

Validation of Malay Caregiver Strain Index

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Abstract. This study aimed to validate the Caregiver Strain Index (CSI), a self-administered questionnaire for rating burden and strain related to care provision, for use in local clinical practice. The CSI was translated into Malay language using forward and back translation method. The final Malay version was administered to 50 caregivers of post-stroke patients attending the medical clinic, Hospital Umum Sarawak in December 2011. The Malay Caregiver Strain Index (CSI-M) has a good face and content validity as well as internal consistency (Cronbach's alpha 0.79). In conclusion, the CSI-M is a reliable tool for assessment of burden experienced by caregivers in Malaysia.

Key words: Caregiver, burden, validation, Caregiver Strain Index (CSI), Malay

1. Introduction

Today more people are living longer, with chronic and often times debilitating illnesses, than ever before. At the same time, recent treatment, economic and policy changes have resulted in a shift from inpatient to outpatient care for many serious illnesses placing great demands on caregivers' and patients' 'informal' support structure (1). The caregiver role can have a dramatic impact on a family member and a family.

Malaysian Census 2010 (2) revealed that the proportion of the population of Malaysia below the age of 15 years decreased to 27.6 per cent compared with 33.3 per cent in 2000. In contrast, the proportion of population aged 65 years and over increased to 5.1 per cent as compared with 3.9 per cent in 2000. The trend of these indicators is in line with the transition of age structure towards aging population of Malaysia.

In aging population, more people will be putting their career and financial issues on hold as they juggle with part-time care giving and full-time job requirements. Numerous assessment tools had been developed to assess the burden or

stress level of the caregivers (3). These include Zarit Burden Interview, Caregiver Strain Index (CSI), Caregiver Burden Scale and Caregiver Reactions Assessment.

The CSI is a brief and easily administered measurement scale (4). Its internal consistency reliability is high with Cronbach's alpha 0.86. It has good construct validity as supported by correlations with the physical and emotional health of the caregiver and with subjective views of the care giving situation. It has been tested on caregivers of cancer (5) and stroke patients (6,7).

As CSI was developed based on English speaking community, a process of cultural adaptation and the assessment of the validity of the new version are important before the instrument can be recommended for use in cultures different to the original. It has been translated and validated for Turkish (5) and Chinese populations (8). In this study, the questionnaire was translated into Malay and its psychometric property will be assessed.

2. Material and methods

2.1. Construction of Malay Caregiver Strain Index (CSI-M)

Caregiver Strain index is a self-rated, 13-question questionnaire that measures strain related to care provision which consists of five major domains; employment, financial, social, time and physical. Participants answer the items as Yes (1) or No (0). Positive answers given to 7 or more items on the scale indicates a high level of stress and the subjective care load as perceived by the caregiver. There is no age limit for the

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individuals that could be assessed using the tool (4).

The translation process was carried out independently by 2 forward-translators and 2 back-translators who were psychiatrists fluent in both English and Malay. The forward and back translated versions were reconciled producing a harmonized version of CSI-M. The meaning and the contents remained unchanged throughout the translation process. The CSI-M was pilot tested among 10 Malay speaking caregivers aged between 20 to 70 years old. The ease of understanding and interpretations of all items were checked. The face validity was satisfactory. The finalized version of CSI-M was reviewed to ensure satisfactory face, content, semantic and conceptual equivalence. The content validity was acceptable as judged by the content experts involved.

2.2. Study Sample

The study protocol was approved by the Research and Ethics Committee, Universiti Sains Malaysia and Ministry of Health. Eligible subjects gave their written informed consent after the nature of the study was explained. All the subjects were cooperative, literate and able to understand the Malay language. Those having mental illness such as major depression and anxiety disorders were excluded. A single researcher (the second author) trained in psychiatric interview administered the test individually to all subjects in December 2011. Fifty caregivers of elderly (above 60) post-stroke out-patients were recruited from the medical clinic, Hospital Umum Sarawak which is located in Kuching, the capital city of Sarawak. Having more than 40 sub-ethnic groups, each with its own distinct language, culture and lifestyle makes Sarawak's demography unique compared to rest of Malaysia. The largest ethnic group is Iban followed by Chinese, Malay, Bidayuh and Melanau (2).

3. Result

3.1. Characteristics of the participants

Table 1 shows the socio-demographic variables of the participating caregivers. The age of the subjects ranged from 21 to 68 years, with mean of 42.7 years. Nearly two thirds (64%) of caregivers in this study were female, consistent with nursing roles that are traditionally associated with women. The Malay, Chinese, Bidayuh and Iban make up 36, 52, 6 and 4 percents of all subjects respectively. About two thirds (62%) of subjects were educated up to secondary level while one quarter (24%) received tertiary education. Half of

the subjects were unemployed. Only one third (32%) of the subjects were living with the person they cared for.

Table 1. Socio-demographic characteristics of caregivers (n=50)

		Caregivers	
		Frequency (n)	Percentage (%)
Gender	Female	32	64
	Male	18	36
Ethnicity	Malay	18	36
	Chinese	26	52
	Iban	2	4
	Bidayuh	3	6
	Others	1	2
Educational Level	Nil	0	0
	Primary	7	14
	Secondary	31	62
Employment Status	Tertiary	12	24
	No	25	50
Staying with Patients	Yes	25	50
	No	16	32
	Yes	34	64

3.2. Descriptive statistics of the items

The frequency distribution of individual items of the instruments showed that majority the response choices were well used as shown in table 2. The Cronbach's alpha coefficient for the 13-item CSI-M was 0.79, which indicated that the scale had good internal consistency reliability.

4. Discussion

The 3-stage translational process ensured the translated questionnaire retain the concept of the original questionnaire. The Malay version of CSI was concluded to have good face and content validity. It also has good internal consistency reliability as shown by Cronbach's alpha of 0.79. The original version in English had internal consistency of 0.86 (4). The internal consistency for Turkish version was found to be 0.77 (5). In conclusion, with good internal consistency reliability, the CSI-M could be used to assess the burden or strain level experienced by the caregivers in Malaysian population.

There were several limitations. As the subjects were not randomly chosen, the participants might not represent the multi ethnic composition of the general Malaysian population. According to 2010 census (2), the ethnic composition for Malay, Chinese, Iban and Bidayuh were 24.1, 24.5, 30.3

Table 2. Frequency of positive responses to the CSI-M questionnaire (n=50)

Question number		Response	
		No	Yes
Q1	Tidur terganggu (e.g., kerana turun naik katil atau merayau-rayau pada waktu malam)	30	20
Q2	Ia menyusahkan (e.g., kerana membantu mengambil banyak masa atau tempoh pemanduan yang lama untuk menolong)	37	13
Q3	Ia menyukarkan secara fizikal (e.g., kerana mengangkat turun naik kerusi; memerlukan daya usaha atau tumpuan)	36	14
Q4	Ia mengongkong (e.g., memberi bantuan menyempitkan masa terluang atau tidak dapat melawat)	28	22
Q5	Telah menyebabkan penyesuaian keluarga (e.g., kerana memberi bantuan mengganggu rutin; tiada privasi)	32	18
Q6	Telah menyebabkan perubahan kepada rancangan peribadi (e.g., terpaksa menolak tawaran kerja; tidakdapatbercuti)	27	23
Q7	Terdapat keperluan masa saya daripada orang lain (e.g., daripada ahli keluarga yang lain)	30	20
Q8	Telah menyebabkan penyesuaian emosi (e.g., kerana pertelingkahan serius)	36	14
Q9	Sebahagian tingkahlaku adalah mengecewakan (e.g., kerana ketidakupayaan kawal kencing; sukar mengingati sesuatu; atau menuduh orang mengambil barang-barang)	30	20
Q10	Ia mengecewakan untuk mengetahui telah banyak berubah berbanding dirinya dahulu (dia adalah berbeza dari dirinya yang dahulu)	26	24
Q11	Telah menyebabkan penyesuaian kerja (e.g., kerana terpaksa mengambil cuti)	25	25
Q12	Ia menyukarkan dari segi kewangan	40	10
Q13	Merasa sangat bingung (e.g., kerana bimbang tentang; memikirkan bagaimana anda akan menguruskannya)	22	28

and 8.6 percents respectively in Sarawak or 50, 19, 2.5 and 0.7 percents respectively in general Malaysian population. Therefore, ethnic Malay in this study was underrepresented at both state and national level. On the contrary, ethnic Chinese was overrepresented at both levels. The comprehension of Malay language among indigenous natives of Sarawak such as Iban and Bidayuh which made up 10% of the study participants may also be lower than expected. To make a generalized assumption a more representative sample of Malaysian population is needed.

5. Conclusions

The Malay Caregiver Strain Index (CSI-M) has a good face and content validity as well as internal consistency (Cronbach's alpha 0.79). The CSI-M is a reliable tool for assessment of burden experienced by caregivers in Malaysia.

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