

ORIGINAL ARTICLE

CONCURRENT VALIDITY OF THE DEPRESSION AND ANXIETY COMPONENTS IN THE BAHASA MALAYSIA VERSION OF THE DEPRESSION ANXIETY AND STRESS SCALES (DASS).

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Abstract

Objectives: The Bahasa Malaysia (BM) version of Depression Anxiety Stress Scales 21-item (DASS-21) has been widely used ever since the establishment of its validity. To consolidate the evidence of the BM DASS-21 validity by examining its concurrent validity. **Methods:** The BM DASS was administered together with the Hospital Anxiety and Depressive Scale (HADS) to a total of 246 patients at International Islamic University Malaysia (IIUM) Infertility Centre. **Results:** The anxiety domain of BM DASS-21 had good correlation with anxiety domain in HADS (0.61) but for DASS depressive domain, it had modest correlation with its respective domain in HADS (0.49). **Conclusions:** The results of this study further ensonced the evidence that the BM DASS-21 had relatively satisfactory psychometric properties for clinical subjects in Malaysia. *ASEAN Journal of Psychiatry, Vol.12(1), Jan – June 2011: XX XX.*

Keywords: depression, anxiety, stress, scale, validity

Introduction

The Depression Anxiety Stress Scales (DASS) has 3 domains namely depression, anxiety and stress. The original version of DASS is 42-item and DASS 21-item is a short version [1]. It is not a diagnostic questionnaire but rather as a severity measurement [2]. The DASS-21 has been translated into Malay language (Bahasa Malaysia (BM)) by adopting the guideline of the US Census Bureau on questionnaire translation in which 2 forward and 2 back

translations were done in parallel. Based on 2 previous publications, the BM DASS-21 is proven to have good psychometric properties among clinical and non-clinical populations [3, 4]. It has good Cronbach's alpha values for depression (0.84 & 0.75), anxiety (0.74 & 0.74) and stress domains (0.79 & 0.79) as recorded in the past 2 studies. For validity, it also had good factor loading values for most of its items [3, 4].

The good aspect of DASS that author found is all 21 items in this questionnaire are

relatively cultural free as none of its item mentioned any aspects on culture or religion. The studies in overseas also showed the DASS is suitable to be used for clinical and non-clinical samples [5]. The aim of this study is to examine the concurrent validity of depressive & anxiety domains in BM DASS-21. This was done by comparing the 2 domains in DASS with HADS which is readily validated locally.

Methods

This study is a part of the bigger research project to study on the psychological profiles among couples who attended the International Islamic University Malaysia (IIUM) Infertility Centre. This project received a grant from IIUM endowment fund.

Since the BM version of HADS has been validated to the Malaysian population, we

used this questionnaire as our reference or “gold standard” to perform the concurrent validity of BM-DASS. [6] The concurrent validity of the BM-DASS was compared to Malay version of HADS. All the couples who attended the clinic during the period of 2 years (2008 to 2010) and fulfilled the inclusion criteria were recruited into the study. The inclusion criteria were those could understand Bahasa Malaysia and able to give written consents. Both the BM HADS and the BM DASS-21 were administered concurrently to every subject after they were explained on the study procedure.

Results

From a total of 248 subjects came to the centre during the study period, only 2 refused to participate in this study due to language barrier. The analysis was based on the remaining 246 subjects.

Table 1; Demographic profiles

Characteristics	Number (%)
<i>Age (years)</i>	32 (median)
<i>Race</i>	
Malay	230(93.5)
Chinese	7(2.8)
Indian	6(2.4)
Others	3(1.2)
<i>Gender</i>	
Male	123 (50.0)
Female	123 (50.0)
<i>Educational Level</i>	
secondary school	92(37.4)
university/college	154(62.6)
<i>Level of education *(244 subjects)</i>	
Professional	118(48)
Others	123(50)
<i>Income per month(RM)*(220 subjects)</i>	2316(mean)

Table 1 shows the demographic profiles of the subjects. The median age of the subjects was 32 years old, 94% were Malays, 63%

obtained tertiary education, and 48% were professionals. The mean income of the subjects was RM 2316 per month.

Table 2; Means and standard deviations of total scores of items in DASS and HADS.

	N	Mean	Std. Deviation
Total score of anxiety items in DASS	246	9.09	6.46
Total score of depression items in DASS	246	7.49	6.21
Total score of stress items in DASS	246	12.67	7.44
Total score of depression items in HADS	246	3.16	2.30
Total score of anxiety items in HADS	246	5.78	2.81
Total DASS score	246	29.24	18.04
Total HADS score	246	8.94	4.47

Concurrent validity

Concurrent validity of BM-DASS was compared to HADS by analysis of Spearman's correlation coefficient. The correlation analysis showed the value of

0.61 and 0.49 respectively for anxiety and depressive domains in DASS as compared to their respective domains in HADS. The correlation between these 2 domains between the 2 scales is further visualized in figure 1 and figure 2.

Figure 1: Scatter graph between total scores of anxiety items in DASS vs. HADS.

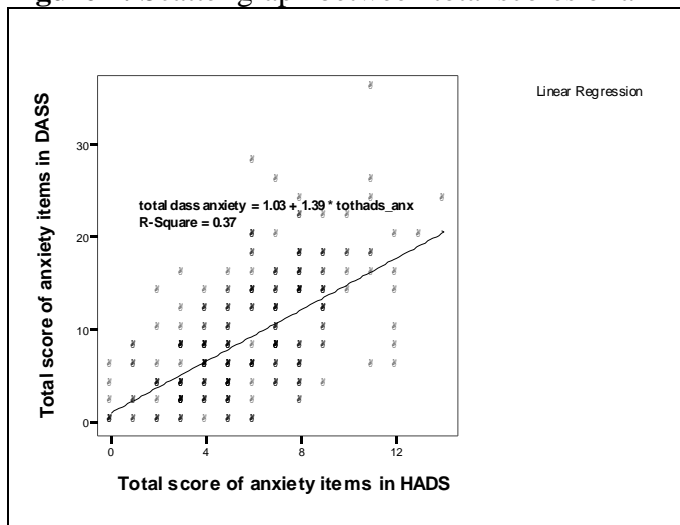
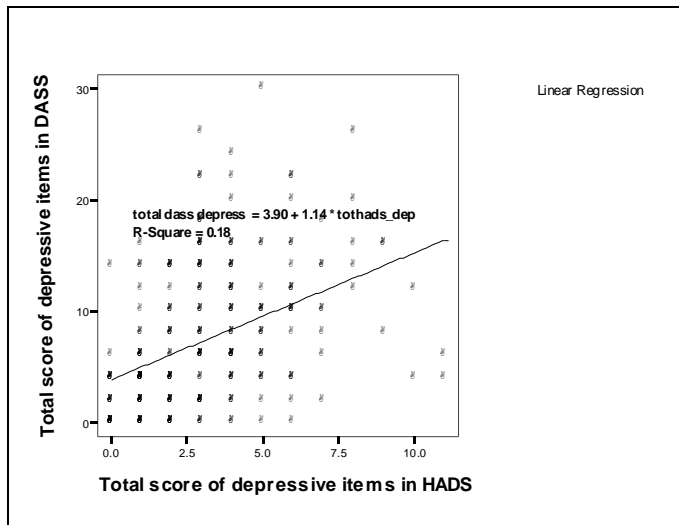


Figure2: Scatter graph between total scores of depressive items in DASS vs. HADS



Since HADS does not have stress domain, we could not compare stress domain in DASS to HADS. When we analyzed the correlation of total DASS score versus total HADS score, we found the correlation value was good; 0.67 ($r^2 = 0.40$). Since the R-square value (r^2) of the correlation is 0.40 , this means it explains 40% of the variance.

Discussion

The HADS was developed by Zigmond and Snaith in 1983. The aim to design this scale was to provide a brief assessment on severity of depression and anxiety. It consists of 14 items, of which seven measure depression and the other seven for anxiety [7]. HADS has a high degree of internal consistency for all 14 items in Malaysian population. The Cronbach's alpha values at baseline were between 0.81 and 0.83 whereas for test retest, the values were from 0.82 to 0.84 [6]. This scale is suitable for clinical or hospital subjects. The non-clinical population is less sensitive to the scale.

As compared to HADS, DASS is designed for research in both clinical and non-clinical populations. Its psychometric properties in both clinical and non-clinical populations

are good. In this study our population was clinical, hence this is not a hampering factor which may influence the psychometric result for both scales.

Items in both HADS and DASS scales are culturally neutral. None of the items in both scales is bond to any culture. The correlations between the domains were fair comparisons as we compared 7 items each from both scales. At glance, anxiety items in DASS are more focus on somatic symptoms as compared to HADS. These questions are assessing on the presence of mouth dryness (item 2), rapid breathing (item 4), hands tremor (item 7), and fast heart beat (item 19). A few items in depressive domain in HADS are assessing the element of anhedonia or loss of enjoyment in life as a form of depressive symptom. This element can be seen in item 2, 10 and 14. Since there are a few different dimensions in both scales, it would give minor effect on the correlation between the scales. This could explain on the modest to good correlations between the domains in DASS and HADS.

The ultimate validity of a scale is its criterion validation in which we can do it by making comparisons to the gold standard.

The concurrent validity is as a form of criterion validity and result of this study is complementing the previous studies in the effort to validate the DASS.

Conclusion

The depressive and anxiety domains in BM DASS-21 are fairly correlated to HADS in the clinical population. Therefore the result of this current study further strengthens the past evidence that the Bahasa Malaysia version of DASS-21 is validated and suitable as a research tool in Malaysian population.

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