PSYCHOLOGICAL MEDICINE

Validation of the Malay Version of Short Informant Questionnaire on Cognitive Decline in the Elderly (MS-IQCODE)

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ABSTRACT

Aims: The short Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) is a self-administered informant-based report on cognitive decline. The aim of this study was to translate and validate the short IQCODE into Malay for more widespread use in clinical practice.

Methods: The short IQCODE was translated into Malay language using forward and back translation method. The face and content validity was acceptable. The final Malay version was administered to 50 caregivers of post-stroke patients attending the medical clinic of Hospital Umum Sarawak in December 2011.

Results: The Malay version of short IQCODE (MS-IQCODE) has a good face and content validity. It also displayed good internal consistency with Cronbach's alpha 0.94.

Conclusions: The MS-IQCODE is a reliable tool for the assessment of cognitive decline in the elderly in Malaysian population.

KEY WORDS

informant-based, cognitive decline, validation, short IQCODE, caregiver

INTRODUCTION

Approaches which clinicians can use to assess cognitive impairment in their patients include cognitive testing and self-report of cognitive deficits by the patient. Cognitive testing, either involving detailed cognitive tests such as the Wechsler scales[1] or brief screening tests such as the Mini-Mental State Examination[2], has been the dominant approach to assessment. Some of these cognitive tests were already translated to Malay version and validated[3,4]. Nevertheless, the real-life relevance of many cognitive tests was still debatable[5].

Complementing the former approaches, the clinicians may include in their assessment, observation of everyday performance by staff and informant reports of everyday cognitive functioning. Self-report questionnaires are extensively used in many areas of psychological assessment. However, despite good evidence for the reliability of self-reports, validity has been poor[6]. Besides, the validity of self-reports in cognitive assessment can also be affected by the cognitive deficit itself. Patients who are cognitively impaired are unlikely to correctly recall and evaluate their own cognitive failures.

Informant-based reports provide another source of information for diagnosing cognitive impairment. Unlike direct cognitive testing, informant-based assessments require a judgment of the subject's cognitive and functional ability relative to a previous level of performance, which may be less influenced by a subject's educational or cultural background. Nonetheless, educational and cultural factors themselves may influence an informant's perception of the nature and severity of the cognitive difficulties[7].

The Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) is a widely used informant-based report on cognitive decline and has been validated in various populations. The IQCODE does not require the involvement of the person being assessed, thus it can be used to assess probable dementia in someone who is unable to be assessed because of stroke, or delirium. A Spanish study[8] using IQCODE found it to be more sensitive to detect mild dementia than the Mini-Mental State Examination (MMSE), after controlling for effects of age, gender, and education. A Singaporean study[9] using a combination of cognitive testing and IQCODE provided a better detection of dementia when individuals had no education.

The IQCODE[10] is a 26-item questionnaire which asks the informant about cognitive changes over the previous 10 years. The IQCODE has been shown to be less influenced by education, proficiency in the language of the country of residence and premorbid ability[11], in contrast to cognitive screening tests such as the MMSE which have been shown to be affected by gender, age, education, cultural background, language spoken at home, socio-economic status, occupation and presence of a mood disorder[12]. Subsequently a 16-item Short IQCODE was developed. It correlated 0.98 with the full version as well as had comparable validity when judged against clinical diagnosis[10]. As it was developed for informant self-completion, it has also been used as a face-to-face

Table 1. Socio-demographic characteristic of caregiver (n = 50)

	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
Tertiary	12	24
Employment Status		
No	25	50
Yes	25	50
Staying with Patients		
No	16	32
Yes	34	68

Table 2. Frequency of responses to the MS-IQCODE

IQCODE Item	Score		Response Value Frequency (n = 50)				
	Mean	SD	1	2	3	4	5
Q1	3.58	± 0.67	0	0	26	19	5
Q2	3.52	± 0.65	0	0	28	18	4
Q3	3.54	± 0.68	0	1	25	20	4
Q4	3.58	± 0.79	0	1	27	14	8
Q5	3.44	± 0.84	0	3	30	9	8
Q6	3.64	± 0.83	0	2	23	16	9
Q7	3.80	± 0.81	0	1	19	19	11
Q8	3.66	± 0.90	0	1	28	8	13
Q9	4.04	± 0.76	0	0	13	22	15
Q10	3.98	± 0.82	0	1	14	20	15
Q11	3.50	± 0.76	0	1	30	12	7
Q12	3.48	± 0.76	0	1	31	11	7
Q13	3.66	± 0.92	1	1	23	14	11
Q14	3.94	± 0.94	1	0	17	15	17
Q15	3.66	± 0.87	0	2	24	13	11
Q16	3.50	± 0.81	0	2	29	11	8

and a telephone interview[11].

There is a need to develop and validate this questionnaire into Malay language among cognitively impaired patients in a Malaysian population. This will complement the cognitive tests that have been translated and validated into Malay language before[3,4]. Thus, this study aims to translate and validate the Malay version of Short Informant Questionnaire on Cognitive Decline in the Elderly (MS-IQCODE) among post-stroke patients attending the Medical clinic of Hospital Umum Sarawak.

METHODS

Construction of Malay Version of Short IQCODE

The translation process was carried out independently by 2 forward-translators and 2 back-translators who were psychiatrists with previous experience in cognitive impairment studies. In the first phase, forward translation of the original English version of Short IQCODE into Malay language was carried out by two bilingual psychiatrists independently. A forward consensus version was obtained after a reconciliation discussion. In the second phase, the forward consensus version was independently back-translated into the source language by 2 other psychiatrists. Comparison of the source questionnaire with the back translation to check the conceptual content of forward consensus versions produced Version Two of forward translation. In the third phase, pilot testing of Version Two of the questionnaire was conducted on 10 Malay-speaking caregivers aged between 20 to 70 years old. It took approximately 5 to 10 minutes to complete the questionnaire. The ease of understanding and interpretations of all items were checked. The face validity was satisfactory. The content validity was acceptable as judged by the content experts involved.

Study Sample

This is a cross sectional study on 50 caregivers of the elderly (above 60) post-stroke out-patients recruited from the Medical clinic of Hospital Umum Sarawak in December 2011. The state has more than 40 sub-ethnic groups, each with its own distinct language, culture and life-style making its demography distinct and unique compared to its peninsular counterpart. Ethnic Iban comprises the largest group followed by Chinese, Malay, Bidayuh and Melanau[12]. The subjects were cooperative, literate and able to understand Malay. They were excluded if they

have mental illness such as major depression, anxiety disorders, and schizophrenia. Written informed consent was obtained from eligible subjects after the nature of the study was explained. The study protocol was approved by the Research and Ethics Committee, Universiti Sains Malaysia and Ministry of Health and written informed consent was obtained from all subjects after a full explanation of the nature of the study. A single researcher (the second author) trained in psychiatric interview and rating scale interviewed all the subjects and administered the test individually.

RESULTS

Caregivers characteristics

The socio-demographic variables of the study participants are shown in Table 1. The age of the subjects ranged from 21 to 68 years, with the mean of 42.7 years and standard deviation ± 11.6. As caring and nursing have traditionally been associated with women, it was no surprise that almost two thirds (64%) of caregivers in this study were female.

The ethnic composition of the subjects consisted of 36% Malay, 52% Chinese, 4% Iban, 6% Bidayuh and 2% others. The educational level distributions of the subjects were 14%, 62% and 24% for primary, secondary and tertiary levels respectively. The percentage of the subjects who were unemployed and employed was equal. Only 32% of the subjects stayed with the person they cared for and 68% who did not stay with them.

Traditionally, caring and nursing have almost always been associated with women and many women accept them as part of their social obligation towards the sick. In this study, two thirds (66%) of caregivers were female and most of them were patients own wives, with adequate educational background and had at least 2-5 years of caring experience

Internal consistency

The frequency distribution of individual items of the instruments showed that the response choices were well used. The Cronbach's alpha coefficient for the 16 items was 0.94, which indicated that the items formed a scale that has excellent internal consistency.

DISCUSSION

The 3-stage translational process ensured the translated questionnaire retain the concept of the original questionnaire. The MS-IQCODE

was concluded to have good face and content validity. The results in this study prove that MS-IQCODE is internally consistent as it has good Cronbach's alpha value of 0.94. This was consistent with the few previous validation studies[11] which concluded that the Cronbach's alpha ranged from 0.94 to 0.97. Short IQCODE had been translated and culturally adapted into at least 15 different languages which include Chinese, Danish, Dutch, Finnish, French, German, Japanese, Korean, Lithuanian, Norwegian, Persian, Polish, Portuguese, Spanish and Thai. As a conclusion, the Malay version of short IQCODE is a reliable tool for the assessment of cognitive decline in the elderly in Malaysian population. Informant-based reports will be greatly useful and complement the already available validated Malay version of cognitive tests[3,4].

Methodological considerations revealed several limitations. As the subjects were not randomly chosen, the participants may not represent the general population and therefore increase the possibility of bias. According to 2010 census[12], the ethnic composition for Malay, Chinese, Iban and Bidayuh were 24.1, 24.5, 30.3 and 8.6 percents respectively in Sarawak or 50, 19, 2.5 and 0.7 percents respectively in general Malaysian population. Ethnic Malay in this study was underrepresented at both state and national level. In contrast, ethnic Chinese was overrepresented at both levels. The comprehension of Malay language may also be lower among indigenous natives of Sarawak such as Iban and Bidayuh which made up 10% of the study participants. Generalization will require more studies or replications on actual representative general Malaysian population.

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