

Translation, Cultural Adaptation, and Validation of the Multidimensional Scale of Perceived Social Support for Cancer Patients in Indonesia

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Abstract

The social support is increasingly accepted as an important factor that influences the wellness of a human being, particularly people with chronic diseases. This study translates and validates the quantitative questionnaire that has been developed and has been widely accepted across cultures, namely the Multidimensional Scale of Perceived Social Support (MSPSS). The study was initially performed by translating the original questionnaire using forward and backward translation methods. Thirty cancer patients from Margono public hospital Purwokerto, Indonesia were conveniently included to evaluate the translated questionnaire's convergent, discriminant validity. Furthermore, 45 cancer patients were included in the main study which evaluate the level of social support among cancer patients. According to factor analysis, Kaiser-Meyer-Olkin Measure of Sampling Adequacy showed that the results is valid (0.668) while the Bartlett's Test of Sphericity also showed that the number of samples were adequate (0.668) and eligible for factor analysis. The Measures of Sampling adequacy from each question was considerably higher than 0.5 and therefore there were no translated question that has to be removed in the analysis. There were 3 out of 12 factors that was included with the total variance of 81.166%. The Pearson's correlation and Cronbach Alpha tests showed that discriminant validity and reliability test of the translated questionnaire were valid (>0.400) and reliable (>0.700) questionnaire. The translated version of the MSPSS was considerably a valid and reliable questionnaire to evaluate the level of social support for cancer patients in Indonesia.

Keywords: Cancer, Indonesia, Multidimensional Scale of Perceived Social Support, Translation, Validation Questionnaire.

Terjemahan, Adaptasi Budaya, dan Validasi Skala Multidimensi Persepsi Dukungan Sosial Penderita Kanker di Indonesia

Abstrak

Dukungan sosial semakin diterima sebagai faktor penting yang mempengaruhi kesejahteraan manusia, khususnya penderita penyakit kronis. Studi ini menerjemahkan dan memvalidasi kuesioner kuantitatif yang telah dikembangkan dan telah diterima secara luas lintas budaya, yaitu Multidimensional Scale of Perceived Social Support (MSPSS). Penelitian ini awalnya dilakukan dengan menerjemahkan kuesioner asli menggunakan metode terjemahan maju dan mundur. Tiga puluh pasien kanker dari Rumah Sakit Umum Margono Purwokerto, Indonesia dengan mudah dimasukkan untuk mengevaluasi validitas konvergen, diskriminan dan reliabilitas kuesioner yang diterjemahkan. Selanjutnya, 45 pasien kanker dimasukkan dalam studi utama yang mengevaluasi tingkat dukungan sosial di antara pasien kanker. Berdasarkan analisis faktor, Kaiser-Meyer-Olkin Measure of Sampling Adequacy menunjukkan hasil yang valid (0,668) sedangkan Bartlett's Test of Sphericity juga menunjukkan bahwa jumlah sampel cukup (0,668) dan memenuhi syarat untuk analisis faktor. The Measures of Sampling adequacy dari setiap pertanyaan jauh lebih tinggi dari 0,5 dan oleh karena itu tidak ada pertanyaan terjemahan yang harus dihilangkan dalam analisis. Ada 3 dari 12 faktor yang dimasukkan dengan total varian 81,166%. Korelasi Pearson dan uji Cronbach Alpha menunjukkan bahwa uji validitas dan reliabilitas diskriminan dari kuesioner yang diterjemahkan adalah kuesioner yang valid (>0,400) dan reliabel (>0,700). Versi terjemahan dari MSPSS dianggap sebagai kuesioner yang valid dan reliabel untuk menilai tingkat dukungan sosial bagi pasien kanker di Indonesia.

Kata Kunci: Indonesia, Kanker, Multidimensional Scale of Perceived Social Support, Terjemahan, Validasi Kuesioner.

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Introduction

Non-communicable diseases, particularly cancer, become a serious problem worldwide^{1,2}. Currently, cancer becomes the second leading cause of death after cardiovascular diseases in many countries, including Indonesia^{3,4}, and therefore the clinical and socioeconomic burden that has to be borne by cancer patients are substantially increase.⁵ In Indonesia, this burden has to be dealt by not only the patients but also the government since universal health coverage has been implemented in the country.^{6,7}

Since cancer influences not only the physical but also the psychological condition of the patients^{8,9} a comprehensive effort, covering prevention, treatment and also improving the social or psychological aspect of the patients is considerably required in order to reduce the burdens^{10,11}. Although many studies explore the benefits of both cancer prevention and treatments^{12,13}, there is limited evidence that explain the interaction between social aspects of the patients, for example, social support from families, friends or significant others, and its influence on the general health of the patients.

The positive impact of social support on the patient's mental and physical health has been described in several studies but none of those studies explore the benefits of social support on cancer patients.¹³ Slonim-Nevo et. al. and Jalali-Farahani et. al. showed that social support is correlated with ulcerative colitis, Crohn's disease, hyperlipidemia and diabetes patient's well-being.^{14,15}

A country-specific tool to evaluate the social support and possibly its correlation with its benefits, particularly in Indonesia, is rarely available. Therefore, there are two options available on providing a standardized and acceptable questionnaire in a country: creating a new questionnaire or adopting the existing one. One of the available

questionnaire namely The Multidimensional Scale of Perceived Social Support (MSPSS) has been widely used 14 translated and validated¹⁶ in the various countries and conditions. Therefore, this study's objective was to translate, adapt it to the local culture and validate the MSPSS for cancer patients in Indonesia. Finally, the level of social support that has been received by cancer patients was also evaluated.

Methods

This methodological study was divided into several steps including [1] translation and cultural adaptation, [2] validation, and [3] evaluation of social support among cancer patients. The first two activities were done in Prof Margono Soekardjo Public Hospital in Purwokerto, Indonesia while the last activity was done in PKU Muhammadiyah Yogyakarta Hospital in Yogyakarta, Indonesia. The ethical clearance for this study was approved by the ethical committee of the Faculty of Medicine, University of General Soedirman Purwokerto Indonesia (86/KEPK/III/2018). The eligibility criteria were older than 17 years old, diagnosed as a cancer patient, able to read and understand Bahasa Indonesia and finally, willing to be the participant of this study by reading and signing the informed consent.

MSPSS

Twelve (12) questions of MSPSS consist of questions about social support from the family (4 questions) friends (4 questions) and significant other (4 questions). There is 7 level of agreement for each question that the user can choose. Option 1 is the strongest disagreement while option 7 is the strongest agreement.

Translation and cultural adaptation process

The translation process was divided into

two main activities: forward and backward translation. The forward translation was initiated by translating the original version of the MSPSS into Bahasa Indonesia by two registered translators (BAS and LUS) independently. Any discrepancies between the translated results were evaluated and solved by three authors (DS, BAS and AM). Furthermore, the backward translation was done by two different native speakers from New Zealand (IF) and Germany (AW) independently. The results were then evaluated and discussed by three authors (DS AM and BAS) considering cultural aspect of the sentences and the agreement and cultural adaptation were applied in the Bahasa Indonesia version of the questionnaire which is used in the validation process. Final cultural adaptation was performed after the validation process considering the input from the respondents and the researcher's judgement.

Validation process

Several validation methods were applied in this study including convergent validity (1) which is used for evaluating the correlation between one question with other questions in the same group of the questionnaire using confirmatory factor analysis (CFA). In order to do CFA, the value of the Kaiser-Meyer-Olkin (KMO) test has to be higher than 0.500. A valid question was characterized by its factor loading of ≥ 0.40 and the value of factor loading is grouping in the same factor. The number of factors that are formed by the questionnaire can be evaluated using its Eigenvalues test, and the value of higher than 1 (>1) shows that there is a group formed in the questionnaire. The value of item correlation (factor loading) of > 0.40 is considered as a valid construct and the location or group where the valid construct is located can be used to evaluate in which group is the question or construct is located.

Discriminant validity that is used to evaluate whether a concept or measurement or question that are not supposed to be related are truly unrelated. This validity test was done using the Pearson correlation test and the question is accepted/valid if the counted r is higher than table r (0.40) using the α of 0.05. Finally, in order to evaluate its reliability or internal consistency, an Alpha Cronbach test was done and the result was accepted if the value of Alpha Cronbach is higher or equal to 0.70 (17).

Evaluation of social support in the cancer patients

The evaluation of social support and its correlation with the QALYs was done at PKU Muhammadiyah Yogyakarta Hospital. Yogyakarta. Indonesia. Both Bahasa Indonesia version of MSPSS and EQ5D were used to evaluate the level of social support and the QALYs of cancer patients. respectively. The presentation of MSPSS results followed the 50-percentile technique concluding the three levels of social support:

Low: $x < (\mu - 1.0 \sigma)$

Medium: $(\mu - 1.0 \sigma) \leq x (\mu - 1.0 \sigma)$

High: $(\mu - 1.0 \sigma) \leq x$

Which μ and σ is the mean and standard deviation of social support from all the included patients. respectively.

Results

Translation and cultural adaptation process During the translation process, particularly backward translation, some words were found to be slightly different from the original version of the MSPSS. The word "count on" in the original version becomes "rely on" in the translated version since this word is not commonly used in the Indonesian community. Other words that had to be adjusted into daily communication words in Indonesia were "neutral", "really", "source of comfort", and "emotional support",

Table 1. the Value of KMO Initial Eigen values and Eigen Values of MSPSS

Variables	KMO	Initial eigenvalues			Eigenvalue
		Total	%Variance	%cumulative	
SO1	0.716	4.705	39.211	39.211	4.705
SO2		3.047	25.394	64.605	3.047
SO3		1.927	16.058	80.663	1.927
SO4		0.766	6.387	87.051	
Fam1		0.475	3.957	91.007	
Fam2		0.384	3.197	94.204	
Fam3		0.186	1.549	95.754	
Fam4		0.157	1.304	97.058	
Fri1		0.129	1.077	98.135	
Fri2		0.11	0.914	99.049	
Fri3		0.065	0.54	99.589	
Fri4		0.049	0.411	100	

becomes “common or ordinary”, “sincere”, “entertainer”. and “advice”. respectively. All the adjustments were made and agreed by all the research team.

Validation process

The total of 30 cancer patients with comparable inclusion criteria were included in the validation process from Margono Public Hospital Purwokerto Indonesia.

This study found that the value of KMO is higher than 0.500 (0.716) and therefore the convergent validity of this questionnaire can be tested using confirmatory factor analysis (CFA) (Table 1).

Table1. The value of KMO Initial Eigen values and Eigen Values of MSPSS

Table 2 Confirmatory Factor Analysis of MSPSS

Variables	Factors		
	1	2	3
SO1	0.946	0.171	0.095
SO2	0.924	0.215	-0.016
SO3	0.89	0.202	-0.166
SO4	0.917	0.096	0.018
Fam1	0.066	0.003	0.902
Fam2	0.017	0.124	0.877
Fam3	-0.118	0.111	0.747
Fam4	-0.007	0.072	0.807
Fri1	0.286	0.864	0.008
Fri2	0.139	0.889	0.233
Fri3	0.046	0.909	-0.056
Fri4	0.249	0.808	0.231

Table 3. Patients demographic Data

Patients characteristics	N	%
Age (years)		
17-34	22	4.4
35-44	70	11.1
45-54	78	40
55-64	79	22.2
65-74	24	17.8
>75	3	4.4
Gender		
Female	257	57.8
Male	19	42.2
Diagnose		
Breast Cancer	159	57.6
Cervical Cancer	56	20.3
Leukemia	34	12.3
Lung Cancer	9	3.3
Colorectal Cancer	7	2.5
Prostate Cancer	3	1.1
Bladder Cancer	3	1.1
Rectal Cancer	2	0.7
Lymph Cancer	2	0.7
Glossal Cancer	1	0.4

There are 3 eigen values that are higher than 1 and it showed that there are 3 factors which are formed by the MSPSS according to this test. The first factor, with the eigen value of 4.705, explains the variance of 39.21% in the questionnaire followed by the second factor, with eigen value of 3.047, explains 25.39% of variance, and the last factor, with eigen value of 1.93, explains 16.06% of the variance in the questionnaire.

Table 2. Confirmatory Factor Analysis of MSPSS

Factor analysis (Table 2) showed that all 12 questions in the MSPSS are loaded significantly on one factor of 3 factors. This validation test showed that all the scale of SO1 to SO4; Fam1 to Fam4; and Fri1 to Fri4

are located in the same group, respectively. The discriminant validity showed that each question from SO, Fam and Fri scales are considerably valid since the counted r value are ranged from 0.755 to 0.958 (>0.400).

The reliability test showed that the Alpha Cronbach of SO, Fam, and Fri scale is 0.953, 0.861, and 0.913, respectively. These values showed that all questions in the translated version of the MSPSS are reproducible for cancer patients.

Patients demographic data

The total of 45 cancer patients was included in the main study. Most of them are at age of 45-54 years old (40%) and 57.8% of them are female. Most of the cancer patients finishing their primary education, up to high school

Table 4. The description of social support on the cancer patients

categories	Range	SO	Fam	Fri
Low	<24	51 (18.5%)	41 (14.91%)	197 (71.4%)
Middle	24-36	225 (81.5%)	235 (85.1%)	79 (28.6%)
High	36 ≤	0 (0.0%)	0 (0.0%)	0 (0.0%)

(88.8%). Since most of them are female, the highest cancer experienced by the patients are breast cancer (40.0%), however, most of the doctors did not write the cancer stages of the patients in the patient's medical records (95.6%) (Table 3).

Table 3. Patients demographic Data

Social support to cancer patients

According to the 50's percentile technique, our study found that none of the cancer patients obtained a high level of social support from all parties that could possibly provide the support. Most of them received an average of social support from their significant other (82.2%) and family (88.9%) and low social support from friends (68.9%). In total, most of the cancer patients in PKU Muhammadiyah hospital, Yogyakarta received an average social support (67.4%) from all possible networks that usually connected to them.

Table 4. The description of social support on the cancer patients

Discussion

Social support theoretically provides, clinically or holistically, positive outcomes to the degenerative or chronic patients. A valid and reliable questionnaire is required in order to provide an accurate measurement of the social support. As there is no standardized questionnaire to evaluate the social support in Indonesia, our study has undertaken the (forward and backward) translation, cultural adaptation, and validation the MSPSS which

is considered as the most used, acceptable and standardized questionnaire for social scale measurement.¹⁷

According to the results of, not only convergent and discriminant validity but also the reliability test, the translated version of the MSPSS is considered valid and reliable questionnaire. Therefore, this translated version of the questionnaire is applicable for patients, particularly cancer patients, in Indonesia. Our study showed comparable results with a study from Greece that MSPSS can be translated and validated using an appropriate method.¹⁶

The cultural adaptation plays a substantial role when adopting or translating a questionnaire from other language. In the Indonesian context particularly in the MSPSS translation, there were several terms in the backward translation results that slightly different with the original version. Since there are no tenses in Bahasa Indonesia, the use of simple present tense generates the word "always" in the backward translated questionnaire, therefore, minor changes and adaptation was performed in order to obtain an acceptable questionnaire for Indonesian patients. In this case, since the meaning of "always" in Bahasa Indonesia does not change the meaning of the overall sentence, all translators and authors agree to remove this word in the translated version questionnaire. These types of issues are also found in other methodology studies, particularly on translate and validate an available questionnaire.^{16,17}

Among cancer patients in PKU

Muhammadiyah Yogyakarta hospital, Indonesia, social support is not commonly received or none of the patients received high social support from their known networks (family, friends or significant others). This study results were slightly different with other studies from Spain and United States^{18,19} but comparable with the result from a study in China (20). As it was studied previously, the social support is evidently beneficial for both mental and physical condition of several chronic patients 21–23 including cancer patients.^{18,20}

Our study limitation is that the cancer stages were mostly not mentioned and only two (4.4%) patients who were clearly stated in the medical record. A clear information in the medical record is substantial to develop a smooth communication among healthcare professional. Miscommunication regarding patient's condition and or treatment can possibly produce medication error or other negative effects on the patients. Another limitation is that the number of cancer patients, in this period of study, is limited. This limitation occur since there are some reduction on the services that is provided by the hospital due to resource allocation issues. Further research is required to implement the translated version of the MSPSS into a wider population or hospital and more non-communicable patients. Finally, the evaluation of any associated factors that influence the social support and general health of patients could possibly explored.

Conclusions

The translated version of the MSPSS was considerably a valid and reliable questionnaire to evaluate the level of social support for cancer patients in Indonesia.

Ethical Clearance

The ethical clearance for this study was approved by the ethical committee of the

Faculty of Medicine. University of General Soedirman Purwokerto Indonesia (86/KEPK/III/2018).

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Conflict of Interest

Author declare there was no conflict of interest in this study.

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