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ORIGINAL ARTICLE

Psychometric Properties of Malay Obsessive Compulsive Inventory-Revised: A Cross-sectional Study

SHARIP SHALISAH[1]*, GHANI SITI NOR AISYAH[1], MAHADY ZALEHA ABDULLAH[2], HASSAN NORHATY[3], FOA EDNA B[4]

[1]Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

[2]Department of Obstetrics and Gynaecology, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

[3]Department of Nursing, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

[4]Center for the Treatment and Study of Anxiety, Perelman School of Medicine, University of Pennsylvania, 19104 Philadelphia, PA, USA

**Correspondence: shalisah@hctm.ukm.edu.my: Tel: +60391458157*

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ABSTRAK

Inventori Obsesif-Kompulsif yang dikemaskini (OCI-R) ialah satu instrumen yang sah dan boleh dipercayai yang digunakan untuk menyaring gejala kecelaruan obsesif kompulsif (OCD). Instrumen ini telah diterjemahkan ke dalam pelbagai bahasa, namun sehingga kini tiada terjemahan instrumen ini dilakukan dalam Bahasa Melayu. Justeru itu, tujuan kajian ini adalah untuk menilai kebolehpercayaan dan kesahan OCI-R versi Bahasa Melayu dalam populasi komuniti. Soal selidik yang mempunyai 18 item telah dilengkapkan oleh 223 individu sihat. Versi bahasa Inggeris OCI-R diterjemahkan ke hadapan dan ke belakang ke dalam Bahasa Melayu. Sebelum soal selidik diedarkan kepada peserta, keesahan muka telah dilakukan. Analisis faktor eksploratori (EFA) dan analisis faktor pengesahan (CFA) telah dijalankan untuk menentukan kualiti psikometrik OCI-R dalam Bahasa Melayu. Seramai 223 responden dengan purata umur 33 (6.9) tahun, dan 62% daripada responden adalah wanita yang mengambil bahagian dalam kajian ini. Berdasarkan EFA, OCI-R versi Bahasa Melayu menunjukkan konsistensi dalaman yang tinggi dan kesahan konvergen yang baik dengan lima domain faktor iaitu "Mencuci", "Mengatur", "Obsesi", "Memeriksa" dan "Menyimpan". Analisis CFA menunjukkan indeks kesesuaian yang mencukupi ($\chi^2(160) = 4.24$, "Root mean square error of approximation" = 0.09, "goodness of fit index" = 0.89, "adjusted goodness of fit index" = 0.82, "normed fit index" = 0.91 dan "comparative fit index" = 0.93) yang menyokong struktur lima domain faktor. OCI-R versi Bahasa Melayu mempunyai konsistensi dalaman yang kuat, menjadikannya alat saringan yang boleh dipercayai dan sah untuk mengenal pasti gejala OCD dalam kalangan masyarakat umum. Bagi meningkatkan kebolehlaksanaan dapatan ini, kajian yang lebih besar harus dijalankan dengan saiz sampel yang lebih ramai dan melibatkan pesakit psikiatri.

Kata kunci: *Kebolehpercayaan; kecelaruan obsessif compulsif; kesahan; OCI-R*

ABSTRACT

The Obsessive-Compulsive Inventory-Revised (OCI-R) is a valid and reliable instrument used to screen obsessive-compulsive disorder (OCD) symptoms. This scale has been translated into numerous languages, although not the Malay language. The aim of this study is to examine the reliability and

validity of Malay-language OCI-R in a community population. The 18-item surveys were completed by 223 healthy people. The OCI-R English version was translated backward and forward to the Malay language. Prior to distributing the questionnaire to the participants, face validity was done. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were run to determine the psychometric qualities of the Malay language OCI-R. A total of 223 respondents mean aged of 33 (6.9) years, and 62% of respondents were female participated in this study. Based on EFA, the Malay language OCI-R showed high internal consistency and good convergent validity with a five-factor domain: "Washing", "Ordering", "Obsessions", "Checking" and "Hoarding". CFA analysis indicated an adequate fit index of ($\chi^2(160) = 4.24$, root mean square error of approximation = 0.09, goodness of fit index = 0.89, adjusted goodness of fit index = 0.82, normed fit index = 0.91 and comparative fit index = 0.93) which supported a five-factor domain structure. The Malay OCI-R had a strong internal consistency, making it a credible and valid tool for identifying OCD symptoms in the general public. To improve the generalisability of these results, a larger study should be carried out with a bigger sample size and involving psychiatric patients.
Keywords: Obsessive-compulsive disorder; OCI-R; reliability; validity

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a chronic disorder that affects millions of people worldwide. According to Diagnostic and Statistical Manual of Mental Disorder: DSM-5-TR, OCD is characterised by obsessions marked by intrusive thoughts, urges or images that are extremely upsetting and which are followed by a drive to engage in repetitive action or a compulsion to lessen the discomfort that the obsession causes (Aboujaoude et al. 2024). The presentation or course of OCD varies from one individual to another (Angst et al. 2004) and is frequently undertreated (Hirschtritt et al. 2017). Despite being straightforward, OCD is highly associated with other psychiatric disorders, necessitating the delicate diagnosis of OCD symptoms and differentiation from other disorders in order to design effective interventions (Antony et al. 1998).

The identification of OCD symptoms using a screening rating scale has been documented in the literature (Rapp et al. 2016). Web-based screeners, patient report measures, unstructured clinical interviews, diagnostic interviews and other measures administered by clinicians are among the tools used to evaluate OCD (Benito & Storch 2011). The Yale-Brown Obsessive-Compulsive Scale and Checklist (Y-BOCS) is a commonly used clinical tool for evaluating the degree and prevalence of symptoms of OCD (Goodman et al. 1989) and has excellent psychometric proprieties (Storch et al. 2010). Though most researchers agree that the Y-BOCS is useful, there is no formal standard for determining the optimal YBOCS absolute score (percent reduction) cutoffs. Furthermore, assuming that an outcome defined by Y-BOCS for clinical and research purposes is isometric carries a large risk of error (Lewin et al. 2011; Vogt et al. 2022). Compared to Y-BOCS, the Obsessive-Compulsive Inventory-Revise (OCI-R) is a widely used screening tool to screen individuals who may have OCD and track the effectiveness of treatment (Foa et al. 2002). The administration of this scale is quick. The patient rates 18 items, which measure washing, checking, obsessing, hoarding and neutralising, compared to Y-BOCs which can only be administered by a qualified clinician, which can be expensive (Foa et al. 1998).

Developed in 1998, the 42-item Obsessive Compulsive Inventory (OCI) has demonstrated strong internal consistency and discriminant validity among OCD, generalised social phobia, post-traumatic stress disorder and non-patient groups (Foa et al. 1998). A short version of this questionnaire (OCI-R) and its psychometrics have shown good internal consistency with 18 items (Foa et al. 2002). Similarly, excellent test-retest

reliability, validity, prediction of clinical OCD status and sensitivity to treatment are evident with both the 12 and 4-item OCI-R questionnaires (Abramovitch et al. 2021a; Abramovitch et al. 2021b). Despite this, due to its strong psychometric properties, the 18-item OCI-R has been extensively translated and validated in both healthy populations and psychiatric patients, as well as in many languages, owing to its excellent usefulness in OCD screening and its sensitivity to changes in therapy (Foa et al. 2002). According to all of these investigations, the OCI-R's translation into other languages yielded excellent psychometric results that attest to the instrument's cultural compatibility (Aydin et al. 2014; Gong et al. 2020; Hon et al. 2019; Lim et al. 2008; Peng et al. 2011; Senanayake et al. 2018; Souza et al. 2011; Varela Cunha et al. 2023).

The rate of mental health issues in Malaysia is rising at an alarming pace across all age groups (Wong et al. 2021). The prevalence of anxiety varies between 0.5% and 68.6% (Khaiyom et al. 2021). Meanwhile, OCD affects around 1% to 2% of the population, impacting individuals from diverse ethnicities and both genders, including children and young teenagers (Che Din et al. 2019). The debate surrounding the effectiveness of one size fit all tools has gained renewed attention, with many arguing that a psychological tool that fits one culture may induce cultural biases, leading to misdiagnosis or invalid results (Molnar et al. 2020). A culturally adaptive tool is crucial for a diverse country like Malaysia, which is home to various ethnic groups, including Malays, Chinese, Indians and others, each with their own unique languages, belief systems and social customs. Individuals from different cultures may interpret identical questions differently, increasing the risk invalid result if a culturally and linguistically validated tool is not utilised to provide effective assessments across these diverse populations. At the time of this evaluation, no prior research had looked into the suitability of translating and adapting OCI-R into the Malay language. Thus, the first goal of this study was to ascertain the Malay OCI-R's psychometric qualities in healthy individuals. The second goal of this study is to determine whether there is relationship between OCI-R with Penn Inventory of Scrupulosity (PIOS) inventory that assess scrupulosity in the context OCD and the Depression Cognition Scale (DCS). It is crucial to verify the convergent and discriminant validity of OCI-R with different questionnaires. PIOS was selected because it theoretically corresponds with the domains of obsessive-compulsive behavior and religion, whereas DCS was selected as depression and OCD are separate clinical entities. This instrument's validation makes the questionnaire appropriate for screening OCD symptoms in a multicultural nation, such as Malaysia, as well as for designing and assessing changes in intervention for OCD sufferers. It is also facilitating preliminary screening not just by mental health professionals but also within primary care or general medical settings, where cases of OCD are frequently overlooked in comparison to easily identified disorder, such as depression or anxiety.

MATERIALS AND METHODS

Participants

A total of 223 respondents participated in this cross-sectional survey. These 223 respondents, who were willing to engage in the survey and resided in Kuala Lumpur and Selangor, were recruited by convenience sampling. Healthy responders who were at least 18 years old were included; those who weren't cooperative were excluded. Following receipt of ethical approval, the sociodemographic survey, information sheet about the study, along with the targeted questionnaires, was distributed both online and in person to a healthy population that agreed to participate in the study.

Socio-demographics

These self-generated inquiries covered demographic data, including age, sex, race, educational background and mental health history.

Obsessive Compulsive Inventory-Revised

An 18-item self-report questionnaire called the OCI-R was used to assess the intensity of obsessive-compulsive symptoms and high psychometric properties (Foa et al. 1998; Foa et al. 2002; Hajcak et al. 2004). The items were graded on a scale of 0 for "not at all" to 4 for "extremely bothered" with three items representing a subtype of OCD symptoms (Woo et al. 2010). After obtaining the creator's consent, the instrument was translated and transformed into Malay. Two Master psychology students who had never seen the original scales translated the text from English to Malay, making sure it was impartial. The translators' work was then inspected by both the lead researcher and the original creator. Once the original creator approved with Malay translation, the scales were then translated back into English. Two more Master psychology students' back translations were then assessed and combined once more, producing the first Malay version of each scale. To ensure that participants understood the relevance of the questions while steering clear of sensitive or ambiguous queries, the Malay-language OCI-R was first evaluated for face validity with 30 healthy individuals, resulting in a Cronbach's alpha of 0.90 for each item's baseline before the finalised version in Malay was distributed to a larger sample.

Penn Inventory of Scrupulosity

This 19 items questionnaire was designed to assess religious obsessive-compulsive symptoms on a 5-point scale ranging from 0 (never) to 4 (constantly). PIOS were found to have good internal consistently and posed good convergent and discriminant validity. The Malay version of PIOS had been validated with permission from the author (Abramowitz et al. 2002) and showed internal consistency with Cronbach's alpha of 0.90.

The Depression Cognition Scale

DCS scale was designed to assess hopelessness, powerlessness, purposelessness, worthiness, loneliness, emptiness and meaningless (Zauszniewski & Bekhet 2012). It consisted of eight items and the DCS score varied from 0-40, where a higher score signified depressive thinking. This instrument also demonstrated strong internal consistency with a Cronbach alpha of 0.78 in a healthy population. DCS was translated and validated to Malay with permission from author (Zauszniewski & Bekhet 2012). Malay DCS had good internal consistency with Cronbach's alpha of 0.90.

Statistical Analysis

The Statistical Package for Social Science (SPSS) version 26 (IBM Corp, Armonk, NY, USA) for Windows was used for the statistical analysis. After the data were analysed, it was discovered that they were normally distributed. Categorical data were described using both their frequency (n) and percentage (%). The mean and standard deviation (SD) of normally distributed data were used to describe the data. Exploratory factor analysis (EFA) was used to assess the structural validity. The construct validity of self-reporting scales and a technique for reducing a large number of variables to a smaller number were both demonstrated by EFA (Costello & Osborne 2005). Varimax rotation was used to provide further context for the interpretation of these elements. The Kaiser rule (Eigenvalue > 1.0) was employed to assess sample adequacy, while the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were utilised to estimate the number of dimensions to extract. Using Pearson correlation analysis, the relationship between the OCI-R items was examined (Costello & Osborne 2005; Tabachnick et al. 2013). The degree to which the scale's items were related to one another was measured using Cronbach alpha to evaluate internal consistency (Tavakol & Dennick 2011). Confirmatory factor analysis (CFA) was also calculated using SPSS. CFA aimed to verify or confirm the factor model and it was inter-correlated with the observed variables. To establish model fit, Chi-square Index (χ^2) values

with five other measures of goodness-of-fit were looked at to assess the CFA model. The five measures of goodness of fit were included: (i) the root mean square error of approximation (RMSEA); (ii) goodness-of-fit index (GFI); (iii) adjusted GFI (AGFI); (iv) normed fit index (NFI); and (v) comparative fit index (CFI) (Schermelleh-Engel et al. 2003)

RESULTS

Socio-Demographic and Study Measures

A total of 223 healthy respondents participated in this study. Based on Table 1, the mean age of the respondents was 33 years old (SD = 6.9). According to this result, 62% of the respondents were female, and most of these respondents were Malay (79%). The mean OCI-R scores were within the normal range. For this validation study, the sample size appeared to be sufficient for doing EFA, as indicated by the KMO index analysis result.

Reliability and Factor Structure

TABLE 1: Characteristics of the respondents

Variables	Mean (SD)	n (%)
Age	33.0 (6.9)	
Sex		
Male		61 (23.5%)
Female		162 (62.3%)
Ethnicity		
Malay		207 (79%)
Chines		11 (4.2%)
Indian		3 (1.2%)
Others		2 (0.8)
Educational level		
No education		35 (13.5%)
Secondary school		23 (8.8%)
Diploma		120 (46.2%)
Degree		33 (12.7%)
Master		11 (4.2%)
PhD		1 (0.4)
OCI-R total score	15.7 (25.8)	

OCI: Obsessive compulsive Inventory; PhD: Doctor of Philosophy

- Internal consistency

Internal consistency for total OCI-R was calculated using Cronbach's alpha with $\alpha = 0.92$, indicating high internal consistency. Furthermore, the composite reliability (0.90) and AVE (0.66) score were adequate, suggesting that the Malay-language OCI-R can reliably measure the construct of obsessive-compulsive symptoms.

Factor Analysis of the OCI-R

As shown in Table 2, a five-factor solution was obtained using a principal component factor analysis with varimax rotation, keeping factors with an Eigenvalue larger than 1 (with total variance explained = 72.2). Based on Table 2, Cronbach alpha obtained from the EFA for each domain were 0.74 for Factor 1, 0.84 for Factor 2, 0.82 for Factor 3, 0.78 for Factor 4, and 0.80 for Factor 5, with a total score of 0.92. The range of values for the corrected item for correlations were 0.42 to 0.73 for each item (Table 2). Positive correlations were found in all variables with significant values, as demonstrated by Pearson correlation ($p < 0.01$). This may imply that an increase in one variable tends to increase the other variables as well (Schober et al. 2018).

Confirmatory Factor Analysis

A CFA was performed for each item to assess the unidirectionality of the measurement items (Brown 2015; Knekta et al. 2019). The model fit evaluation using CFA involved simulating three models employing modification indices to find significant associated residual error components, as shown in Table 3. In these three models, five items had to be excluded to allow a better fit of the model to the data (Arifin & Yusoff 2016; Goretzko et al. 2024).

As indicated the best-fit indices have shown that the chi-square test suggested a significant difference result of the CFA (χ^2 (160) = 4.24, p = 0.000). The other optional fit indices showed satisfying properties from the CFA results (RMSEA = 0.09, GFI = 0.89, AGFI = 0.82, NFI = 0.91 and CFI

TABLE 2: Factor loadings of Malay-language Obsessive Compulsive Inventory-Revised (OCI-R)

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Item total correlation	Cronbach alpha
8. I repeatedly check doors, windows, drawers, etc.	0.787					0.62	0.74
13. I avoid throwing things away because I am afraid I might need them later.	0.738					0.49	
14. I repeatedly check gas and water taps and light switches after turning them off.	0.641					0.70	
17. I wash my hands more often and longer than necessary.		0.767				0.62	0.84
16. I feel that there are good and bad numbers.		0.746				0.49	
11. I sometimes have to wash or clean myself simply because I feel contaminated.		0.722				0.72	
10. I feel I have to repeat certain numbers.		0.544				0.73	
3. I get upset if objects are not arranged properly.			0.859			0.55	0.82
15. I need things to be arranged in a particular order.			0.719			0.55	
9. I get upset if others change the way I have arrange things.			0.635			0.66	
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.			0.606			0.65	
1. I have saved up many things that they get in the way.				0.839		0.42	0.78
2. I check things more often than necessary.				0.677		0.65	
4. I feel compelled to count while I am doing things.				0.551		0.66	
7. I collect things I don't need.				0.479		0.67	
18. I frequently get nasty thoughts and have difficulty in getting rid of them.					0.842	0.51	0.80
6. I find it difficult to control my thoughts.					0.797	0.42	
12. I am upset by unpleasant thoughts that come into my mind against my will.					0.713	0.59	

TABLE 3: Model fit indices confirmation factor analysis of Malay-language Obsessive Compulsive Inventory-Revised (OCI-R)

Goodness of fit indices	Model 1	Model 2	Model 3
χ^2	565.9	399.0	176.3
Df	125	94	55
p-value	0.00	0.00	0.00
TLI	0.823	0.845	0.911
CFI	0.855	0.878	0.937
RMSEA	0.125	0.12	0.099
NFI	0.823	0.848	0.912
AGFI	0.690	0.726	0.829
GFI	0.773	0.811	0.897

AGFI: Adjusted goodness of fit index; CFI: Comparative fit index; NFI: Normed fit index; GFI: Goodness of fit index: TLI: Tucker-lewis index: RMSEA: Root mean square error of approximation

= 0.93). Figure 1 showed a graphic representation of the confirmatory factor analysis on the OCI-R Malay version. All of these indices suggested an acceptable fit for the model and thus confirmed the five-factor structure (Schermelleh-Engel et al. 2003).

Convergent and Discriminant Validity

Pearson correlation coefficients score were calculated between Malay PIOS and Malay OCI-R scale, along with Malay OCI-R and the Malay DCS scale, to assess convergent and discriminant validity. The relationship between the total score of the Malay OCI-R and the Malay PIOS was 0.3, indicating modest positive correlation. There was no correlation between the Malay OCI-R with the Malay Depressive Cognition Scale, indicating a different between two measure constructs and suggesting good divergent validity (Table 4).

DISCUSSION

An initial objective of this project was to identify the psychometric properties of Malay-language OCI-R among the health population. The current study found Cronbach alpha for OCI-R, both total scale and subscales are in good range, suggesting good internal consistency. This finding agrees

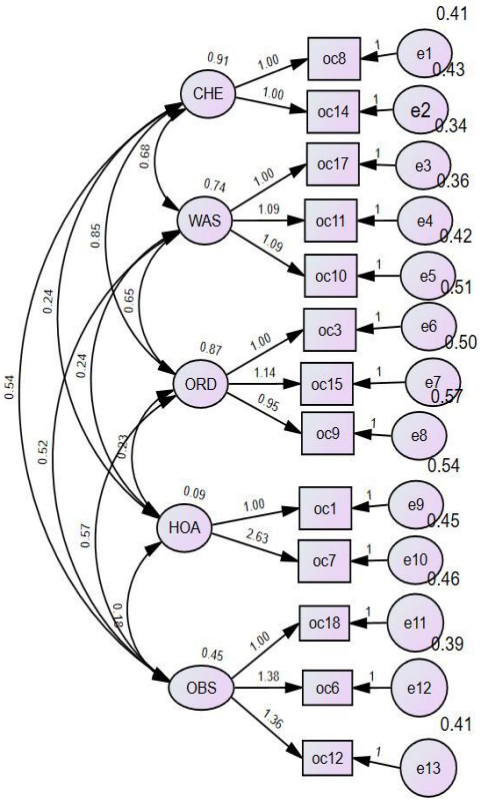

FIGURE 1: Model confirmatiory factor analysis Malay obsessive compulsive inventory-revised

TABLE 4: Correlation between Malay Penn Inventory of Scrupulosity (PIOS) inventory, Malay Depression Cognition Scale (DCS) with Malay-language Obsessive Compulsive Inventory-Revised (OCI-R)

Variables	Total Malay OCI-R	Total Malay PIOS	Total Malay DCS
Total Malay OCI-R	-	0.269*	0.098
Correlation was significant at the 0.05 level (2 -tailed)			

with the results presented by scale development studies (Foa et al. 1998) and is also supported by other studies using another language than English in both clinical and non-clinical respondents (Aydin et al. 2014; Gong et al. 2020; Hon et al. 2019; Lim et al. 2008; Peng et al. 2011; Senanayake et al. 2018; Varela Cunha et al. 2023). In addition, convergent validity showed a modest correlation with PIOS scale. This modest correlation might be due to PIOS scale being created to assess scrupulosity associated with OCD (Nelson et al. 2006). No correlation was found between the Malay OCI-R and the Malay DCS scale, indicating adequate discriminant validity. This may because OCI-R measures a concept distinct from cognition that is associated with depression assess by the DCS scale (Hajcak et al. 2004; Sousa et al. 2010).

Surprisingly, based on exploratory factor analysis, the Malay-language OCI-R has five domains, which is not in line with the results presented by scale development studies (Foa et al. 1998), in which a sixth domain has been documented. This finding was similar to that of the translated Malay-language OCI-CV, where five domains support multidimensional components (Fitri Sarnin et al. 2022). In contrast to the original OCI-R, factor analysis was able to include six domains and 18 items, the Malay-language OCI-R only featured five domains with a total item of 13 items. Through the trimming method, items 13 and 4 were removed to make the model fit for five-factor domain and maximise reliability and validity of study (Raubenheimer 2004; Schreiber et al. 2006). It is interesting to note that domain neutralising suggested in the original OCI-R was eliminated, while checking, hoarding, washing, ordering and obsession domain was maintained. According to Veale (2004), neutralising is a preventative measure from harm that also actively feeds OCD by functioning as escape and avoidance behaviour, which is adversely frequently produced by the short-term, distress-relieving effect (Mowrer 1960; O'Connor et al. 2012). Item neutralising, such as "I feel that there are good and bad numbers," was omitted due to both low factors loading values and cultural and religious beliefs. For Malay Muslims, it is generally taught that there are no good or bad numbers and that one should have strong faith and patience when experiencing negative events (Ayonrinde et al. 2021). Chinese culture contains strong beliefs in bad or good numbers that may represent luck or harm, and this has been shown to affect factor loading in Chinese OCI-R validation studies (Hon et al. 2019). Moreover, these results may also be explained by the fact that the majority of respondents are Malay rather than Chinese. In this study, the item "I have to repeat a certain number," which was positioned in the neutralising domain in the original questionnaire, was placed in the washing domain. This result supports ideas related to washing behaviour as neutralising (van den Hout et al. 2002). This includes religious purposes, such as required cleaning and prayers in predetermined numbers (Tek & Ulug 2001), or purification of any parts of the body that came in contact with mughallazah najis (dog or swine) with water mixed with soil once and mutlak water six times (Ahmad & Shariff 2016) which is taught to Muslim youth early on.

Important measures to verify the domain that provides OCI-R were item reduction and factor analysis (Lafave et al. 2016; Wirth & Edwards 2007). In order to preserve the psychometric qualities, the confirmatory factor analysis led

to a reduction of two items per domain in the checking and hoarding domains (Goetz et al. 2013). Excluding certain items from the OCI-R questionnaire leads to a more accurate representation of the constructs being measured (Clark & Watson 2016; Edwards & Bagozzi 2000). Obsessing and ordering domains were found to be similar to the original OCI-R consisted each three items per domain.

An instrument's translation and adaptation from one culture to another entail a number of components and demand a strict methodology: a meticulous translation process from the original version, cross-cultural adaptation and validation, all with the aim of preserving the original instrument's accuracy (Souza et al. 2008). Our main goal was to achieve the greatest possible correspondence between the translated and original versions of OCI-R inventories during the entire cross-cultural adaptation process. The discrepancy between Malay-language OCI-R and English OCI-R may be due to the translation itself or people's different understanding and perception on variations in concepts, regional and cultural nuances, and enhancement of the comprehensibility of the translated questionnaire through varied levels of education (Tuleja et al. 2011; Yu et al. 2004). One advantage of the inventories is that due to their self-reporting nature, assistance was required from the interviewer for those with lower levels of education or illiteracy to understand the scales (Souza et al. 2008), which was not conducted in this study. One area of special concern was the usage of highly complicated terminology by translators, which could lead to incorrect interpretation of data from low literacy individuals if left unnoticed (Hawkins et al. 2020)

The project was limited in a few ways. Firstly, convenience sampling was utilised in the experiment, which could limit how broadly these findings can be applied to a larger population. To enable good statistical power analysis, enhance the quality and reproducibility of this result and assist the generalisation of findings to a larger community, a bigger sample size is required (Polit & Beck 2010). A nonclinical group with a preponderance of Malay ethnicity also makes up the study sample. In light of Malaysia's multiethnic and multireligious contexts, it is recommended that future research investigating the psychometric aspects of Malay-language OCI-R that involves all ethnic and religious factors. Additionally, the psychometric qualities of Malay-language OCI-R within the clinical population were not covered in this study, necessitating further research to guarantee the instrument's suitability for usage in Malaysian contexts.

Secondly, the concurrent validity of the Malay-language OCI-R alongside the YBOCS, an established gold standard for OCD assessments, was not evaluated. The unavailability of YBOCS in Malay posed difficulties in assessing the concurrent validity of the Malay OCI-R with YBOCS, leading to an emphasis on convergent and discriminant validity, as well as the internal consistency of the Malay OCI-R. Future studies are required to assess Malay-language OCI-R concurrent validity with other OCD measures, especially the Malay OCD scale, if it exists, which may compare the same construct and validate with the gold standard scale at a certain moment in time.

Thirdly, OCI-R was developed using the DSM-IV framework that recognises hoarding as a subtype of OCD. The recent release of DSM-5TR has classified hoarding as a unique clinical diagnosis separate from OCD, affecting the validity and interpretation of OCI-R scores (Aboujaoude et al. 2024). Despite these constraints, the research indicates that to address this issue and support the effectiveness of the Malay OCI-R, clinicians may evaluate OCD symptoms by excluding the hoarding domain when screening those suspected of having OCD. Another benefit is that clinicians can continue to utilise the hoarding section to assess hoarding symptoms while excluding other OCD symptoms. Future validation studies should be repeated using a modified version of the Malay OCI-R that either excludes or separately evaluates hoarding behaviour, as this questionnaire is appropriate for primary care or low-resource settings, unlike the concerning validation information on the YBOCS,

which is a gold standard clinician-administered measure for assessing OCD and is less suitable for primary care (Senter et al. 2021)

CONCLUSION

This study provides evidence that Malay-language OCI-R is valid and reliable for evaluating OCD symptoms based on a five-factor structure. Notwithstanding its drawbacks and differences from the English OCI-R, this measure can offer a rapid screening evaluation and help clinicians implement patient interventions that improve quality of life.

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Ethical Statement: This study was approved by the Human Research Ethics Committee of Universiti Kebangsaan Malaysia (Research Code: JEP- 2021-206)

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