



Validation of the Tamil version of Edinburgh post-partum depression scale

Benjamin D, Chandramohan A, Annie IK, Prasad J, Jacob KS

Community Health and Development Hospital, Christian Medical College, Vellore.

OBJECTIVE(S): To validate the Tamil version of the Edinburgh Postpartum Depression Scale (EPDS) as a screening instrument to identify depression in the postpartum period.

METHOD(S): Consecutive patients in the postpartum period, attending a primary health care center and its outreach clinics in Vellore, rural Tamil Nadu, were screened for depression using the Tamil version of the EPDS. The subjects were also interviewed using the Revised Clinical Interview Schedule (CIS-R). The International Classification of Diseases-10 (ICD-10) criteria for postnatal depression were used. Various thresholds of the EPDS were compared against the standards of the ICD-10. A receiver operator characteristic curve was drawn to obtain the best threshold value for screening.

RESULT(S): Seventeen (13.2%) of the subjects interviewed satisfied ICD-10 criteria for postnatal depression. The optimal threshold for the EPDS was 8/9. This threshold had a sensitivity of 94.1% and a specificity of 90.2%. The area under the curve was 0.921.

CONCLUSION(S): The sensitivity and specificity of the Tamil version of the EPDS is high. The instrument can be employed for screening for depression in the postnatal period.

Key words : depression, postpartum, screening

Introduction

Postnatal depression is common and has been often reported from India. The prevalence rates documented from recent Indian studies have ranged from 19.8 to 23.3%^{1,2}. Depression in the postnatal period is also associated with malnutrition in the child^{1,3}. The Edinburgh Postpartum Depression Scale (EPDS)⁴ is commonly used to screen for postnatal depression. Konkani¹ and Tamil version² have been used in India. This paper examines the validity of the Tamil version of the EPDS for screening for postnatal depression in patients attending primary care in rural Tamil Nadu.

Paper received on 13/02/2004 ; accepted on 18/03/2005

Correspondence :

Dr. K S Jacob

Department of Psychiatry, Christian Medical College,
Vellore 632 002 India.

Tel. + 91 416 2284513 Email : ksJacob@cmevellore.ac.in

Methods

Consecutive patients who attended the postnatal clinic of the primary health care center in Tamil Nadu, and its outreach clinics were recruited for the study. Informed consent was obtained. The Tamil version of the EPDS² and the Revised Clinical Interview Schedule (CIS-R)⁵ were used to screen and to confirm postnatal depression respectively.

As a significant proportion of the local population is not literate, the EPDS was verbally administered to all subjects to ensure uniformity. The subjects were then interviewed using the CIS-R. Algorithms were developed to lead to an International Classification of Diseases-10 (ICD-10) postnatal depression diagnosis⁶.

Thresholds of the EPDS were compared against the standards of the ICD-10. A receiver operator characteristic curve was drawn to obtain the best threshold value for screening. A

sample size of 121 was obtained, using the computer program EPI INFO 2000, based on the following assumptions: an estimated prevalence of 19%² and an estimate of error of $\pm 6\%$. SPSS for windows release 11.0 was used to analyze the data.

Results

One hundred and twenty nine subjects consented to take part in the study. The mean age was 23.4 ± 3.3 years (range 17-35 years). All the subjects were married and spoke Tamil.

The mean EPDS score was 4.5 ± 5.7 while the mean CIS-R score was 5.0 ± 7.9 . Seventeen (13.2%) of the 129 subjects interviewed satisfied ICD-10 criteria for postnatal depression. The thresholds of the EPDS were compared against the standards of the ICD-10. The sensitivity and specificity of the different thresholds of the EPDS is shown in Table 1. The optimum threshold for screening, obtained using a receiver operator characteristic curve, was 8/9 (Figure 1). This threshold had a sensitivity of 94.1% and a specificity of 90.2%. The area under the curve was 0.921.

Discussion

This study validated the Tamil version of the EPDS. The Optimal threshold for screening was 8/9. The instrument

Table 1: The sensitivity and specificity for different thresholds of the Edinburgh Postnatal Depression Scale against the standards of the International Classification of Diseases-10.

Threshold	Sensitivity (%)	Specificity (%)
0/1	100.0	39.3
1/2	100.0	53.6
2/3	100.0	63.4
3/4	100.0	72.3
4/5	100.0	75.0
5/6	100.0	76.8
6/7	94.1	83.0
7/8	94.1	88.4
8/9	94.1	90.2
9/10	82.4	92.0
10/11	76.5	92.9
11/12	76.5	96.4
12/13	64.7	96.4
13/14	52.9	96.4
14/15	41.2	97.3
15/16	29.4	97.3
16/17	29.4	97.3
17/18	23.5	99.1
18/19	17.6	100.0
19/20	17.6	100.0
20/21	17.6	100.0
21/22	11.8	100.0
22/23	11.8	100.0
23/24	11.8	100.0
24/25	5.9	100.0

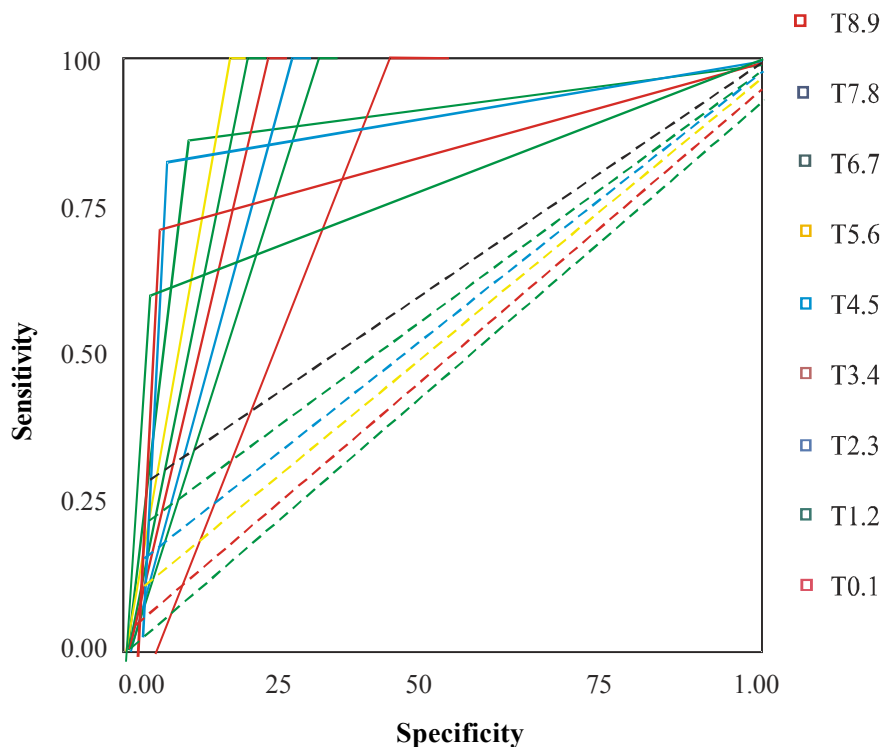


Figure 1. Receive operator characteristic curve : Edinburgh Postnatal Depression Scale against the International Classification of Diseases - 10 criteria as gold standard

was easy to translate and administer as it was brief and did not contain technical terms. The sensitivity and specificity of this threshold were high.

The English version documented an optimal threshold for screening postnatal depression as 12/13 with a sensitivity of 86% and a specificity of 78%⁴. The Konkani version reported a threshold of 11/12 with a sensitivity of 85% and 92% respectively¹. The differences in threshold when employed in different populations emphasize the need to validate the instrument prior to its use.

The Tamil version of the EPDS has high sensitivity and specificity for the identification of depression. Its ease of administration makes it a valuable tool for screening for postnatal depression.

References

1. Patel V, Rodrigues M, DeSouza N. Gender, poverty, and postnatal depression: A study of mothers in Goa, India. *Am J Psychiatry* 2002; 159:43-7.
2. Chandran M, Tharyan P, Muliyl J et al. Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India. *Br J Psychiatry* 2002; 181:499-504.
3. Anoop S, Saravanan B, Joseph A et al. Maternal depression and low maternal intelligence as risk factors for malnutrition in children: a community based case-control study from South India. *Arch Dis Child* 2004; 89: 325-9.
4. Cox JL, Holden JM, Sagovsky R. Detection of Postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry* 1987; 150:782-6.
5. Pothan M, Kuruvilla A, Philip K et al. Common mental disorders among primary care attenders in Vellore, South India: Nature, prevalence and risk factors. *Int J Soc Psychiatry* 2003; 49: 119-25.
6. World Health Organization. International Classification of Diseases-10: Clinical descriptions and diagnostic guidelines. *WHO: Geneva. 1992.*