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Validation of the Thai Edinburgh Postnatal Depression Scale for screening postpartum depression

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Abstract

This study aimed to validate and determine an appropriate cut-off score on the Thai Edinburgh Postnatal Depression Scale (EPDS) as a screen for postpartum depression. A prospective cohort of postpartum women at 6–8 weeks were tested using the EPDS and clinically interviewed by psychiatrists to establish a DSM-IV diagnosis of major or minor depressions in a university hospital in Southern Thailand. Of 351 postpartum women interviewed, 38 postpartum women met the criteria for depressive disorders, major depression in four women (1%) and minor depressive disorder in 34 women (10%). The area under the curve was 0.84 (95% confidence interval 0.76–0.91). Using an EPDS cut-off sum score of 6/7, major and/or minor depression was detected with a sensitivity of 74%, specificity of 74%, positive predictive value of 26% and negative predictive value of 95%. When the cut-off score was higher, the sensitivity was lower but the specificity was higher. The Thai version of the EPDS is a valid self-report instrument and is useful in Thailand where no other screening instrument for postpartum depression is available.

Keywords: Postpartum depression; Edinburgh Postnatal Depression Scale, EPDS; Thailand

1. Introduction

Depression is a serious mood disorder that commonly occurs during 4–6 weeks of the postpartum period (Elliott, 1989; Hostetter and Andolsek, 1990; Sichel, 2000). Symptoms of postpartum depression are similar to general depressive complaints such as depressed mood, loss of interest, and guilt or suicidal ideas, which will affect mother–baby interactions and family relationships. The most common diagnostic criteria set used to define depression is the Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition (DSM-IV) (American Psychiatric Association, 2000). The structured clinical interview for DSM-IV requires psychiatrists or training professionals to clarify depressive symptoms. The development of a screening instrument that is self-reported and accurate is essential for early detection. However, some signs and symptoms of depression such as sleeping difficulty, loss of appetite or fatigue may be presented during the normal postpartum period; thus screening instruments for detecting depression in the general population are not always appropriate (Beck and Gable, 2001).

Cox et al. developed the Edinburgh Postnatal Depression Scale (EPDS) in 1987 (Cox et al., 1987), containing 10-item self-report statements with four rating

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scales of each item ranging from 0 to 3 and specifically detects symptoms during the last week. Its items contain an anxiety and depressive symptom subscale (Brouwers et al., 2001). This instrument is a widely accepted screening scale that is used internationally and has been translated into various languages and tested worldwide in Chinese, Vietnamese, Taiwanese, French, Dutch, Arabic, Australian, Chilean, Swedish, Italian, Portuguese, and Japanese women (Affonso et al., 2000). However, it has not been fully translated and validated into Thai, and there is no specialized screening instrument for postpartum depression in the Thai population.

A cut-off score to define "women at risk" is essential for a screening instrument. A review of validation studies of the EPDS showed the variation of sensitivity and specificity (Eberhard-Gran et al., 2001). The use of a screening instrument in postpartum women before specific symptoms emerge is in accordance with the concept of screening for early detection. In addition, establishment of a cut-off point of positive and negative results may be misleading and have a lower power. Level-specific likelihood ratios called multilevel likelihood ratios reveal more information and have greater power (Straus et al., 2005). Appropriate cut-off scores have also varied depending on the study population (Buist et al., 2002; Fergerson et al., 2002); thus the scale should be validated before it is widely used. The objectives of this study were to validate the Thai version of the EPDS and to determine the appropriate cut-off score, sensitivity, specificity, positive predictive value and negative predictive value of the instrument for screening postpartum depression.

2. Methods

This study project was approved by the Institutional Ethics Committee of the Faculty of Medicine, Prince of Songkla University, and conducted in a university hospital in the South of Thailand from October 2003 to July 2004. This public hospital provides service to women within both rural and urban areas. There is no problem of inequity or inaccessibility of services. Most pregnant women give birth in the health services. No screening policy to assess postpartum depression has been established in this hospital. Women were usually taken to the hospital by family members when they presented severe depressive symptoms and were interviewed using DSM-IV before receiving treatment from psychiatrists.

The consecutive cohort of pregnant women with 36–40 weeks of gestation who planned to deliver and receive follow up care during the postpartum period in this hospital were invited and signed the consent form if they were willing to participate. Women who had a language problem and current treatment for psychiatric problems were excluded. Delivery and postpartum schedules were checked and 6 weeks postpartum was a routine appointment. The preliminary analysis to estimate the incidence of any postpartum depressive disorders with 10% prevalence, 75% sensitivity, 15% acceptable error and 95% confidence interval indicated that at least 330 postpartum women were needed.

The Thai version of the EPDS was translated from the original EPDS (Cox et al., 1987) and checked via back translation (Beck et al., 2003). Pretesting of the English and Thai versions of the EPDS was done on 10 postpartum women who understand both Thai and English. These pretest samples were informally selected by nurses, doctors, dentists or pharmacists during 6–8 weeks postpartum. Item number 6 of the EPDS "Things have been getting on top of me" was difficult to understand and needed to be explained to some because it is colloquial and not commonly used in Thailand. There were no significant differences in EPDS scores of both versions at postpartum by paired *t* test. The internal consistency of the final version of the Thai EPDS was 0.8. Back translation showed complete congruence with the original English, but "Things have been getting on top of me" in the final Thai version was changed to "Things have made me unhappy and anxious" to ensure that it was locally meaningful.

Enrolled postpartum women completed the self-report Thai EPDS in a private area before or while waiting for a routine postpartum check-up; then they were interviewed by psychiatrists. Two psychiatrists standardized their semi-structured interview according to the Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition (DSM-IV 1994) which is the most common system used to diagnose depression in Thailand. Major depression was diagnosed when criterion A (at least one of depressed mood or loss of interest or pleasure) and five symptoms of criterion B according to DSM-IV were present. The diagnosis of minor depression was made when women expressed at least two but fewer than five symptoms in criterion B. Women without any symptoms or psychiatric problems were defined as normal.

To screen early stage of depression, both minor and major depressions were defined as a gold standard of diagnosis in this study. The psychiatrist who performed the interview did not know the EPDS score and established the diagnosis. Demographic and obstetric characteristics were recorded. Demographic variables included age, religion, income, marital status and education. Obstetric variables were the number of pregnancies,