IP.120

Caries Treatment Need of Malaysian Adults: Scenario after Ten Years
N.B.S. ABDUL KARIM1, K.A. MUTTALIB2, Y.S. LIAN3, H. YACOBI3, and J. AB RAHMAN4
1Senior Dental Officer of Kinta District, Ipoh, Malaysia, 2Ministry of Health Malaysia, Putrajaya, Malaysia, 3Faculty of Medicine International Islamic University Malaysia, Pahang, Malaysia

Objective: To assess the dental caries treatment need amongst dentate adults in Malaysia.
Method: A nationwide cross-sectional survey using a two-stage stratified random sampling targeted 14,444 adults aged 15 years and above in households was done in 2010 (NOHSA 2010). Clinical examination on caries status was conducted by calibrated examiners, using a clinical format adapted from WHO (1987) and normative caries treatment need was assessed. Assessment of treatment need included need for both preventive caries arresting-care and caries treatment needs. Complex sample analysis with sampling weights at state and urban/rural strata was based on 2010 census. Comparison was done with NOHSA 2000 findings.
Result: A higher proportion (37.9%) of adults required extraction compared to 2000 (35.9%). Thirty-eight percent needed restorative care compared to 43% in 2000. About 3.8% of adults needed preventive care, accounting for 2.2% required pulp care and 0.7% complex conservative care, compared to 2.5%, 1.1% and 0.8% respectively in 2000.
Conclusion: The overall caries treatment need was still high in 2010 with extraction still the highest mode of treatment even after 10 years. The need for restorative care has decreased. Preventive oral health seeking behavior after leaving school needs to be further emphasized in oral health messages.

IP.124

Pre-procedural Rinsing with Essential Oil-based Mouthrinse to Reduce Aerosol Contamination
1Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia, 2University of Malaya, Kuala Lumpur, Malaysia

Objective: To evaluate the effectiveness of essential oils-based mouthwash (Listerine) in reducing aerosol contamination in a dental clinic.
Method: 60 subjects who consented to receive rinsing for the treatment were randomly assigned to pre-rinse with either 20 ml of Listerine or 20 ml of placebo as control rinse to prevent biasness. The control placebo is coloured to resemble the actual product. Every subject is instructed to gargle using the specially assigned rinses for 1 minute prior to the treatment procedure. Microbiological samples of (1) Ar, (2) Saliva and (3) Mouth-swab (4) Periodontal/gingival are collected before and after the rinse. All samples were further analyzed for total plate counts, and isolated distinctive microbial colonies were identified using Biolog and further tested to see their death-rate by exposing to the essential oil-based mouthwash.
Result: The use of essential oils-based mouthrinse showed significant reduction of microorganisms in oral surface in terms of total plate counts (TPC) from (1) Ar, (2) Saliva and (3) Mouth-swab (4) Periodontal/gingival samples. Distinctive colonies isolated and identified as normal flora in mouth.
Conclusion: Essential oils-based mouthwash (Listerine) is effective towards reducing the spread of microorganisms in oral bioaerosol from mouth during dental treatment.

IP.139

Pooled Gingival Samples are Less Statistically Sound than Individuals
K. CHANG1, YUAN-HO LEE1, KUANG-CHAO CHANG1, SY-MIEN CHEN1, YU-SHENG HSU1, CHIEN-TONG LI1
1Rutgers University School of Dental Medicine, Newark, USA

Objective: Pooled research frequently requires sampling the gingival tissue from small size animals such as rat. Due to limited quantity of available gingival tissue in such animals, it has been reported that instead of processing each sample individually, samples in the same group are pooled, processed and analyzed, e.g. measurements of proteinase activities. Means of pooled samples are then compared between groups. Since samples are pooled, the results may be different from those when each sample is processed individually. We investigated this issue with statistical tools to determine if “pooled sample” protocol can produce the same results as those with the individual sample protocol.
Method: A series of Monte Carlo simulation studies were conducted to investigate the power of t-test when samples were pooled or individually processed. Data of different sets of experimental parameters such as variance, sample size and proteinase activities were generated by computer software. Result: The simulation results indicated that the power of t-test decreased with pooled samples because first sample size was reduced. It was calculated that four animals in each pool could triple the power loss compared with only two animals in each pool. If tissues from six animals were pooled, then the power loss was more than fivefold. It was also shown that the larger the sample size and the smaller the variance can reduce the difference in power values of t-test between these two protocols, as demonstrated in our simulation tests with various sample sizes and variances.
Conclusion: We concluded that “pooled sample” protocol was less sound statistically compared to individual sample protocol because the former resulted in smaller sample size and reduced power value of t-test.