research and Treatment of Cancer (EORTC-QLQ BR23) for physical symptoms; the Experiences in Close Relationships-revised (ECR-R) for adult attachment; and the Brief Symptoms Inventory (BSI-18) for psychological distress. Several socio-demographic and medical data were used as control variables. RESULTS: Different multiple regression models have been tested to examine the link between physical symptoms, attachment styles and psychological distress. Contrarily to our hypothesis, anxiety does not moderate but instead directly predicts distress. On the contrary, avoidant attachment has a moderating effect on the link between physical symptoms and distress. Nevertheless, the best-fit model includes physical symptoms, anxious attachment and neoadjuvant treatment (control variable) as predictors; this model accounts for 50.7% of the variance in distress. In this model no direct nor moderating effect for avoidant attachment was found. CONCLUSIONS: Our study shows that attachment plays a role in adjustment to breast cancer. This result demonstrates that women’s response to stress is not only determined by disease-specific variables but also by their general way of regulating emotions which is a trait of their personality. Interventions aiming at helping women to cope with breast cancer should take into account individual variability in emotion regulation to be more efficient. ACKNOWLEDGEMENT OF FUNDING: This study benefited from the support of the Swiss National Centre of Competence in Research
P3-116
A 1-Year Follow-Up of Post-Traumatic Stress Disorder (PTSD) Symptoms and Social Support Perceived in Cancer
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BACKGROUND: Prevalence rates of cancer’s PTSD symptoms varied from 3% to 19%, depending on the timing of the assessment of the PTSD symptoms done during these studies. Social support is considered a buffering variable in the cancer treatment. The purpose of this study was to explore the relation between PTSD symptoms with the perceived social support at specific times between the diagnosis and the treatment of the cancer.

METHOD: These studies consider three diagnoses of cancer, breast, head and neck, and colorectal cancer. The point times of the assessment considered in the study were, preliminary time of oncology treatment (T1), at the end of the treatment (T2), at 6 months post-treatment (T3) and 1 year following post-treatment in each type of tumour (T4). The presence of PTSD symptoms was assessed with the PTSD Checklist - Civilian version (PCL-C). Social support was evaluated with the Medical Outcomes Study Social Support Survey (MOS-SSS). Multivariate analyses were used to assess the associations of social support perceived with PTSD symptoms at the four time points considered. RESULTS: 67 patients participated in this study. The sample consisted of breast cancer (53.7%), head and neck (25.4%) and colorectal cancer (20.9%). At T1, 9% of the sample was identified as suggestive of PTSD. The patients with clinical PTSD are increased at T2 to 12.7%, and these are reduced to 10% of patients at T3 and T4. At T1 and T2 time, social support perceived was related with re-experiencing (p < 0.00) and numbing (p < 0.00) symptoms. At T3, social support was related with all symptoms of PTSD (p < 0.00). At T4, social support was related only with numbing symptoms (p < 0.00) of PTSD. CONCLUSIONS: No evidence of significant differences with regards to suggestive PTSD at follow-up times in cancer treatment could be found. The association of social support perceived with different PTSD symptoms varied across follow-up time. Numbing and re-experiencing symptoms of PTSD was found to be related with social support perceived through diagnosis and cancer treatment. RESEARCH IMPLICATIONS: Longitudinal research examining temporal changes of PTSD symptoms in cancer is limited. Changes of suggestive PTSD were evaluated across 1-year post-treatment. Moreover, it was evaluated how specifically PTSD symptoms were associated with social support at follow-up. However, these findings included a small sample size, and it was possible to examine only some of the key variables used to assess changes in psychological distress across cancer treatment. Therefore, more investigation is required to confirm these results.

CLINICAL IMPLICATIONS: This study has important clinical implications for assessment and treatment of psychological distress in cancer. Specifically, the findings highlight that social support perceived was linked differently with symptoms of PTSD in follow-up times of cancer treatment. As such, the patients may need different psychosocial support by follow-up time of post-treatment cancer.

ACKNOWLEDGEMENT OF FUNDING: This research was supported by the Catalan Agency for Health Technology Assessment and Research (Nº. 102/19/2004).

P3-117
Personality Factors in Adhesion to Tobacco Cessation After Lung Cancer Diagnosis
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BACKGROUND: Persistent smoking after lung cancer has been the subject of medical, therapeutic and epidemiological publications for 20 years of research. Continued persistent smoking is all the more a problem for oncologists as there is evidence that smoking cessation, with lung cancer, gives therapeutic benefit. Quitting smoking can improve the response to treatments (chemotherapy, radiotherapy, surgery), quality of life and overall survival. However many patients refuse adhesion to tobacco cessation. A qualitative study has been launched. METHOD: A comparative and prospective single-center study is being conducted in the Department of thoracic oncology of Strasbourg University Hospital. 50 patients are included, men and women, 18 years or+, with active smoking at disclosure of lung cancer. A week after receiving the diagnosis and having signed an informed consent, a research interview is conducted, then 2 to
BACKGROUND: Fatigue is the most common under recognized symptom in cancer and ranked greater than pain, nausea and depression in terms of its effect on the quality of life. Fatigue is commonly reported at diagnosis in Chronic Myeloid Leukemia (CML). Fatigue is also a well documented side effect of CML patients receiving long term Imatinib treatment. The objective of this study is to understand fatigue and its psycho-social correlates in CML patients treated with Imatinib.

METHOD: CML patients (n = 71, age (M = 40.38, SD = 12.15)) reporting for their follow-up visit to the out-patient clinic were assessed for fatigue and their hemoglobin readings were gathered from routine hemogram investigations. A smaller group of CML patients (n = 44, age (M = 40.1 SD = 12.9)) were also administered the Cancer Institute Quality of Life (QOL), Hospital Anxiety and Depression Scale (HADS) and the Memorial Symptom Assessment Scale (MSAS). Information on Imatinib Dosage and Disease status (achievement of complete cytogenetic response) was also collected.

RESULTS: Fatigue correlated significantly with QOL (r = -0.62, p < 0.01), Anxiety (r = 0.41, p < 0.01), Depression (r = 0.69, p < 0.01), MSAS (r = 0.7, p < 0.01) but not with Hb (r = -0.1, p > 0.05) and dosage (r = 0.09, p > 0.05). Fatigued patients had significantly greater distressing symptoms (t(42) = -4.23, p < 0.01), anxiety (t(42) = -2.53, p < 0.05), depressed (t(42) = -5.35, p < 0.001) and had poorer quality of life (t(42) = 3.944, p < 0.001). Fatigued and non-fatigued patients did not differ on disease status (t(31) = -1.85, p > 0.05), Hb (t (27) = 0.84, p > 0.05) and Imatinib dosage (t (31) = 0.042, p > 0.05). A multiple regression analysis indicated depression (B = 0.58, SE = 0.2, p = 0.006) and MSAS (B = 11.214, SE = 3.4, p = 0.003) as variables significantly predicting fatigue (F(2,41) = 28.63, p < 0.001, R$^2$ = 0.58).

CONCLUSIONS: Fatigue was reported by CML patients treated with Imatinib. Fatigued cancer patients are more anxious, depressed and experience greater symptom distress. Fatigue is a significant contributor to poor quality of life. Depression and Symptom distress were found to be significant predictors of fatigue. RESEARCH IMPLICATIONS: Fatigue in CML does not seem to be related to disease and dosage status. Cognitive and other psycho-social variables that may influence fatigue needs to be explored. The complex relationship between depression and fatigue needs to be explored further. CLINICAL IMPLICATIONS: Fatigue is a significant and distressing symptom experienced by CML patients treated with Imatinib. This study demonstrates this in a population where no previous data of this nature exists. Since fatigue has the capacity to significantly lower quality of life clinicians should focus on identifying and implementing interventions to reduce fatigue.

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P3-118
Psycho-Social Correlates of Fatigue in Chronic Myeloid Leukemia
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BACKGROUND: Fatigue is the most common under recognized symptom in cancer and ranked greater than pain, nausea and depression in terms of its effect on the quality of life. Fatigue is commonly reported at diagnosis in Chronic Myeloid Leukemia (CML). Fatigue is also a well documented side effect of CML patients receiving long term Imatinib treatment. The objective of this study is to understand fatigue and its psycho-social correlates in CML patients treated with Imatinib.

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ACKNOWLEDGEMENT OF FUNDING: None.
P3-119
Personality Traits and Coping Styles Explain Anxiety in Lung Cancer Patients to a Greater Extent Than Other Factors
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BACKGROUND: Although various factors thought to be associated with anxiety in cancer patients, relative importance of each factors were unknown. We tested our hypothesis that personality traits and coping styles explain anxiety in lung cancer patients to a greater extent than other factors. METHOD: A total of 1334 consecutively recruited lung cancer patients were selected, and data on cancer-related variables, demographic characteristics, health behaviors, physical symptoms, and psychological factors consisting of personality traits and coping styles were obtained. The participants were divided into groups with or without a significant anxiety using the Hospital Anxiety and Depression Scale-Anxiety, and a binary logistic regression analysis was used to identify factors associated with significant anxiety using a multivariable model. RESULTS: Among the recruited patients, 440 (33.0%) had significant anxiety. The binary logistic regression analysis revealed a coefficient of determination (overall $R^2$) of 39.0%, and the explanation for psychological factors was much higher (30.7%) than those for cancer-related variables (1.1%), demographic characteristics (2.1%), health behaviors (0.8%), and physical symptoms (4.3%). Four specific factors remained significant in a multivariate model. A neurotic personality trait, a coping style of helplessness/hopelessness, and a female sex were positively associated with significant anxiety, while a coping style of fatalism was negatively associated. CONCLUSIONS: Our hypothesis was supported, and anxiety was strongly linked with personality trait and coping style. RESEARCH IMPLICATIONS: Although trait anxiety is stable and invariable from a conceptual point of view, our previous report suggests that anxious patients tend to be more likely to respond negatively on other self-reported questionnaires, such as the EPQ-R or MACS. Consequently, a longitudinal study in which trait anxiety is assessed before the onset of cancer and that analyzes to what extent the trait of anxiety predicts the state of anxiety after cancer diagnosis is needed. CLINICAL IMPLICATIONS: The use of screening instruments to identify these factors and the implementation of cognitive behavioral interventions focusing on coping styles could be effective for reducing anxiety. ACKNOWLEDGEMENT OF FUNDING: This work was supported in part by a Grant-in-aid for Cancer Research, Clinical Cancer Research (H22-033) to KS and Third Term Comprehensive 10-year Strategy for Cancer Control (H22-036) to YU, from the Japanese Ministry of Health, Labor and Welfare.

P3-120
Comparison Between Patients With Hepatocellular Carcinoma and Hepatitis C in Fatigue and Psychological Distress Before Receiving Treatment
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BACKGROUND: Hepatocellular carcinoma (HCC) and Hepatitis C virus (HCV) infection are two major health problems in Taiwan. Fatigue and depression were the most distress experienced by these two groups. However, there is no study to compare the status of fatigue and depression among these two groups. Therefore, the aim of this study was to compare the differences in fatigue and depression between patients with HCV and HCC before receiving treatments in the past week. METHOD: A cross-sectional design was used to recruit the participants. Eligible participants were hospitalized patients with HCC before receiving non-surgical treatments; meanwhile, patients with HCV infection were outpatients scheduled to receive interferon combined ribavirin therapy. Disease information was collected from chart and a set of structured questionnaires was used to assess patients’ fatigue, symptom distress, anxiety, and depression. The t test was used to examine the differences between the two groups. RESULTS: The participants with HCC (n = 114) and HCV infection (n = 96) all reported fatigue was the most distressed symptom in the past week of treatment. Compared to the patients with HCC, those with HCV infection had higher level of fatigue intensity and its interference with functioning and anxiety. However, the same level of depression between the two groups. CONCLUSIONS: Before treatments, fatigue was the most distress problem in the two populations. The patients with HCV had the higher level of fatigue, and anxiety but the same level of depression compared to the patients with HCC. RESEARCH IMPLICATIONS: Conducting fatigue management before treatment for two groups is needed. The intervention of anxiety reduction for patients with HCV before receiving interferon therapy is suggested. CLINICAL IMPLICATIONS: Health care providers should offer fatigue management program for both of them before receiving treatment. However, more anxiety reduction intervention for HCV patients before treatment and psychological management for dealing with depression for the two groups are needed. ACKNOWLEDGEMENT OF FUNDING: Thank you for the grant support.

P3-121
Shared Decision Making in Dermato-Oncology – Preference for Involvement of Melanoma Patients
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BACKGROUND: Involving patients in treatment decisions is frequently requested in oncology for medical, ethical and sociological reasons. For that purpose the implementation of Shared Decision Making (SDM) as a clinical decision-making model, in which doctors and patients are seen as partners who reach a mutually accepted decision, is promoted. In dermato-oncology, however, it has not been investigated how patients want to be involved in treatment decisions or to what extent SDM is realized in clinical practice. METHOD: The aim of this study is to assess melanoma patients’ preference for involvement in treatment decisions and to test if this preference changes over time. This was investigated in consecutively recruited melanoma patients (stages I-III) in two German Skin Cancer Centers, as part of a longitudinal questionnaire study. The Control Preference Scale (CPS) assessed patients’ preferences at baseline (n = 405) and was re-administered 1 year later (n = 314) to detect potential changes. Additionally, the perceived realization of SDM in the adjuvant interferon-alpha treatment decision was investigated in a subgroup of patients (n=108), using the 9-item Shared Decision Making Questionnaire (SDM-Q-9). RESULTS: Almost half of the 405 melanoma patients prefer shared decision making (49%), 34% want to decide autonomously and only 17% want to delegate their decision to the doctor. We found a significant preference shift within the 1-year assessment period predominantly towards more active involvement. The mean SDM-Q-9 score suggests that the patients in general felt moderately involved by their physicians in the Skin Cancer Centers in Freiburg and Cologne. The single item analysis revealed that the individual SDM process steps vary in their degree of realization perceived by patients. CONCLUSIONS: The majority of melanoma patients want to play an active role (autonomous or shared) in treatment decisions and only a small percentage wants the doctor to decide on the treatment. Over time this preference for an active involvement even increases. Our findings indicate that the implementation of SDM in the adjuvant treatment situation is improvable. This underlines the importance to enhance the implementation of SDM in dermato-oncology. RESEARCH IMPLICATIONS: To our knowledge this study is the first to investigate patients’ preferences for involvement of melanoma patients and their perceived participation in the adjuvant treatment situation in routine clinical practice so far. It would be desirable to support the observed results with further research on SDM in dermato-oncology since melanoma patients show a high preference for SDM. CLINICAL IMPLICATIONS: Our data show that over 80% of melanoma patients want to play an active role in their treatment decisions and that their preference for an active involvement even increases over time. Thus, it is vital that physicians enable patients to play an active role in treatment decision-making. The implementation of SDM could be further enhanced for example via SDM physician training programs or the implementation of a decision aid. ACKNOWLEDGEMENT OF FUNDING: We thank MSD Pharma for co-funding this research project.

P3-122
The Involvement Of Breast Cancer Patients During Oncological Consultations. A Multi-Centre Randomized Controlled Trial. The INCA Study Protocol.
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BACKGROUND: Studies on patient involvement show that physicians make few attempts to involve
their patients who ask few questions if not facilitated. Patients who participate in the decision-making process show greater treatment adherence and have better health outcomes. The aims of the present study are to 1) assess the effects of a pre-consultation intervention to increase involvement of breast cancer patients during the consultation, 2) explore the role of attending companions in the information exchange. METHOD: All first patients with breast cancer at an early stage, aged 18–75 years who attend the Oncology Out-patient Services are asked to participate the study. The intervention consists in the presentation of a list of relevant illness-related questions. The main outcome measures are: (a) the number of questions asked by patients during the consultation, (b) the involvement of the patient, (c) patient’s perceived achievement of her informative needs. The intervention study was preceded by an observational phase to explore the information exchange between patient and oncologist. RESULTS: The observational phase has been completed. We recruited 77 patients (mean age of 57). The majority (66%) attended with relative. Patients asked a mean of 17 questions. The intervention is considered efficacious if it increases the number of questions by 30%. The sample size required in order to demonstrate such difference would therefore require at least 45 control and 45 experimental patients (Pocock 1983). CONCLUSIONS: It is expected that the use of a list of printed questions facilitates the participation of the Italian patients with breast cancer in the information exchange and in the decisional processes. Considering the informative needs of the family members may open new and interesting perspectives. ACKNOWLEDGEMENT OF FUNDING: None.

P3-123
Are They Crazy to Refuse Chemotherapy? Treatment Refusal: Does it Result From Autonomism Movement in Western Societies or Does it Reveal Problems in the Physician-Patient Relationship?
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BACKGROUND: International literature is rarely interested into treatment refusal. We explored adaptation and unconscious defense mechanisms in female patients when adjuvant chemotherapy was proposed after surgery of their breast cancer. METHOD: This is a comparative and longitudinal clinical research of the medical consultation. Our research includes 50 patients affected from breast cancer and 3 oncologists. Following the curative surgery adjuvant chemotherapy is proposed to all patients. Their decision-making allowed distributing the patients in two groups: refusal and acceptance. Patient’s psychological factors of the refusal has been registered and analyzed. Furthermore, the physician-patient communication (verbal and non-verbal) and Risk-Benefit ratio of adjuvant chemotherapy have been studied. RESULTS: 82% of patients have accepted adjuvant chemotherapy while 18% refused it. In front of this anxiogenic medical proposal, Adhesive patients suppressed their emotions. On the contrary, Refusal patients expressed their feelings. The psychological elaboration to refuse the therapeutic protocol is determined by structure of personality and strategies of adaptation of patient, acquired during her psychological development (The social influence was not studied here). The verbal communication also led to the Refusal patient. Conversely, the physician’s unconscious non-verbal communication as well as risk of dying from breast cancer in coming 10 years for patients did not influence the choice of patients. CONCLUSIONS: The main conclusion is to consider structure of personality, coping and defense mechanisms of the patients in their therapeutic decision. Our results highlight the subjectivity of person and its experiences in the most extreme situation. This thesis brings clinical and research perspectives in front of the physician-patient relationship which often reduced to their social roles. In this context, physician-patient relationship is a meeting between two persons with different social status with peculiar structure of personality, in a stressful situation. RESEARCH IMPLICATIONS: This model of research features the lack of studies about the refusal of treatment. To adhere to the treatment is not synonymous of active participation of patient. To participate during the care does not mean participating in the therapeutic decision. Likewise, the non-verbal communication of oncologist needs more investigation. CLINICAL IMPLICATIONS: In the oncology care a better knowledge about psychopathology of patients could facilitate their level of participation to their therapeutic protocol. We propose a pre-disclosure consultation with a clinical psychologist. This psychological interview would allow a multidisciplinary reflection to take into account the psychopathology of patient in medical consultation. ACKNOWLEDGEMENT OF FUNDING: None.
P3-124
Dutch Oncologists’ Views On and Self-Reported Use of Risk Prediction Models in the Breast Cancer Setting
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BACKGROUND: Deciding whether or not to undergo hormonal and/or chemotherapy is a difficult balancing act of benefits versus side-effects. Risk prediction models (RPM) that quantify survival gains of treatment options, e.g. Adjuvant!, appear to be increasingly used during consultations with breast cancer patients. However, most RPM were not originally designed for such use. Studies have shown that patients have difficulty understanding information from RPM. We investigated why and how oncologists use RPM during consultations with patients. METHOD: There is limited literature on this subject, therefore, we first conducted structured interviews and online-focusgroups with medical oncologists from academic and general hospitals in the Netherlands. This data was independently coded by two researchers. We used the findings from the interviews and the focusgroups to develop an online-questionnaire that could be filled in anonymously. All medical oncologists, surgeons, nurse practitioners and nurses member of the breast cancer workgroups of the Comprehensive Cancer Centers The Netherlands were approached via e-mail and asked to complete the questionnaire. A reminder was sent after one month. The data was analyzed using SPSS 20 software. RESULTS: 87 respondents (partially) completed the questionnaire (30% medical oncologists, 29% surgeons and 41% specialized nurses). Adjuvant! is the best known (95%) and most frequently used RPM. Surgeons mainly use Adjuvant! during the consultation to explain why referral to the medical oncologist is necessary. Medical oncologists most often use Adjuvant! during consultations to inform and help patients decide about treatment or persuade them to follow the proposed course of treatment. Specialized nurses have a supportive role, checking whether patients correctly understood the information. The majority of respondents (>75%) believe that using Adjuvant! helps patients to better understand their prognosis. CONCLUSIONS: RPM have found a place in daily practice, especially Adjuvant!. Moreover, oncologists believe that using RPM, such as Adjuvant!, helps patients understand their prognosis better. However, some small studies have found that this is not always the case. Communicating risks is not straightforward, and if not done properly it could backfire and cause patients unnecessary anxiety for example. Thus it is becoming increasingly important to explore whether patients understand the information provided by RPM, how they evaluate their use during consultations and whether this affects decision-making. RESEARCH IMPLICATIONS: Before RPM should undergo widespread implementation, insight is needed in the process and outcomes of risk communication using RPM, to ensure that RPM and associated risk communication will benefit patients rather than provide a source of unwanted cognitive burden or anxiety. The current study is a first step in exploring these issues. Next we will explore patient understanding of estimates provided by Adjuvant! and their evaluation of its use during consultations. CLINICAL IMPLICATIONS: RPM could be valuable tools in clinical practice, promoting more open discussion between patients and oncologists on prognosis and potential treatment benefits. However, it is important that this is done appropriately. More insights are needed on how best to communicate estimates from RPM to patients. We will use the data we obtain in the second phase to provide recommendations to oncologists.

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P3-125
Pilot Study of a Decision Aid About Fertility Preservation for Breast Cancer Patients
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BACKGROUND: In order to improve the information provision about fertility preservation (FP) and to support informed decision making for young women with breast cancer, a web-based decision aid (DA) with explicit values clarification exercise (VCE) was developed. The aim of this study is to compare the effectiveness of this DA with treatment as usual (a brochure) with regard to the decision making processes and outcomes in a patient population. METHOD: A multicenter (26 centers) RCT is conducted in the Netherlands. Eligible participants are female breast cancer patients (18–40 years old) with an unfulfilled child wish. Participants are randomized between the DA and
brochures about FP. Measurements are done by online self-report questionnaires at diagnosis (T0), after 6 weeks (T1) and after 6 months (T2). We will report on results from the baseline and T1 measurement. Primary outcome is decisional conflict. Secondary outcomes are knowledge of FP, ability to decide, DA-use (webstats). RESULTS: At time of abstract submission for T0 26 (13 controls, 13 intervention), and for T1 24 (12 controls, 12 intervention) questionnaires were available. Of the intervention group, 8 women logged into the DA (62%), 7 (88%) used the VCE. Mean time spent on the website was 27.4 minutes (0.5–73.6 minutes). There were no differences in knowledge, decisional conflict, or ability to decide between arms, but a marginal difference in effective decision making (p = 0.051). Mean absolute knowledge increase was 20–25% between baseline and T1 (F(1,19) = 8.09 p < 0.01). There was a positive correlation between VCE-use and knowledge at T1 (R = 0.66, p < 0.05). CONCLUSIONS: Both informational sources lead to improved knowledge about FP, and enabled patients to make a decision. We did not find differences with regard to decision processes and outcomes between the groups except for effective decision making; women in the DA-arm scored somewhat better on effective decision making compared to the control group. So far no specific beneficial effects of the DA-arm compared to the control arm were found, but an update with more participants should provide more insight in the effectiveness of this DA. RESEARCH IMPLICATIONS: This study offers a starting point for future research with more participants, after the effectiveness of this DA specifically, and the effectiveness of DAs and VCEs in general on decision making outcomes and processes. CLINICAL IMPLICATIONS: The effectiveness of this DA about FP compared to brochures has not yet been recognized in this study, but there are indications that its use might be beneficiary for knowledge increase and effective decision making. We should enable future patients to decide for themselves which source they prefer to use (brochures or a webbased DA) by offering both. ACKNOWLEDGEMENT OF FUNDING: DSW Health Insurance, Schiedam, The Netherlands.

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Use of a Values Clarification Exercise About Fertility Preservation Leads to More Clarity About Values and More Knowledge in Healthy Participants
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BACKGROUND: To improve information provision about fertility preservation (FP) and support informed decision making for young breast cancer patients, a decision aid (DA) with explicit values clarification exercise (VCE) was developed. We found that healthy respondents who used the VCE reported less decisional conflict compared to those who did not, but few respondents had used the VCE. The current experiment studies the relation between personality, DA-use and decisional conflict with or without referral to the VCE. METHOD: Healthy participants (n = 193) were randomized between information only(VCE−), information+VCE without referral to the VCE (VCE+), or information+VCE with referral to the VCE (VCE++) and were asked to make a hypothetical decision regarding FP. Measures were personality traits (neuroticism, conscientiousness, monitoring, blunting), DA-use (time spent, pages viewed, VCE-use), decisional conflict (including subscales), and knowledge. RESULTS: More women in VCE++ used the VCE (85%) compared to VCE+ (57%; OR = 4.47, p < 0.001). There were no differences in decisional conflict or knowledge between conditions (±/++), mean absolute knowledge between baseline and post-DA was 40%. Secondary analyses revealed that blunting was univariately associated with fewer pages viewed (B = −0.734 SE = 0.23, p < 0.01), monitoring with more time spent on the DA (B = 21.01 SE = 9.75 p < 0.05). Within VCE+/+, VCE-use was related to more values clarity (M = 37.1(SD = 14.3); M = 31.1 (SD = 14.7) p < 0.05). There was an interaction between group x conscientiousness and VCE-use (OR = 4.3 p = 0.038); conscientiousness was positively related to VCE-use in VCE++, and not related to VCE-use in VCE+. CONCLUSIONS: Our DA leads to increased knowledge in a healthy population making a hypothetical decision. There were no differences with regard to knowledge or decisional conflict. Secondary analyses suggest a relation between VCE-use and values clarity, and between conscientiousness and VCE-use in the referred group. The extent of use of the total DA was related to monitoring and blunting information
seeking styles. Therefore, personality (with regard to information seeking) might be an important factor explaining the extent to which a DA is used, and the effectiveness of DAs. ACKNOWLEDGEMENT OF FUNDING: DSW Health Insurance, Schiedam, The Netherlands.

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Beliefs About Medicines Among Cancer Patients: An International Study
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BACKGROUND: A few data are available regarding cancer patients’ compliance on treatment in psycho-oncology literature. As a part of a larger European study, the aim of the present report was to identify the association of between patients’ orientation/convictions towards medical treatment and cognitive representation about medicines with psychosocial and relational variables

METHOD: 284 cancer patients aged 18–65 years, with no cognitive deficits, Karnofsky Score >60 and a life expectancy > 6 months, participated in a multicenter European study involving Italy, Austria, Spain. Each patient was administered a booklet for the evaluation of several variables, including, for the purpose of the present report, the Beliefs about Medicines Questionnaire (BMQ) to assess patients’ beliefs about medicines (General-GEN and Specific-SPEC beliefs); the Patient Satisfaction with Doctor Questionnaire (PSQ-MD), the Anxious Preoccupation and Hopelessness subscales of the Mini-MAC; and the 0-10 NCCN Emotional Distress Thermometer.

RESULTS: The study confirmed the existence of two sub-factors on the BMQ-SPEC (Necessity-NEC, i.e. beliefs about the necessity of prescribed medication for controlling illness; Concerns-CON) (i.e. concerns about the potential adverse consequences of taking medicines); and two sub-factors on the BMQ-GEN, General Overuse (GO) (i.e. the tendency to perceive an overuse of drugs by doctors) and General Harm (GH) (i.e. the tendency to consider drugs dangerous and poisoning). BMQ-GO and BMQ-GH were related to high scores on PSQ-MD Physician Disengagement ($r = 0.29, p = 0.01$; $r = 0.19, p = 0.01$, respectively), and low scores on Physician Support. Anxious Preoccupation ($r = 0.24, p = 0.01$), Hopelessness ($r = 0.27, p = 0.01$) and DT ($r = 0.22, p = 0.01$) were related to BMQ-CON. CONCLUSIONS: The study indicated that cancer patients’ beliefs about medicines and cognitive representations about treatment are both related to maladaptive coping styles, such as a tendency to be concerned about their illness (Anxious Preoccupation) or to be hopeless about it (Hopelessness) and emotional stress symptoms. Furthermore characteristics of doctor-patients relationship, especially physician disengagement and low empathy and support were related to distorted convictions about medicines, including sense of harm and danger in following doctors’ prescriptions. RESEARCH IMPLICATIONS: Results suggest the importance of further exploring doctor-patient communication and relationship as an area influencing cognitive representations about medicines and possibly adherence to treatment. CLINICAL IMPLICATIONS: The data collected suggest the necessity and the importance of specific and institutional programs for physician to increase their communication skills in order to create supportive and more engaged relationships with their patients. ACKNOWLEDGEMENT OF FUNDING: Istituto Oncologico Romagnolo (IOR), Forlì, Italy; FAR Project, University of Ferrara, Italy.

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Patients’ Views on Shared Decision Making Concerning a New Treatment Approach for Early Stage Lung Cancer - A Mixed Methods Study
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BACKGROUND: An important new choice problem in oncology is the treatment of stage I non-small cell lung cancer (NSCLC). For patients with stage I NSCLC there are currently two curative treatment options available, namely surgical resection and stereotactic ablative radiotherapy (SABR).

The purpose of this study is to retrospectively investigate the views of patients with stage I NSCLC in the treatment decision making process, in order to explore possibilities for supporting shared decision making. METHOD: A two-phased mixed methods approach was used. First, qualitative interviews with patients who had made an earlier decision between SABR and curative surgery (N=11) were undertaken. We used both an open and semi-struc-
Human-Centred Research and its Application to the Rapid and Iterative Design of Digital Treatment Decision-Making Support Tools

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BACKGROUND: Individuals diagnosed with early stage breast or prostate cancer have multiple treatment options but a lack of decision support. They are often left overwhelmed and confused or have already consented to treatment before exploring their options. We present a human-centred design approach to create a decision support tool and its subsequent evaluation by prostate and breast cancer patients. We evaluated: wording of content, data visualization, amount of content displayed, overall look, and user interface.

RESULTS: Most patients wanted to be involved in the decision making process to some extent. However, although most patients wanted to be actively involved, some patients explained participation exclusively in terms of being informed and agreeing with the physician. They searched for information and had their own preferences about treatment options. Although physicians appeared to respect patients’ preferences (if expressed by patients), patients did not always experience having a choice as their physicians provided firm recommendations regarding treatment. Data collection of the postal questionnaire is currently ongoing and findings will be available at the time of the meeting.

CONCLUSIONS: Although patients wanted to be involved in the decision process, their actual experiences indicated that physicians were actively directing the decision making process from an early stage. In order to improve shared decision making for stage I NSCLC, physicians could provide more detailed information on both treatment options and explicitly provide a choice. Furthermore, good quality websites and patient decision aids could support both patients and physicians in making shared decisions. RESEARCH IMPLICATIONS: This type of mixed-methods approach could be used more frequently in the future to explain and verify a quantitatively developed model with qualitative data.

CLINICAL IMPLICATIONS: For clinicians it is important to know whether lung cancer patients want to participate in treatment decision making and to what extent. Furthermore, it is imperative to know what definition patients have of shared decision making, to make sure that both clinicians and patients speak the same language in order to make a good treatment decision.

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IMPLICATIONS: Digital tools are not intended to replace the interactions between patients and HCPs but rather to complement the growing pool of experience-focused solutions that ultimately improve patient outcomes. To arm patients with the most relevant and valid information, clinicians should contribute to tool development, and yet and distribute these tools. ACKNOWLEDGEMENT OF FUNDING: The Oncology Experience/Thera-Choice work was self-funded by Bridgeable, with the assistance of financial grants from the Applied Research Commercialization Program from the Federal Development Agency for Southern Ontario (FedDev ARC), the Mitaecs Enterprise Program, and the National Research Council Industry Research Assistance Program (NRC-IRAP)

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Advance Directives in Romania - Accepted or Not?
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BACKGROUND: The advance directive (AD) represents an extension of patient’s autonomy when losing decision-making capacity, a way to respect patient’s dignity. In Romania, during communism, doctor-patient relationship was paternalistic, a tendency that persists, even the Patient’s Law is now centered on patient’s autonomy. European Union recommends all member countries to legislate end-of-life decision-making. We present a study analysing the attitude of the Romanian people toward AD, identifying the utility of implementing AD, considering social-cultural specifics.

METHOD: Transversal descriptive study, using the questionnaire that included 16 questions and was pretested on 10% of the total amount of subjects and then validated. The target group: the population over 18 years old from Romania, without psychological affections. The randomised representative sample included 828 persons. The error margin was ±3.4%, for a 95% level of confidence. The subjects participated in the study voluntarily and signed an informed consent before filling the questionnaire. The data was processed by classification, codification, tabulation and statistical analis using SPSS 16.0. The study had the approval of a National University Ethical Comitee.

RESULTS: 51.4% of the subjects consider AD useful. The perception is not statistically different from the age point of view (χ² test = 4.229, p = 0.376) or the gender point of view (χ² test = 1.792, p = 0.408). The trend to see the usefulness of AD is higher for educated subjects (Spearman Coefficient=-0.108, p = 0.002). Health state didn’t influence the opinion about AD (χ² test = 6.105, p = 0.806), neither the degree of satisfaction with respect to medical services (χ² test = 10.374, p = 0.240) or religious factor (χ² test = 2.604, p = 0.626). The paper will present other factors influencing the opinion about AD and the subjects’ motivations considering AD as necessary or not. CONCLUSIONS: Higher levels education persons have a higher interest in the AD and consider that it must be regulated. The main advantages of such a document evidentiated by the subjects that agree with it are respecting the patient’s right to decide and improve the treatment, while the ones who do not agree with implementing AD see as main risk the premature death of the patient. Furthermore, most persons that had a cancer patient in their family consider AD useful in respecting the patient’s dignity and autonomy.

RESEARCH IMPLICATIONS: Considering the ethical dilemmas of end-of-life decision making, the financial implications of the medical care at the end-of-life, the recomendation of European Union to introduce AD, future studies are recommended to identify the attitude of the Health System declents and providers of medical services in Romania about AD, in comparison with the attitude of the patients. CLINICAL IMPLICATIONS: In Romania (and in other ex-communist countries) is necessary to encourage the active involvement of adults in advance care planning and to start educational programmes regarding the usefulness of the AD. There is also a need to improve and adapt to the social and cultural specifics the communication between patients and the medical staff concerning the medical decisions. ACKNOWLEDGEMENT OF FUNDING: This paper is a part of POSDRU/189/1.5/61879 Project (“Postdoctoral Studies in Health Policy Ethics”) cofinanced from European Social Funds through Human Resources Development Sectorial Operational Program 2007-2013.

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College Males HPV Vaccine Decision-Making in The Post-Recommendation Era
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BACKGROUND: HPV is the most common sexually transmitted infection, accounting for 90% of genital warts and 5.2% of the worldwide cancer burden due to its association with cervical, anal,
penile, vaginal and oropharyngeal cancers. Recommended for females since 2006, the HPV vaccine has only recently been approved and recommended for males (January 2012). Given this change in policy, we examined knowledge, attitudes and beliefs about the HPV and the HPV vaccine among a sample of Canadian males. METHOD: We conducted a pilot study (February-April, 2013) in which 82 males were recruited from Montreal universities to complete an anonymous, on-line questionnaire. Using the Precaution Adoption Process Model (a six stage model of health behavior change), participants were classified according to their stage of adoption with respect to the HPV vaccine. These stages are: Stage 1 = unaware, Stage 2 = unengaged, Stage 3 = undecided, Stage 4 = decided not to act, Stage 5 = decided to act, Stage 6 = acting/vaccinated. Depending on participants’ level of awareness, relevant knowledge questions were completed. All participants answered questions regarding their sexual health, attitudes and beliefs. RESULTS: Our sample consisted of 61 males (Mean age = 20.7). 47 males were aware of HPV, 35 were of the HPV vaccine, and 18 were unaware of the male recommendation (Stage 1). Ten males were aware of the vaccine recommendation for males, but had not considered vaccination (Stage 2), 2 intended to receive (Stage 5) and 5 had already received the HPV vaccine (Stage 6). Average HPV knowledge and HPV vaccine knowledge scores were 14.5/26 (55.8%) and 5.7/10 (57%) respectively. Eighty-three percent of those who had heard about the HPV vaccine reported that their HCP had never discussed the vaccine. CONCLUSIONS: Awareness and knowledge about HPV and the HPV vaccine was rather low in this sample of college males, which is consistent with the literature pre-male vaccine recommendation. Furthermore, subjects in stages 2, 5 or 6 did not necessarily have higher levels of knowledge than those who were unaware that they were eligible for the vaccine, suggesting that knowledge is not the sole determining factor when considering to get vaccinated. Further, although the opinion of HCPs seems important to these men, most HCPs had not discussed HPV vaccination with them. RESEARCH IMPLICATIONS: In order to increase uptake of the HPV vaccine in males, basic awareness of the vaccine is essential. The findings show that even among an educated sample of university males, only one third were aware that there was an HPV vaccine available for them. Subsequent research efforts should implement strategies to increase awareness about HPV while aiming to understand what additional factors drive vaccine decisions among this specific population. CLINICAL IMPLICATIONS: HPV is an increasing public health issue that can be prevented through vaccination. Although national guidelines are in place that recommend vaccine uptake for males, barriers continue to exist. More large-scale research focusing on effective knowledge translation and factors that guide HPV vaccine decision-making (especially the importance of the HCP recommendation) is needed. The results from this initial study indicate that these efforts are encouraging. ACKNOWLEDGEMENT OF FUNDING: Supported by an operating grant from the Canadian Institutes of Health Research to Zeev Rosberger and Fellowship support from the Fonds du Recherches en Santé du Québec to Samara Perez

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Information to Design a Surgical Decision Aid for Young Breast Cancer Patients
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BACKGROUND: Breast cancer is the most commonly diagnosed cancer in young women. Treatment at a young age can have significant impact on fertility and child-rearing, prompting the onset of early menopause and ovarian decline. It is not known if young patients diagnosed with breast cancer have specific information needs associated with effects of treatment. Results of an on-going qualitative study to design a decision aid tailored to breast cancer patients diagnosed under 40 years is reported. METHOD: In order to explore young women’s information needs, twenty in-depth semi-structured interviews with patients who had a diagnosis of breast cancer at 40 years old or younger were conducted. Findings from the interviews were further explored in two focus groups with five patients each. Audio-recorded interviews and focus groups were transcribed verbatim and analysed under a thematic framework approach. RESULTS: Information that young women identified was required to support treatment decision-making was categorized in five themes: types of breast cancer, surgical treatments, non-surgical treatments, fertility, and preparing for surgery: before and after. Themes including side effects of treatment, fertility preservation and options for reconstructive surgery were identified as areas that need improvement, emphasising that more information on types of reconstruction and impact of early menopause would have been useful to have. The most important advantage for an online decision aid was access to reliable information that supports understanding of complex facts and risks. CONCLUSIONS: Women identified information relevant to them at the time of treatment decision-making as well as information that might have been useful. An online decision aid tailored for young women is relevant considering age-related needs that influence surgical treatment for breast cancer. RESEARCH IMPLICATIONS: This study has
identified ambiguity in the definition of young age for breast cancer patients, ranging between 40 up to 50 years old. This variation may be a factor in the ways that other aspects of treatment are presented to patients, including fertility preservation and options of immediate or delayed reconstruction. There is a need to determine an age threshold for young patients, which may be applicable at international level. CLINICAL IMPLICATIONS: Patients with access to the most relevant information to them at the time of making a treatment decision may choose to play a role in their treatment, supporting a shared-decision making model. Clinicians may face potential changes in the patient-provider relationship from the paternalistic model to one where patients will feel more prepared to voice their concerns, values and preferences on the treatment path chosen. ACKNOWLEDGEMENT OF FUNDING: This study has been funded by the National Institute for Health Research under the Research for Patients Benefit Programme.

P3-133
Parental Decision-Making About the Human Papillomavirus (HPV) Vaccine For Their Daughters
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BACKGROUND: The human papillomavirus (HPV) vaccine is an effective prevention measure for HPV-causing cancers and genital warts. For children and adolescents, the uptake of the vaccine is contingent on parental vaccination consent. This study aimed to identify key differences between parents who accept and parents who refuse the HPV vaccine for their daughters. This study also examined if the health belief model (HBM), a theoretical framework, is an adequate framework for guiding understanding of parental vaccination decision-making. METHOD: In the context of a free, universal, school-based HPV vaccination program, a random sample of 2,500 Québec parents of 9–10 year-old girls were invited to participate in the study by mail. Participants completed a mail-in questionnaire based on the theoretical constructs of the HBM. Additional factors previously identified in the literature were also examined. Of the 834 parents who completed the questionnaire (33% response rate), 88.2% reported accepting the HPV vaccine for their daughter. The outcome measure of the study, HPV vaccine uptake, was assessed with the question: “Has your daughter received the HPV vaccine?” using a dichotomous yes/no response. RESULTS: The HBM constructs (perceived susceptibility of daughters to HPV infection, perceived benefits of the vaccine, perceived barriers, and cues to action) distinguished between parents who accepted and parents who refused the HPV vaccine. In particular, parental perception of vaccine safety was the strongest factor associated with acceptance and was a significant independent contributor beyond all other HBM constructs. Other significant factors associated with parental vaccination acceptance were general vaccination attitudes, anticipated regret, adherence to other routinely recommended vaccines, social norms, and positive media influence. CONCLUSIONS: The results of this study provide further support for the relationship between individual cognitive variables proposed by the HBM and uptake of the HPV vaccine. In particular, parental perception of vaccine safety appears to be a pre-requisite for vaccine acceptance. While most parents in this study had their daughters vaccinated, safety concerns were significantly related to vaccination refusal. This suggests that some parents may be reluctant to vaccinate their children when they perceive that a vaccine may cause negative outcomes, even though the disease that would be prevented is worse. RESEARCH IMPLICATIONS: The results of this study show that other factors not included in the HBM (such as anticipated regret) were also associated with vaccination uptake. The HBM is a linear, static model that does not specify how different beliefs influence one another. These results suggest that the HBM may be useful but not sufficient to fully explain parental vaccination decision-making. Researchers should consider conceptual frameworks that are dynamic and longitudinal (e.g. stage models). CLINICAL IMPLICATIONS: Parental HPV vaccination decision-making is a multifactorial process and vaccination safety appears to be a critical factor in the process. In Québec, most parents have chosen to vaccinate their daughters, but this must be considered in the context of a free, school-based, government-supported program, whereas some provinces experienced poorer uptake. Targeted educational interventions focusing on the multivariate factors influencing parents’ decision-making can help dispel myths, improve the success of future vaccination programs and ultimately reduce cancer incidence. ACKNOWLEDGEMENT OF FUNDING: This study was funded by grant # 94479 from the Canadian Institute for Health Research (CIHR).
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Exploring the Association of Patient Age and Symptom Presentation on Physician Diagnostic Decisions for Colorectal Cancer

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BACKGROUND: Colorectal cancer (CRC) is the third leading cause of cancer death in the U.S. and 2nd in the EU, despite treatment success with early diagnosis. Although primarily a concern for adults >50 years, incidence is increasing among younger adults. US screening guidelines discourage routine screening among individuals <50 years, relying on diagnosis via symptom investigation. We examined how patient age and symptom presentation influenced diagnostic testing approaches in patients who presented with symptoms of CRC. METHOD: We used a 2x2 factorial experimental design that presented clinical vignettes to a sample of 128 primary care physicians in Virginia, USA. Physicians read and evaluated two patient vignette scenarios. The vignettes were identical except for two factors, patient age (40 vs. 60 years) and symptom type (diarrhea/constipation [DC] vs. rectal bleeding [RB]). Each vignette closed with a series of questions designed to elicit the physician’s differential diagnosis and tests they would order. RESULTS: The most common tests reported were blood work (91%), colonoscopy (58%), and ultrasound (67%). Colonoscopy was ordered more often for vignettes with older patients [67% X^2(1) = 7.9; p = 0.005] and RB [69%; X^2(1) = 47.4; p < 0.000] as compared to younger patients [49%] or DC [32%]. Ultrasounds were reported more often for DC [64%; X^2(1) = 37.8; p < 0.000] as compared to RB [36%]. FOBT was ordered for 38% of vignettes, but no significant differences were found. A differential diagnosis of CRC was provided for 42% of vignettes, with significantly more occurring among the RB vignette as compared to DC [51.6%; X^2(1) = 9.4; p = 0.002]; no age differences were found. CONCLUSIONS: This study provides evidence that patient age may be influencing physician decision-making among patients presenting with CRC symptoms. Colonoscopies were ordered more often for the vignettes describing older patients and the patients experiencing rectal bleeding as compared to the younger patients or those experiencing diarrhea/constipation. FOBT was not reported very often despite being a less costly and less risky alternative to colonoscopy. RESEARCH IMPLICATIONS: Given the ambiguity of many of symptoms associated with CRC, greater health education emphasis on the signs and symptoms of CRC is needed to empower patients to better identify and report the onset and progression of their symptoms. This may be particularly important among younger adults. CLINICAL IMPLICATIONS: The current emphasis on age (>50 years) for CRC screening may inadvertently influence physicians’ diagnostic test selection resulting in unequal distribution of cancer diagnostic services (i.e. less referrals) among younger patients. This may have implications for the timely diagnosis of colorectal cancer among younger adults. ACKNOWLEDGEMENT OF FUNDING: National Institutes of Health/National Cancer Institute Grant # 5R01CA124607-05; Canadian Institute of Health Research.

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Patients’ Decision-Making in a Multidisciplinary Approach: Met and Unmet Needs

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BACKGROUND: Patients diagnosed with prostate cancer (PCa) may experience uncertainty due to the opportunity to choose among the multiple but equally effective therapeutic/observational options. Multidisciplinary (MD) approach represents a suitable trail to help patients make the decision. However, what are their met and unmet needs in the MD setting? The aim of our study was to explore PCa-related decisional process when using a decision aid (DA) tool after a MD visit. METHOD: A qualitative study was conducted between February and May 2012. Ten patients with low/intermediate risk PCa accessing a MD visit at the Prostate Cancer Program of Milan National Cancer Institute were recruited. The Ottawa Personal Decision Guide, a structured DA grid, was administered by a psycho-oncologist after the MD visit. The text analysis showed the following: (a) clarifying the decision; (b) identifying patients’ decisional needs and (c) exploring those needs. Interviews were audio-recorded and verbatim transcriptions were made. Content analysis was performed by using a text analysis software (T-LAB). RESULTS: Patients’ mean age was 65 years (SD = 5.6, range 54–72). Four were external referrals, three were internal and three requested the MD visit based on personal choice. The DA structure focused on (a) clarifying the decision; (b) identifying patients’ decisional needs and (c) exploring those needs. Interviews were audio-recorded and verbatim transcriptions were made. Content analysis was performed by using a text analysis software (T-LAB). RESULTS: Patients’ mean age was 65 years (SD = 5.6, range 54–72). Four were external referrals, three were internal and three requested the MD visit based on personal choice. The text analysis showed the following: (a) despite patients reported to be well informed about the medical options, most of them felt the need for further specifics; (b) most relevant decisional needs were to understand risks and benefits of each option and more involvement from physicians’ side; (c) the
patients explained to consider physician’s recommendations as a crucial factor for the choice and emphasized the importance of higher engagement from the physicians’ side. CONCLUSIONS: PCA patients perceived the treatment decision making as a challenging complex experience involving the evaluation of medical information as well as psycho-social factors. Patients reported to have adequate information after the MD visit in order to make an informed choice. Nonetheless, they also highlighted their need for higher participation from the physicians’ side and a more engaging interpersonal approach. Patients and their families enter in the territory of cancer without a psychosocial map. Hence, clinicians are called to inform patients and also to guide them in developing a subjective representation of their needs and values related to the choice.

RESEARCH IMPLICATIONS: This study highlighted the main areas that need to be explored to facilitate the decision-making process from the patients’ perspective. The research on decision-making processes in a MD setting needs to be further explored as it entails clinical, organizational and interpersonal factors that interact and that contribute to the effectiveness of MD visits in terms of patients’ acquisition of information, decisional conflict and disease-related anxiety.

CLINICAL IMPLICATIONS: Our results confirmed that the MD approach represents a suitable and effective care management model: it allows patients to collect adequate and reliable information they can base their choice on. Differently, patients attend several consultations with different specialists, which entails dealing with ambivalent and sometimes confusing information. The use of a DA tool may support patients in wrapping up the data gathered during the MD visit and developing a representation of their preferences and values.

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Children’s and Adolescents’ Experiences in Pediatric Oncology Treatment Decision Making

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BACKGROUND: Several paediatric organisations and the UN Convention on Children’s Rights advocate for inclusion of children and adolescents in decisions that concern them. The importance of active participation of minors that are capable to be involved in treatment decision making has been widely acknowledged. However, competent children and adolescents often face obstacles that keep them from participating and voicing their views. Especially in oncology, clinicians and parents may refrain from inclusion for various reasons.

METHOD: Semi-structured interviews are conducted with children and adolescents from 9 to 17 years old that were diagnosed with cancer. Participant recruitment takes place in eight centers of the Swiss Pediatric Oncology Group (SPOG) in Switzerland. Questions concern their experiences with involvement in decision making at several points in time during the course of their illness. Interviews are analysed using content analysis to code for children’s and adolescents’ experiences with inclusion or exclusion during decision making and their attitudes and feelings towards these experiences.

RESULTS: The on-going analysis revealed several themes related to participation of the minor patients: extent of participation, delegation of decision making powers, satisfaction with participation, conflict situations in decision making.

CONCLUSIONS: Participation of children and adolescents in treatment decision making in pediatric oncology seems to have been achieved to some degree. However, sometimes conflicts arise and have to be dissolved. It seems important to learn more about these situations of conflict in order to be able to optimally help patients, parents, and physicians to find solutions and move on with the care.

RESEARCH IMPLICATIONS: These preliminary findings point researchers towards an important area where more information is needed. Decision making is a challenging process and the involvement of three parties adds an additional layer of complexity. More research is needed to explore how treatment decisions including minor cancer patients are made, identify potential pitfalls of the process and suggest validated solutions to optimise inclusion of children and adolescents.

CLINICAL IMPLICATIONS: Clinicians need to be aware of the communication needs of minor patients in pediatric oncology and the extent to which they wish to be included. There may be situations where young patients feel overwhelmed and wish to be included to a lesser extent and delegate decision making power to parents and physicians. Some potential of conflict is associated with inclusion of minor patients that needs to be identified and carefully taken into consideration.

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Effectiveness of Dutch Psycho-social Interventions for Oncology Patients: Balancing Between Research Facts and Health Care Policy

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BACKGROUND: An increasing number of people with cancer and their proxies use psychosocial care facilities e.g. (self) reference to psychologists, psychiatrist and psychosocial oncology centres. The government intended to reduce the costs of the often still free of charge therapies and asked an advice Dutch Board of Health Insurance (CVZ). In a literature study we reviewed the reimbursement of psychosocial support for people with cancer according to the effectiveness principles of the CVZ.

METHOD: This study is a literature research in the Cochrane Library, PubMed and sEURch for (systematic) reviews and meta-analyses on existing evidence regarding the effectiveness of the following therapies which are often applied in the Dutch psychosocial cancer care: individual psychotherapy, group counseling, haptotherapy, art therapy and mindfulness-based stress reduction courses. This included too a comparison of the psycho oncology literature with the offered psychosocial care at the Dutch Institutes of Psycho-oncology.

RESULTS: The literature review found 11 studies of EBM level A1 and 2 studies of EBM level B. Almost all reviews show positive improvements in different outcome measures: anxiety, depression, quality of life, fatigue and social well-being. The reviews indicated that there were only few RCTs and recommend additional RCT research in the field of psychosocial cancer to improve the strength of the outcomes of studies. Only the mindfulness-based stress reduction courses as offered at that particular institutes show accepted effectiveness. Effectiveness research done by the institutions itself does not meet the requirements of the CVZ.

CONCLUSIONS: The psychosocial therapies offered at the Dutch institutes of psychosocial cancer care mostly do not comply with the effectiveness requirements for reimbursement of the CVZ. If there is evidence for the effectiveness of psychosocial cancer care, the institutes should adapt their current protocols for psychosocial cancer care. Alternatively the Dutch psychosocial cancer care institutes need to perform their own effectiveness studies, meeting the criteria of RCTs.

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CLINICAL IMPLICATIONS: Health care costs have increased enormously in the Netherlands over the past decades. To make the health care costs more manageable, the CVZ will introduce a more stringent package management, also for the psychosocial oncology. Because effectiveness of care is part of the criteria of insured care, it is important to prove the effectiveness of psychosocial support for people with cancer.

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