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# The Edinburgh Postnatal Depression Scale: Translation and antepartum validation for a Hungarian sample

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ABSTRACT

*Objective:* the Edinburgh Postnatal Depression Scale (EPDS) is an important screening instrument routinely used during the peripartum period for the identification of depression. The purpose of the study was to assess the validity of the 10-item EPDS in screening for antepartum depression (APD) in Hungary.
*Design:* validation study carried out between July and December 2010.
*Setting:* Department of Obstetrics and Gynecology, University of Szeged, Hungary.
*Participants:* 219 women attending a routine check-up at 12 weeks *antepartum*.
*Interventions:* participants completed the newly translated Hungarian version of the EPDS and underwent a clinical assessment with the Structured Clinical Interview for DSM-IV disorders (SCID-I).
*Measurement and findings:* seven (3.2%) of the mothers were diagnosed with major antepartum depression and 15 persons (6.85%) with minor depression on the basis of the SCID. Internal consistency of the EPDS was satisfactory (Cronbach $\alpha$ coefficients $\geq 0.728$). The best cut-off on the Hungarian version of the EPDS for major depression was 8/9, with a sensitivity of 71.4%, and a specificity of 91.5%. The area under the ROC curve was found significant for combined depression as well and at a cut-off of 6/7 indicated a sensitivity of 81.8% and a specificity of 83.2%.
*Key conclusions:* the EPDS showed acceptable validity despite a considerable scatter in the total scores in our sample.
*Implication for practice:* the EPDS is a reliable instrument for the screening of depressive disorders, especially major depressive disorder in early pregnancy among Hungarian women.


## Introduction

Considerably more attention has been focused on postpartum as opposed to antepartum mental illness. In spite of this, not only antepartum but also postpartum depression often remains unrecognised (Glover, 1997). The lesser interest in antepartum depression (APD) has been attributed to the misconception that women were hormonally protected from mood disorders during pregnancy (Spinelli, 1997). APD is a strong predictor of a number of unfavourable obstetric events (low birth weight, premature birth and growth retardation) (Grote et al., 2010), and APD can precede postpartum depression (PPD) (Eberhard-Gran et al., 2001).

The signs of depression during pregnancy are the same as those in general. APD is a unipolar, non-psychotic depressive episode, beginning in or extending into pregnancy. Almost every fourth pregnancy is accompanied by depressive symptoms (Noble, 2005). However, these depressive symptoms often go unnoticed, because people around the mother do not recognise them and depressed mothers often try to hide them due to a fear of others questioning

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their abilities to care for the child, leading to a lack of support (Zuckermann et al., 1989; Noble, 2005). Self-report scales can help to detect these cases.

The Edinburgh Postnatal Depression Scale (EPDS) is the most widely used screening questionnaire for PPD (Bunevicius et al., 2009; Gibson et al., 2009), but it is only rarely used *antepartum*. Formerly, the EPDS was mostly validated in the *postpartum* period and it is often used as a screening tool for pregnant women with postnatally determined cut-offs (Bennett et al., 2004). It has been recently recognised that cut-offs could be different during and after pregnancy, as shown by a number of antepartum validation studies (Murray and Cox, 1990; Adewuya et al., 2006; Felice et al., 2006; Su et al., 2007; Bunevicius et al., 2009; Gibson et al., 2009). Although depression seems fairly prevalent in the antepartum period, a distinction between major and minor depression has often been neglected in the literature (Eberhard-Gran et al., 2001; Gibson et al., 2009) and data on minor depressive disorder were reported very rarely (Anastasia, 1990; Gibson et al., 2009).

These observations led us to design the present study with the main objective to validate the EPDS for the screening of APD in a clinical sample of women, in Hungary for the first time, using the non-patient version of the Structured Clinical Interview for DSM-IV disorders (SCID), Axis I Disorders (American Psychiatric Association, 1994), as the standard criterion for the diagnosis of depression and comparing the psychometric characteristics of the EPDS. We predicted good internal consistency for the EPDS and that it would show acceptable sensitivity and specificity for detecting both minor and major APD.

Our second objective was to assess the ability of the EPDS to distinguish major and minor APD. Also, we wanted to examine the multidimensional characteristics of this scale regarding the anxiety- and depression-related aspects of APD, with a factor analytic approach.

## Methods

### *Study design*

We initially invited 221 pregnant women who attended the Department of Obstetrics and Gynecology, University of Szeged, for a prenatal visit at roughly 12 weeks' gestation between July and December 2010. They all gave informed consent to participate. The sample was randomly selected from women residing within the Szeged locality. Inclusion criteria were fluency in spoken and written Hungarian and signed informed consent. Two participants (0.9%) were excluded because they were suffering from psychiatric conditions other than APD (depression in the context of organic causes). Eventually, 219 women participated in the interview-based questionnaire study.

### *Procedures*

#### *The Hungarian version of the EPDS—translation and pilot study*

The 10 items of the EPDS were translated by two translators (R.D., Z.K., health professionals specialising into psychiatry and obstetrics, respectively, and R.D. holding a university degree in translation and working in an English language environment). A trainee Clinical Psychologist (B.A.) proficient in English who had not used the original instrument then back translated it into English. The backward translation was sent to the principal investigator (A.T.) and medical translators. The questionnaire was culturally adapted through detailed discussions and the semantic validity of each item was checked. We tried to ensure that respondents would understand the meaning of the questions well (Bowling, 2002). During this stage, the Hungarian version of the EPDS was piloted with 4 mothers. As part of the cultural adaptation process, in-depth interviews were carried out with them to check their understanding of the questionnaire, to detect inappropriately interpreted items and to examine translation alternatives. The participants of this pilot rated the clarity of each item, the relevance of the content to their situation, the comprehensiveness of the instructions, and their ability to complete the questionnaire on their own. Finally, the definitive version was unanimously accepted (Cox et al., 1987).

### *Data collection*

Pregnant women attending antepartum check-up at roughly 12 weeks' gestation were invited to participate in our study as a random sample. Those who agreed to participate were given a letter explaining the purpose of the study, providing the researchers' affiliation and contact information, and clearly stating that answers would be confidential and anonymity would be guaranteed in the final data reports. Participants then completed the EPDS without the principal investigator (A.T.) being able to see their responses. The principal investigator then, blind to the EPDS score, has carried out the SCID interview. The principal investigator, who made the diagnosis based on the SCID, had obtained training in the use of the SCID and in the diagnosis of major and minor depression. As regards the minor depressive symptoms, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria set reported in the 'Criteria and Axes for Further Studies' (i.e. the presence of depressed mood or loss of interest in activities with at least one but less than four additional symptoms such as guilt feelings, indecisiveness, suicidal ideation, etc.) were adopted. Minor depression was diagnosed with either (1) depressed mood or anhedonia and one to three criterion symptoms or (2) three or more criterion symptoms in the absence of depressed mood or anhedonia. Major depression is a mental disorder that is often confused with minor depressive disorders but has a different clinical outcome. Both diagnoses require that depressive symptoms cause significant social and occupational dysfunction, as specified by DSM-IV (American Psychiatric Association, 1994; First et al., 1997).

The study protocol and the questionnaire were approved by the Clinical Research Ethics Committee of the University of Szeged (date: 3 July 2010, Ref. no.: 49/3/118). The study was carried out according to the Principles of the Declaration of Helsinki. Informed consent was obtained from all the subjects recruited into the study. Two participants had not yet turned 18 at the time of recruitment; therefore, their legal representatives provided informed consent on their behalf. Women identified as in need of psychiatric treatment were referred on for treatment as appropriate.

### *Assessment instrument*

The EPDS is a 10-item self-report questionnaire consisting of statements describing depressive symptoms and women are asked to rate how they have felt in the previous 7 days. Each question is scored on a scale from 0 to 3 (resulting in a total score range of 0–30), depending on the severity or duration of each symptom, and completion takes around 5 mins (Cox et al., 1987). The 10 symptoms of depression included are as follows: inability to laugh and look forward to things with enjoyment, blaming oneself unnecessarily, feeling anxious or worried, feeling scared or panicky, inability to cope, difficulty in sleeping, feeling sad or miserable, crying, and thoughts of harming oneself (Cox et al., 1987).

### *Reliability*

Reliability coefficients as measured by Cronbach's $\alpha$ were calculated for the EPDS in order to assess reproducibility and