REVALIDATION OF THE MALAY VERSION OF THE EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS) AMONG MALAY POSTPARTUM WOMEN ATTENDING THE BAKAR BATA HEALTH CENTER IN ALOR SETAR, KEDAH, NORTH WEST OF PENINSULAR MALAYSIA

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Aim: To reevaluate the psychometric characteristics of the Malay version of the Edinburgh Postnatal Depression Scale among a sample of postpartum Malay women attending the Bakar Bata Health Center in Alor Setar, Kedah, North West of Peninsular Malaysia. Materials and methods: 64 women between 4 to 12 weeks postpartum were recruited for their validation study. They were given questionnaires on socio-demography, the 21-item Malay version of the Beck Depression Inventory II (BDI-II) and the 10-item Malay version of the Edinburgh Postnatal Depression Scale (EPDS). All the participants were later interviewed using the Hamilton Depression Rating Scale (HDRS-17) and the Composite International Diagnostic Interview (CIDI). All diagnoses were made based on the Tenth Edition of the International Classification of Diseases (ICD-10). Results: 9 women (14.1%) were diagnosed to have significant depression (7 mild depressive episodes and 2 moderate depressive episodes according to ICD-10). EPDS was found to have good internal consistency (Cronbach alpha =0.86) and split half reliability (Spearman split half coefficient = 0.83). The instrument also showed satisfactory discriminant and concurrent validity as evidenced by the statistically significant difference in EPDS scores between the depressed group and their non-depressed counterparts (Mann Whitney U test: 2 tailed p value < 0.01) and good correlations between the instrument and both the Malay version of BDI-II and the HDRS-17 (Spearman rank correlation coefficients of 0.78 and 0.88 respectively). At the 11/12 cut-off score the sensitivity of the EPDS is 100%, with a specificity of 98.18%, positive predictive value of 90%, negative predictive value of 100% and misclassification rate of 1.56%. Conclusion: This study confirmed the reliability and validity of the Malay version of the Edinburgh Postnatal Depression Scale in identifying postpartum depression among recently delivered Malay women attending the Bata Bata Health Center in Alor Setar, Kedah, North West of Peninsular Malaysia.

Key words: validation, EPDS, postnatal depression, rating scale


Introduction

Postpartum depression is the most common postpartum psychological disorder with a high degree of morbidity (1) affecting on average 13% of recently delivered mothers (2). It is considered a
major public health problem and has been associated with adverse outcomes for the infant’s cognitive, emotional and social development (3,4). Tragically, 50% of this illness is undetected (5) and even severe postpartum depression can often go unrecognized by those closest to the post-partum mother (6).

In view of the high incidence and the under recognized nature of the illness, it would be helpful to screen mothers in the community to identify those suffering from the condition and refer them for appropriate help (7). The most popular instrument used in investigating and detecting mood disturbance in the postnatal period for women is the Edinburgh Postnatal Depression Scale (EPDS) (5,8,9). Overall, it has shown remarkable stability and comparability in a number of studies involving women from different ethnic and cultural backgrounds (9).

In Malaysia, it was only recently that a proper psychometric evaluation has been conducted among the local population (10). It was conducted in among postpartum Malaysian women in Kelantan, North East of the Peninsular Malaysia. In the present study, the main aim was to repeat the psychometric evaluation but specifically focusing among Malay postpartum women from Kedah, a state in the North West of Peninsular Malaysia.

**Methodology**

A sample of Malay women between 4 – 12 weeks postpartum attending the Bakar Bata Health Center, Alor Setar, Kedah between the months of July and August 2002 were approached for the revalidation study. Those who agreed to participate in the study were given the following questionnaires:

1. Questionnaires on socio-demographic details.
2. 21-item Malay version of Beck Depression Inventory II (BDI-II) (11)
3. The Malay version of the Edinburgh Postnatal Depression Scale (EPDS) (10)

Subsequently all the participants were interviewed using a fully structured interview, Composite International Diagnostic Interview (CIDI) (12) and the 17 item Hamilton Depression Rating Scale (HDRS-17) (13) by one of the authors who was uninformed of the results of the self administered questionnaires. The final diagnoses were made based on ICD-10 (The Tenth Edition of the International Classification of Disease) (14). All results were analyzed using the Statistical Package.
Results

From the 66 women who were approached, 64 agreed and gave informed consent to participate in this study. All of them were married with a mean age of 28.7 (standard deviation = 5.44). Their mean duration postpartum was 55.53 days (standard deviation = 17.84). 70.3% of them were housewives and 98.4% were at least educated until Form 3 (9 years of school education).

The overall mean EPDS score for the participants was 5.27 (standard deviation = 4.63). The median score in the non-depressed women was 4 (inter quartile range = 0 – 6) and 13 (inter quartile range = 12.5 – 14) in the depressed women. Mann Whitney U test for 2 independent samples was carried out to compare the EPDS scores between the two groups and the difference was found to be statistically significant (Mann Whitney U=1.00; 2 tailed p value < 0.01). Using reliability statistics, the internal consistency (Cronbach alpha) was 0.86 and the split half reliability (Spearman split half coefficient) is 0.83. The correlations between the Malay version of the EPDS, BDI-II and the Hamilton Depression Rating Scale were also tested. The Spearman’s rank correlations (Spearman’s rho) were 0.78 and 0.88 respectively. A scatter plot of EPDS scores and ICD-10 diagnoses is shown in figure I.

Nine of the 64 women (14.1 %) were diagnosed to have significant depressive episodes, 7 mild and 2 moderate depressive episodes based on the ICD-10 criteria. Further validity of the Malay EPDS in terms of sensitivity, specificity and positive predictive value at several cut-off scores were determined against ICD-10 diagnoses of major depressive episodes. Receiver operating characteristics of the Malay version of EPDS are shown in table I. The area under the ROC curve was calculated to be 0.998. From the data, the optimum threshold value in detecting depression of varying severity was a score of 11.5 with a sensitivity of 100%, specificity of 98.18%, positive predictive value 90 %, negative predictive value 100 % and misclassification rate of 1.56%.

Discussion

The main aim of this study was to re-evaluate the psychometric performance of the Malay version of the EPDS (10) as a screening instrument to identify postpartum depression among Malay women attending the Bakar Bata Health Center in Alor Setar, Kedah, a state in the North West of Peninsular Malaysia. All the women in this study were Malays compared to women from different racial backgrounds in the original validation study (10).

The same methodology as the initial validation by Rushidi et al (10) was employed with two major improvements. First, BDI-II that was recently validated among postpartum women in the same catchment area (11), was used in place of the Malay version of the GHQ-30 (15) that was never validated among postpartum women. Secondly,
CIDI (12) was used to replace the semi-structured interview, using Clinical Interview Schedule (CIS) (16), in the original validation study. One of the main advantages of using a fully structured interview is that it eliminates the unreliability of clinician diagnoses. Individual clinicians are known to apply their own implicit rules about eliciting and amalgamating information, rules which may differ from those applied by other clinicians, and which may differ from one occasion to another even by the same clinician, thus rendering the clinical diagnoses unreliable (17, 18, 19). The ICD-10 criteria for major depressive episodes (14) was again used as a benchmark against the EPDS.

From the results, the overall performance of the instrument was better than the initial validation study conducted more than a year ago (10). The internal consistency and split half reliability were high (Cronbach alpha coefficient = 0.86; equal length Spearman split half coefficient = 0.83). Discriminant and concurrent validities were quite impressive. These were evident from the significant difference between the EPDS scores in the depressed group compared to their non-depressed counterparts (Mann Whitney U=1.00; 2 tailed p value < 0.01); and the good correlations between the instrument and both the Malay version of BDI-II (11) and the HRDS-17 (13) (Spearman’s rho of 0.78 and 0.88 respectively).

The instrument also displayed very good psychometric properties in detecting depression among a sample of postpartum Malay women attending the Bakar Bata Health Center in Alor Setar, Kedah, North West of Peninsular Malaysia.

Acknowledgements

We would like to thank the women who participated in this study and staff from the Bakar Bata Health Center for their cooperation and assistance.

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