

ORIGINAL ARTICLE

**VALIDATION OF THE MALAY VERSION OF THE  
SOURCES OF SOCIAL SUPPORT SCALE AMONG  
MALAYSIAN CANCER PATIENTS**

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**Abstract**

**Objective:** It is important to investigate the association between spousal support and psychology of cancer patients, thus a validated instrument to measure the degree of perceived spousal support is required. We translated and evaluated the psychometric properties of the Sources of Social Support Scale-Malay version (SSSS-Malay) among Malaysian cancer patients. **Methods:** In this study, the SSSS-Malay and Hope Scale-Malay [used to compare with the SSSS-Malay to assess discriminant validity] were administered to 195 Malaysian cancer patients during baseline assessment. The SSSS-Malay was re-administered 2 months after the baseline assessment during follow-up. **Results:** The SSSS-Malay total score (Cronbach's  $\alpha = 0.70$ , intraclass correlation coefficient (ICC) = 0.72) and its domains (Cronbach's  $\alpha$  ranging from 0.70 to 0.83, intraclass correlation coefficient ranging from 0.6 to 0.76) exhibited good internal consistencies and good test-retest reliability. The SSSS-Malay also demonstrated good convergent and discriminant validities. However, confirmatory factor analysis of the SSSS-Malay showed that it was best fit into a 3-factor model instead of the 4-factor model of the original English version. **Conclusion:** The SSSS-Malay demonstrated good psychometric properties for use in Malaysian cancer patients. *ASEAN Journal of Psychiatry, Vol. 18 (2): July – December 2017: XX XX.*

**Keywords:** Perceived Spousal Support, Malaysian Cancer Patients, Source Of Social Support Scale-Malay, Validity, Reliability

**Introduction**

Perceived spousal support of cancer patients has been shown to contribute substantially to the psychology of cancer patients. Higher perceived spousal support has a positive influence on the quality of life and mental well-being of cancer patients, which may result in a positive outcome. Spousal support

positively affects quality of life of cancer patients and is highlighted as an important target for psychosocial intervention to improve their quality of life [1]. In addition, social support has been shown to predict quality of life of the spouse of cancer patients [2]. Thus, spousal support not only predicts increased quality of life of cancer patients but also quality of life of their caretaker spouse.

Psychological complications of cancer include depression and anxiety, and spousal support (i.e., presence of a person with whom to share problems) resulted in a beneficial outcome by ameliorating psychological distress in cancer patients. In contrast, absence of a spouse to accompany cancer patients to hospital visits was related to higher degree of depression and anxiety [3, 4]. For these reasons, it is important to study perceived social support in cancer patients and determine how it interacts with mental well-being and quality of life of patients. This information can be used to devise a conceptual framework for future studies focused on psychosocial intervention to effectively increase spousal support and in turn enhance mental well-being and quality of life of cancer patients. For such studies to become a reality, a validated measuring instrument for evaluating perceived spousal support in cancer patients is vital.

A few scales that assess perceived social support are available and include the Sources of Social Support Scale (SSSS) [5], Social Support Questionnaire-Shortened Version [6], Interpersonal Support Evaluation List Shortened Version -12 items [7], and Multidimensional Scale of Perceived Social Support [8]. The SSSS is the only social support measuring instrument that has been validated for cancer patients. It is a 10-item respondent-rated questionnaire that is used to measure the degree of spousal social support perceived by the respondent. It consists of the following four domains: informational support (measures the degree to which the spouse of the patient provides guidance, advice, and feedback about the patient's problems); instrumental support (measures the degree to which the spouse of the patient provides assistance in managing the patient's daily chores, such as transportation, financial management, and household chores); emotional support (assesses the degree to which the spouse of the patient listens, empathizes, communicates sufficiently, and provides comfort to the patient); and negative support (measures the degree to which the spouse of the patient neglects the supportive needs of the patient). The SSSS was validated in breast cancer patients with confirmatory factor analysis, which demonstrated that the best fitting model was a 4-factor model [5].

This study was conducted to translate the original English version of the SSSS into the Malay language (SSSS-Malay) and to examine the psychometric properties of the translated version among Malaysian cancer patients.

## **Methods**

This study was approved by the Human Ethics Committee of Universiti Sains Malaysia (code number USM/JEPeM/15060178). This 2-year prospective study was conducted by recruiting cancer patients with different cancer diagnoses who were treated at the Oncology Unit of the Advanced Medical and Dental Institute, Universiti Sains Malaysia from 2015 to 2016. Funding: This study was funded by Universiti Sains Malaysia (grant number 304/CIPPT/6313245). This study was approved by the Human Ethics Committee of Universiti Sains Malaysia (code number USM/JEPeM/15060178).

Patients were approached and told about the study, and those who fulfilled all inclusion criteria were invited to participate in the study. All potential participants who agreed to participate signed an informed consent form before they were enrolled in the study. The inclusion criteria were as follows: patients with a histopathological report of diagnosis of cancer (except primary brain cancer); 18 years old and above; married; ambulatory; stage I to IV cancer but without brain metastasis; and Malay language literate.

The SSSS is a self-rated 10-item scale that assesses the respondent's perceived level of spousal support, and it previously was validated in cancer patients. It consists of four domains, with one item each for informational support and instrumental support, six items for emotional support, and two items for negative support. Each item is scored on a 5-point Likert scale ranging from 1 (not at all) to 5 (a lot), hence total score ranges from 10 to 50 [5].

The original English version of the SSSS was concurrently translated by a bilingual language expert who is a native Malay speaker and back translated by another bilingual language expert who is a native English speaker from the School of Language and Literacy, Universiti Sains Malaysia. The language

experts who back translated the questionnaire had never read the original English version. The translated and back translated versions were reviewed by a team of content experts consisting of two psychiatrists and one clinical psychologist, who then compiled the SSSS-Malay draft. The SSSS-Malay draft then was administered to 20 Malaysian cancer patients

who are native Malay language speakers in a pilot study to assess the wording and sentence structure, comprehensibility, semantic quality, and appropriateness of duration of administration before the final version of the SSSS-Malay was constructed for use in the study. Table 1 shows the content of the original English version (SSSS) and the translated version (SSSS-Malay).

**Table 1. Item content of the Sources of Social Support Scale: original English and translated Malay version with their designated domains**

Items	Domains
<p>Item 1: How much does your partner give you advice or information about your cancer (whether you want it or not)? [Berapa kerapkah pasangan anda memberikan anda nasihat atau maklumat tentang kanser anda (sama ada anda mahu atau tidak)?]</p>	<p>Informational support (Item 1)</p>
<p>Item 2: How much does your partner give you assistance with things related to your cancer (for example, helping you with daily chores, driving you places, dealing with bills and paperwork)? [Berapa kerapkah pasangan anda membantu anda dengan perkara-perkara yang berkaitan dengan kanser anda (contohnya membantu perkerjaan harian anda, memandu anda ke tempat-tempat tertentu, mengurus bil dan kertas kerja anda)?]</p>	<p>Instrumental support (Item 2)</p>
<p>Item 3: How much does your partner give you reassurance, encouragement, and emotional support (affection) concerning your cancer? [Berapa kerapkah pasangan anda memberi anda keyakinan, galakan dan sokongan emosi (perasaan) berkenaan dengan keadaan penyakit kanser anda?]</p> <p>Item 4: How much does your partner listen to and try to understand your worries about your cancer? [Berapa kerapkah pasangan anda bersedia mendengar dan cuba memahami kebimbangan anda tentang kanser anda?]</p> <p>Item 5: How much can you relax and be yourself around your partner? [Berapa kerapkah anda boleh bertenang dan menjadi diri anda yang sebenarnya apabila berada bersama pasangan anda?]</p> <p>Item 6: How much can you open up to your partner if you need to talk about your worries about your cancer? [Berapa banyakkah anda boleh meluahkan kepada pasangan anda jika anda perlu menyuarakan kebimbangan anda tentang kanser anda?]</p>	<p>Emotional support (Items 3, 4, 5, 6, 9, and 10)</p>

<p>Item 9: How often does your partner let you down when you are counting on him/her? [Berapa kerapkah pasangan anda mengecewakan anda apabila anda memerlukan dia?]</p> <p>Item 10: How often does your partner withdraw from discussions about your illness or try to change the topic away from your illness? [Berapa kerapkah pasangan anda berundur daripada berbincang tentang penyakit anda atau cuba mengubah tajuk perbincangan?]</p>	
<p>Item 7: How often does your partner argue with you relating to your cancer? [Berapa kerapkah pasangan anda bertengkar dengan anda berkenaan dengan kanser anda?]</p> <p>Item 8: How often does your partner criticize you relating to your cancer? [Berapa kerapkah pasangan anda mengkritik anda berkenaan dengan kanser anda?]</p>	<p>Negative support (Items 7 and 8)</p>

In order to assess the discriminant validity of the SSSS-Malay, the Hope Scale (HS)-Malay was used for comparison. The HS is a self-rated 12-item scale that assesses the responder's level of hope. It consists of two domains titled agency and pathway. Four items assess agency, four items assess pathway, and four items act as fillers. Each item of this scale is scored from 1 (strongly disagree) to 4 (strongly agree), thus the total HS score ranges from 12 to 48 [9]. The Malay version of the HS was validated in Malaysian cancer patients with Cronbach's  $\alpha$  of 0.72.

During the study, the SSSS-Malay and the HS-Malay were administered to participants during baseline assessment, and the SSSS-Malay was re-administered 2 months after the baseline assessment during follow-up.

Data analysis was performed using IBM SPSS version 22. Reliability of the SSSS-Malay was examined by testing internal consistencies (Cronbach's  $\alpha$ ) and checking test-retest reliability (intraclass correlation coefficient, or ICC). Convergent validity was assessed using Pearson's correlation coefficient of the individual items with the domains of the SSSS-Malay. Convergent validity is exhibited if items have higher correlations with their

designated domain compared to their non-designated domain [Research Methods Knowledge Base, 2006]. Discriminant validity was determined using Pearson's correlation coefficient of the domains of the SSSS-Malay with domains of the HS-Malay. Discriminant validity is exhibited if the items or domains of a scale exhibit low correlations with non-designated domains [10]. Construct validity was evaluated using confirmatory factor analysis with Analysis of Moment Structure (AMOS) version 22 to look for the best fitting model of the SSSS-Malay. The following criteria were used to determine model fitness:  $\chi^2$ ; goodness-of-fit index (GFI) for which 0.9–0.95 was acceptable; Tucker-Lewis index (TLI) for which  $> 0.95$  was acceptable; comparative fit index (CFI) for which  $> 0.95$  was acceptable, normed fit index (NFI) for which  $> 0.90$  was acceptable and root mean square error of approximation (RMSEA) for which  $< 0.06$  indicated good fit and 0.06–0.10 indicated moderate fit.

## Results

Of the 195 participants who completed the baseline and follow-up assessments, 73% were female, 82% were Malays (followed by Chinese at 10% and Indians at 8%), and 52%

were diagnosed with breast cancer (followed by colon cancer at 16%, nasopharyngeal carcinoma at 9%, and other cancers at 23%). In the pilot study, 76% of respondents commented that the sentence structure and wording, comprehension and meaning of questions, semantic quality, and duration of administration of the SSSS-Malay were “appropriate”, whereas 24% of respondents commented that they were “most appropriate”.

Therefore, there no amendment of the SSSS-Malay was necessary.

Internal consistency (Cronbach’s  $\alpha$ ) of the SSSS-Malay total score was 0.7, and values for its domains ranged from 0.7 to 0.83 (Table 2). The test-retest reliability (ICC) of the SSSS-Malay total score was 0.72,  $p < 0.05$ , and the values for its domains ranged from 0.60 to 0.76, all  $p$  values  $< 0.05$ , (Table 2).

**Table 2. Internal consistencies and test-retest reliability of the SSSS-Malay and its domains**

Domains of SSSS-Malay	Baseline Mean (SD)	Follow-up Mean (SD)	Internal consistency Cronbach’s $\alpha$	Test-retest reliability ICC
Informational support	4.06 ( $\pm 1.17$ )	4.06 ( $\pm 1.01$ )	Single item	0.68*
Instrumental support	4.06 ( $\pm 1.01$ )	4.06 ( $\pm 1.01$ )	Single item	0.62*
Emotional support	19.26 ( $\pm 3.23$ )	19.34 ( $\pm 2.96$ )	0.83	0.60*
Negative support	9.08 ( $\pm 2.16$ )	9.17 ( $\pm 2.21$ )	0.70	0.76*
Total SSSS-Malay	36.31 ( $\pm 8.75$ )	36.01 ( $\pm 9.67$ )	0.70	0.72*

\*statistical significance at  $p < 0.05$ , SD = standard deviation; ICC = intraclass correlation

Evaluation of the correlations between items and domains of the SSSS-Malay revealed that all items were highly correlated with their designated domain, Pearson’s correlation coefficient ( $r$ ) ranging from 0.63 to 0.90, all  $p$

values  $< 0.05$ , except for items 9 and 10, which had higher correlations with the negative support domain than with their designated emotional support domain (Table 3).

**Table 3. Pearson’s correlation coefficient between items and domains of the SSSS-Malay**

Items	Informational support	Instrumental support	Emotional support	Negative support
Item 1	<b>Single item</b>	0.38*	0.39*	0.10
Item 2	0.38*	<b>Single item</b>	0.42*	0.075
Item 3	0.49*	0.50*	<b>0.70*</b>	-0.50
Item 4	0.44*	0.49*	<b>0.74*</b>	-0.057
Item 5	0.33*	0.32*	<b>0.63*</b>	-0.12
Item 6	0.34*	0.37*	<b>0.76*</b>	-0.017
Item 7	0.14	0.11	0.18	<b>0.90*</b>
Item 8	0.02	0.10	0.087	<b>0.82*</b>
Item 9	-0.20*	-0.21*	0.17*	<b>0.41*</b>
Item 10	-0.09	-0.12	0.28*	<b>0.37*</b>

\*statistical significance at  $p < 0.05$ , SD = standard deviation; ICC = intraclass correlation

Assessment of correlations between domains of the SSSS-Malay and the HS-Malay showed that none of the SSSS-Malay domains were correlated with domains of the HS-Malay except informational support, Pearson’s

correlation coefficient ( $r$ ) = 0.16,  $p < 0.05$ , and emotional support of the SSSS-Malay, Pearson’s correlation coefficient ( $r$ ) = 0.20,  $p < 0.05$ . They were weakly correlated with the agency domain of the HS-Malay (Table 4).

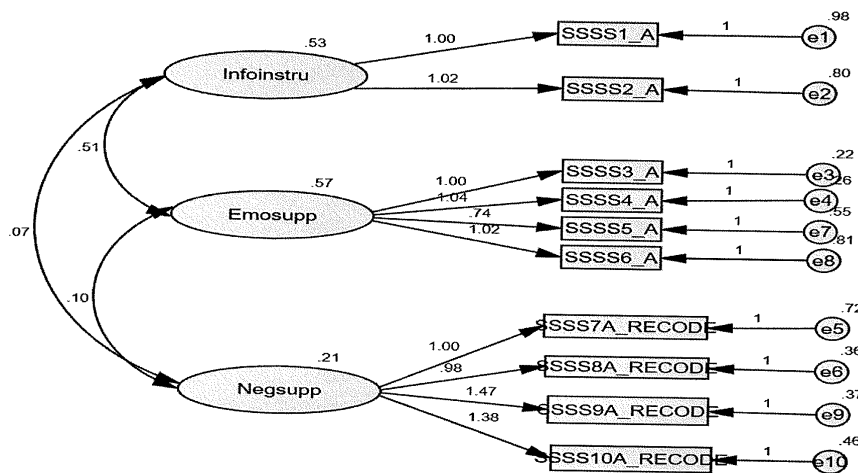
**Table 4. Pearson’s correlation coefficient between domains of the SSSS-Malay and the HS-Malay**

	Pathway	Agency
Informational support	0.096	0.16*
Instrumental support	0.081	0.14
Emotional support	0.11	0.20*
Negative support	-0.15	-0.12

\*statistical significance at  $p < 0.05$ , SD = standard deviation; ICC = intraclass correlation

In the assessment of construct validity, confirmatory factor analysis indicated that the SSSS-Malay did not fit into a 4-factor model,  $\chi^2 = 94.37$ ,  $p < 0.001$ , GFI = 0.912, TLI = 0.901, NFI = 0.889, CFI = 0.925, RMSEA = 0.096. The SSSS-Malay also did not fit into a 2-factor model,  $\chi^2 = 55.647$ ,  $p < 0.001$ , GFI = 0.935, TLI = 0.889, NFI = 0.892, CFI = 0.924, RMSEA = 0.100. Instead, the SSSS-Malay

best fit into a 3-factor model,  $\chi^2 = 73.727$ ,  $p < 0.001$ , GFI = 0.927, TLI = 0.952, NFI = 0.946, CFI = 0.953, RMSEA = 0.082, in which Items 1 and 2 were merged into one domain (informational support domain), Items 3, 4, 5, and 6 stayed in the emotional support domain, and Items 9 and 10 merged with Items 7 and 8 into the negative support domain (Figure 1).



**Figure 1. Final best fitting 3-factor model of the SSSS-Malay: Infoinstru = informational support domain, Emosupp = emotional support domain, and Negsupp = negative support domain**

**Discussion**

This study was conducted to translate the original English version of the SSSS into the Malay language and investigate the psychometric properties of the translated

SSSS-Malay among Malaysian cancer patients. The SSSS-Malay demonstrated good reliability (Table 1). The internal consistency of the SSSS-Malay total score, Cronbach’s  $\alpha = 0.70$ , and its domains, Cronbach’s  $\alpha$  0.70–0.83, were acceptable to good [11]. The SSSS-

Malay total score, ICC = 0.72, and all its domains also exhibited good test-retest reliability, ICC 0.6–0.76, [12].

The content validity of the SSSS-Malay was documented by thorough review of the contents of the translated and back translated versions of the SSSS-Malay for wording and sentence structure, comprehension, meaning of items, suitability of the questions, and semantic quality of the items by a team of content experts (two psychiatrists and one clinical psychologist) before the SSSS-Malay draft was constructed. Face validity of the SSSS-Malay was confirmed, as 76% of the respondents of the pilot study commented that all factors were “appropriate” and the other 24% commented that they were “most appropriate”. Thus, there was no need to amend the item wording and sentence structure of the SSSS-Malay.

The SSSS-Malay exhibited convergent validity, as all items were highly correlated with their designated domains, except for items 9 and 10, which were supposed to be designated under emotional support but had higher correlations with the negative support domain (Table 2). The SSSS-Malay also exhibited discriminate validity, as all of its domains were not highly correlated with the domains of the HS-Malay, which measures different parameters (Table 3).

Confirmatory factor analysis revealed that the 4-factor model that best fit the original English version of the SSSS [5] was not the best fit for the SSSS-Malay. Instead, a 3-factor model was the best fitting model, with items 1 and 2 merged to form a single domain (informational support domain) and items 9 and 10 moved from the emotional support domain to merge with items 7 and 8 to form the negative support domain (Figure 1). This result may be explained by differences in the language used, as it may not have been possible to translate the exact wording and sentences from the English version into the Malay language. In addition, differences in Asian and American cultures may lead to different interpretation of the meaning of the items in the two versions of the SSSS.

A limitation in this study needs to be noted. The socio-demographic characteristics of the participants were not representative of the Malaysian population. A large proportion of the participants were Malays, and the proportions of Chinese and Indians were relatively smaller than the real situation in the Malaysian population. Furthermore, the female to male ratio of respondents was not representative of the Malaysian population. Despite this limitation, the SSSS-Malay demonstrated good reliability and validity for measuring perceived spousal support in Malaysian cancer patients. This is the first Malay version of a social support scale that has been validated for use in evaluating Malaysian cancer patients.

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