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Validation of the Turkish version of the Edinburgh Postnatal Depression Scale among women within their first postpartum year

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Abstract *Background* The aim of the study was to find out the validity and reliability of the Turkish version of the Edinburgh Postnatal Depression Scale (EPDS) and to determine the optimum cut-off value for postnatal depression. *Method* Validation of the Turkish version of the EPDS was conducted on a sample of 341 women who were within their first postpartum year. Structured Diagnostic Interview for DSM-IV Axis I Disorders was used as the gold standard test, and receiver operating characteristic analysis was used to evaluate test performance of the EPDS. *Results* The study of sensitivity, specificity and predictive values versus SCID-I indicated a cut-off score of 12.5 as the best (sensitivity: 75.5, specificity: 71.5). Positive predictive value was 30.3% and negative predictive value was 94.5%. Cronbach's alpha value was calculated as 0.72. *Conclusions* It was concluded that: (1) values for the validity were respectable, but not excellent; (2) the scale needs to be improved for use in the Turkish population; and (3) the high prevalence of postnatal depression found in this study may be a function of the low validity of the test.

Key words validation – postnatal depression – Turkish women – sensitivity – specificity

Introduction

Previous studies have shown that postnatal depression (PND) affects at least 10–20% of women in their first postpartum year (O'Hara et al. 1984) and that many depressed mothers remain undiagnosed and untreated. These mothers may still be able to cope with their baby and with household tasks, but their enjoyment of life is seriously affected and it is possible that there are long-term effects on the family. PND also has negative consequences on mothers' social relationships and on maternal and child health (O'Hara et al. 2000). Less severe presentations of depressive illnesses are often missed and frequently dismissed by patients and healthcare professionals as normal after childbirth.

The World Health Organisation (WHO 2001) has recently reported that mental health problems have high prevalence worldwide, and that the management and treatment of mental disorders in primary care is a fundamental step in order to improve mental health. In this regard, developing screening tools for mental disorders is gaining more importance. The Edinburgh Postnatal Depression Scale (EPDS) (Cox et al. 1987) has been developed to assist primary care health professionals to detect mothers suffering from PND. It consists of ten short statements. The mother indicates which of the four possible responses is closest to how she has been feeling during the previous week. It was initially validated in the United Kingdom (Cox et al. 1987) and several validation studies have been conducted since 1987 (Harris et al. 1989; Murray and Carothers 1990; Boyce et al. 1993; Jadresic et al. 1995; Wickberg and Hwang 1996; Ghubash et al. 1997; Guedeny and Fermanian 1998; Hawley and Gale 1998; Lawrie et al. 1998; Lee et al. 1998; Benvenuti et al. 1999). Also, in one study, this scale was translated into Turkish and tested for reliability in Turkish women (Engindeniz et al. 1996). This latter study concluded that

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the sensitivity and specificity of the scale was found to be 84% and 88%, respectively, when the cut-off value was accepted as 12.5 and the value of Cronbach's alpha was 0.79.

In a previous study with Turkish women, we found the prevalence of PND as 34.6% with the EPDS (unpublished data). We were concerned that this prevalence was very high, and we suspected that one of the reasons was the low validity of the Turkish EPDS, which is the basis for this re-validation study. Therefore, in the present study, we aimed to find out the validity and reliability of the Turkish version of the EPDS and to determine the optimum cut-off value for PND. We also aimed to compare our results with those of the previous validation study and to suggest practical recommendations for the use of the EPDS in general.

Subjects and methods

Subjects

The study population consisted of 1750 women who were within their first postpartum year, 352 of them attended primary health care clinics in the province of Erzurum from June to October 2001. Five women did not agree to be interviewed, six women were excluded due to psychiatric treatment history, and finally, 341 women participated in the study. Written informed consent was obtained from each woman before the interview.

The Turkish version of the EPDS had been translated into Turkish for a previous study by a psychiatrist. Another psychiatrist had performed back-translation into English in the same study. A pilot study was then carried out on women in a hospital (Engindeniz et al. 1996).

In our study, the EPDS was self-administered by all women except for those who were not literate. A research assistant assisted illiterate women in completing the questionnaires. Concurrent validity and internal reliability of the EPDS were evaluated. After the administration of the scale, a psychiatric interview was conducted by a mental health professional with all women for signs of depression. The professional who conducted the psychiatric interviews was blind to the results of the EPDS (she did not know the EPDS results of the participating women), and used the Turkish clinical version of Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), Clinical Version (Corapcioglu et al. 1999). SCID ascertains the presence and severity of psychological signs and symptoms during the 2 weeks prior to the interview. Women who participated in this study did not have previous psychiatric treatment history. Participants were categorised as having major depressive disorder, minor depressive disorder or not having depression according to the SCID-I. Cases of definite major depressive disorder were defined with the presence of SCID criterion A (which contains different symptoms of dysphoric mood) and of five symptoms of criterion B (with eight depressive symptoms). The diagnosis of minor depression was made when women expressed at least two (but fewer than five) symptoms of depression, depressed mood or anhedonia over a 2-week period and when the mental health professional made a clinical diagnosis of depression.

Statistical analysis

Using one-way analysis of variance, we compared mean scores obtained from the EPDS according to postpartum period in months. In order to determine the optimum cut-off value for the PND, sensitivity, specificity values, and predictive values were calculated and receiver operating characteristic curve was performed.

Results

A total of 341 women agreed to participate in this study. The mean age and standard deviation of the participants was 26.6 ± 4.8 years and the median number of children was 2. Of all women, 7% were illiterate, 9.7% had no formal education, 55.4% had primary education, 29% had completed secondary education, and 5.9% had tertiary education. A great majority of women (91.3%) were housewives and only 8.7% had a paid job outside of the house. Interviews by postpartum months are presented in Fig. 1.

The overall mean score from the EPDS was calculated as 10.8 ± 5.0 . While percentage of the PND according to SCID was 14.4, it was 35.8 according to the EPDS if the cut-off value is accepted as 12.5. Sensitivity, specificity, confidence intervals and positive predictive values by cut-off scores are shown in Table 1.

Cronbach's alpha value was calculated as 0.76 and the area under the curve was found to be 0.72. Fig. 2 shows the graph of the receiver operating characteristic curve. According to our results, optimal cut-off value for major and minor depression was 12.5.

The difference of means in the first and second 6 months was not statistically significant ($t = 1.8, p = 0.07$).

All together we identified 18 false negatives for major and minor depression. The distribution of false negatives by the survey technique (i. e. self-administered vs. administered by an interviewer) is presented in Table 2. We were concerned that the mode of administration of the scale could affect the outcomes and we tabulated our data according to this information.

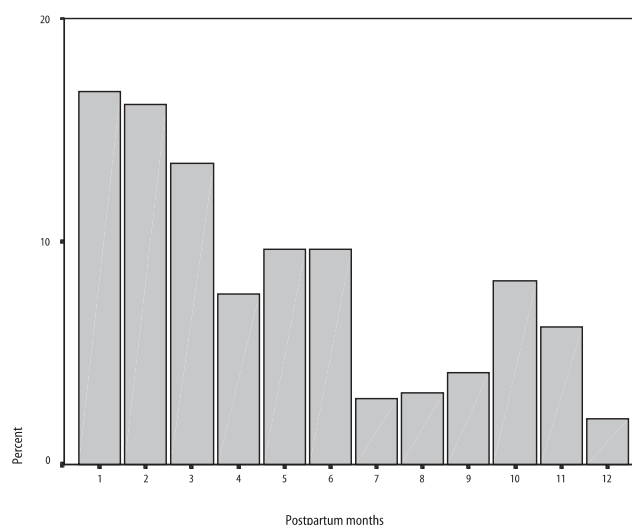


Fig. 1 Distribution of the participants of the EPDS validation study for the Turkish version by postpartum period in months