Validation of the Malay version of the Multidimensional Scale of Perceived Social Support (MSPSS-M) among a group of medical students in Faculty of Medicine, University Malaya

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1. Introduction

The role of social support is well recognized as a coping resource in relation between stress and psychological or physical symptoms. Social support is a multidimensional construct, which include the size of social network, emotional support, instrumental support, quality of social support and reciprocal helping of other (Sarason et al., 1983). The MSPSS is one of the many scales designed to assess social support. The MSPSS is a self-administered measure of social support. It addresses the subjective assessment of social support adequacy from three different sources: Family, Friends and Significant Others. The MSPSS contains 12 items, therefore it is simple to use and can be quickly administered and scored (Zimet et al., 1988). The reliability, validity and factor structure of the MSPSS have been demonstrated across a number of different samples including university students (Dahlem et al., 1991), pregnant women (Zimet et al., 1990), adolescents living abroad (Zimet et al., 1988), pediatric residents (Zimet et al., 1988), urban adolescents (Janie and Zimet, 2000), adolescents on an inpatient psychiatric unit (Kazarian and McCabe, 1991) and psychiatric outpatients (Cecil et al., 1995).

It was translated into many languages. The reliability, concurrent validity and construct validity of the Chinese version of MSPSS (MSPSS-C) were established on a group of Hong Kong Chinese adolescents (Kee, 2000).

This study aims to translate the MSPSS into Malay language (denoted MSPSS-M) and examine the psychometric properties of the translated version among the Malaysian population. Specificity, reliability (internal consistency), factorial structure, concurrent validity and construct validity of the MSPSS-M were examined in the study.

2. Methods

Approval from the Medical Ethical Committee (MEC), University Malaya Medical Centre was obtained to conduct the study. Permission from the original author of the instrument was obtained.
2.1. Sample size

The author estimated that 90% of the students had high perceived social support. This required about 250 students for the study with alpha value of 5% and power of 0.9.

2.1.1. Stage 1

The English version of MSPSS was translated into Malay by two doctors who were bilingual (Malay and English). Another two doctors who were also bilingual then back-translated the Malay version of MSPSS following the back-translation technique (Brislin, 1970).

2.1.2. Stage 2

The translated version was pilot tested among 20 staff nurses from psychiatric ward (3TE), University Malaya Medical Centre. Some items in the translated version needed minor revisions and were modified further. The finalized version was also reviewed by three medical officers and a psychiatrist to ensure satisfactory face, semantic, criterion and conceptual equivalence (Joseph et al., 1988).

2.1.3. Stage 3

Three groups of medical student from Faculty of Medicine, University Malaya (Years 1, 4 and 5) were approached for the study. 237 agreed to participate and completed the study. They were given the following questionnaires:

1. The Malay version of MSPSS (MSPSS-M).
2. The MOS-social support survey.
3. The Malay version of BDI.
4. The Malay version of GHQ.

As all the participants were bilingual, they were given the English version of MSPSS immediately after the initial assessment. One week later, these students were again required to complete the Malay version of MSPSS (the sequence of the items was shuffled).

2.2. Statistical analyses

The results were analyzed using Statistical Package for Social Sciences version 13.0.

3. Results

All the 237 students gave informed consent to participate in the study. Their ages ranged from 19 to 25 years old. 73 were male and 164 were female.

Table 1
Oblique rotated factor correlation matrix from the principal axis factor analysis of the MSPSS-M items.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Significant Others</th>
<th>Family</th>
<th>Friends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Others</td>
<td>1.00</td>
<td>0.34</td>
<td>0.44</td>
</tr>
<tr>
<td>Family</td>
<td>0.34</td>
<td>1.00</td>
<td>0.33</td>
</tr>
<tr>
<td>Friends</td>
<td>0.44</td>
<td>0.33</td>
<td>1.00</td>
</tr>
</tbody>
</table>

3.1. Factor analysis

The mean score of the respondents to the 12 item, 7 point Likert scale MSPSS-M was in the direction of high social support (mean = 63.79, SE = 0.70). The researcher conducted a confirmatory factor analysis of the MSPSS-M items to confirm the three factors structure proposed by the original authors in their original study (Zimet et al., 1988). In the study, correlation among three factors ranged from \( r = 0.34 \) (Family with Friends) to 0.44 (Significant Others with Friends) (Table 1). The Barlett’s test of sphericity was significant \( (p < 0.01) \) and the Kaiser–Mayer–Olkin measure of sampling adequacy for the 12 item MSPSS-M was 0.85, which Kaiser reported as meritorious (Henry, 1974). Therefore, it is appropriate to proceed to factor analysis. Factors were extracted with a common factor approach (Principle Axis Extraction). Three factors were extracted (eigenvalue > 1.00) which coincide with the MSPSS Family, Friends and Significant Others subscales. The factors combined to account for 75.0% of the variance. The scree plot graphically displayed there were three predominant factors.

Oblique rotation was used by the researcher in the study. The oblique rotation allowed various amounts of correlation among the factors. It provided a more compelling solution than orthogonal rotation. Based on this rotation, two matrices were produced, a pattern matrix and a structure matrix. The difference between the high and low loading was far more apparent in the pattern matrix. The pattern matrix indicated that all items loaded most highly on their respective subscales with minimal cross-loading (Table 2).

3.2. Reliability

Cronbach’s coefficient alpha was calculated for the total MSPSS-M and each subscale to assess the internal reliability. Coefficient \( \alpha \) for the total MSPSS was 0.89. The Significant Others, Friends and Family subscales demonstrated \( \alpha \)’s of 0.94, 0.88 and 0.82, respectively. The parallel form of reliability was high (Spearman’s rho = 0.94, \( p < 0.01 \)). The test–retest reliability after 1-week interval was also high (Spearman’s rho = 0.77, \( p < 0.01 \)).
3.3. Validity

The Spearman’s correlation between the total MSPSS-M subscales and the participants’ respective scores on the MOS-social support survey and the Malay version of GHQ and BDI are shown in Table 2. Perceived social support from all the three factors was inversely related to the score of GHQ and BDI ($p < 0.01$, except subscale friend and GHQ was $p < 0.05$).

The scores of the total subscales of MSPSS-M were positively correlated with the MOS-social support survey ($p < 0.01$). The MOS-social support survey correlated more highly with Significant Others than the other two subscales (Table 3).

### Table 3

<table>
<thead>
<tr>
<th>Total</th>
<th>S.O.</th>
<th>Family</th>
<th>Friends</th>
<th>BDI</th>
<th>GHQ</th>
<th>MOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOS</td>
<td>0.61</td>
<td>0.60</td>
<td>0.34</td>
<td>-0.27</td>
<td>-0.28</td>
<td>-0.28</td>
</tr>
<tr>
<td>GHQ</td>
<td>-0.25</td>
<td>-0.21</td>
<td>-0.23</td>
<td>-0.14</td>
<td>0.47</td>
<td>-0.28</td>
</tr>
<tr>
<td>BDI</td>
<td>-0.33</td>
<td>-0.27</td>
<td>-0.27</td>
<td>-0.20</td>
<td>0.47</td>
<td>-0.27</td>
</tr>
<tr>
<td>Friends</td>
<td>0.67</td>
<td>0.35</td>
<td>0.37</td>
<td>-0.20</td>
<td>-0.14</td>
<td>0.30</td>
</tr>
<tr>
<td>Family</td>
<td>0.72</td>
<td>0.37</td>
<td>0.37</td>
<td>-0.27</td>
<td>-0.23</td>
<td>0.34</td>
</tr>
<tr>
<td>S.O.</td>
<td>0.83</td>
<td>0.72</td>
<td>0.35</td>
<td>-0.27</td>
<td>-0.21</td>
<td>0.60</td>
</tr>
<tr>
<td>Total</td>
<td>0.83</td>
<td>0.72</td>
<td>0.67</td>
<td>-0.32</td>
<td>-0.25</td>
<td>0.61</td>
</tr>
</tbody>
</table>

S.O., Significant Others; BDI, Beck Depression Inventory; GHQ, General Health Questionnaire; MOS, MOS-social support survey.

1. $p < 0.01$.
2. $p < 0.05$.

4. Discussion

The results of the present study showed that the translated Malay version of MSPSS is a reliable and valid instrument among medical students of various stages in Faculty of Medicine, University Malaya. The psychometric performance of the instrument is remarkably impressive both in terms of reliability and validity. The high internal consistency of the total and subscales of the instrument indicated a high level of homogeneity among items in the scale. The parallel reliability was also high. In addition, the high test–retest reliability demonstrated its remarkable stability. The construct validity of the instrument was demonstrated through the significant negative correlation between the total and subscale scores of the instrument to the two validated measures of psychological and depressive symptoms in the local setting, namely GHQ and BDI (Goldberg, 1972; Maniam, 1996; Rushidi et al., 2003). This is consistent with other studies (Kee, 2000). The concurrent validity of the instrument was demonstrated through the significant correlation between the overall and subscale scores of the instrument with a validated social support survey in Malaysia, namely MOS-social support survey (Sherbourne and Stewart, 1991; Rushidi et al., 2004).

Factor analysis of the 12 items from MSPSS-M generated three factors. It confirmed the three factors structure proposed by the original authors in their original study (Zimet et al., 1988) and supported by most of the subsequent studies. In a study done on a translated Chinese version of the instrument, only two factors emerged (Kee, 2000). The Family subscale was retained, whereas the original Friends and Significant Others subscales were combined into one Friend subscale in the study. It showed that the perceived social support varies among different cultures. In addition, the medical students in the present study were able to differentiate among three sources of support in the MSPSS, namely Family, Friends and Significant Others.

Overall, the Malay version of MSPSS displayed good psychometric performance in measuring social support among medical students in Faculty of Medicine, University Malaya. It has good reliability and validity. It is able to measure the different dimensions of social support, namely Family, Friends and Significant Other.

However, there are two limitations of the current study as noted in other similar studies (Kee, 2000). First, the sample used in the current study was medical students. It would be useful for the researcher to investigate the psychometric properties and factorial structure of the MSPSS-M on the other populations. Secondly, the causal relation between the social support with psychological and depressive symptoms cannot be defined in this correlational study. A longitudinal study should be done to clarify the causal relationship.

The results of the present study indicate that the MSPSS-M could be used for screening especially among young educated Malaysian adolescents.

Acknowledgements

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References
