

## Self-Rating Assessment of Postnatal Depression: A Comparison of the Beck Depression Inventory and the Edinburgh Postnatal Depression Scale

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**Abstract:** None available.

**Full Text:** Headnote ABSTRACT: Two self-report rating scales of depression, the Beck Depression Inventory and the Edinburgh Postnatal Depression Scale, were administered simultaneously to a large sample of new mothers at two and six months postpartum. Scores computed as continuous variables yielded high correlation coefficients at both moments of measure. Classification of subjects on the basis of recommended cutoff points yielded identical frequencies and defined similar patterns of onset and recovery, but showed a high degree of discrepancy between the two scales in the identification of dysphoric individuals. A preliminary examination of this low concordance revealed distinct response patterns belonging to divergent subgroups, suggesting that the two instruments are differently attuned to the various aspects of postnatal depression presentation. The recent resurgence of interest in mild to moderate postpartum depression has intensified the need to confront the methodological issues that plague the field of postnatal research. Assessment strategies for the screening of postpartum depression have been so diverse and inconsistent as to hamper the meaningful comparison of studies, hence compromising the development of a cumulative body of knowledge. The lack of consensus regarding the definition of postnatal disorders has translated into widely varying experimental designs, with the use of different measurement methods mirroring the absence of conceptual agreement. Main differences concern the type and number of instruments (clinician vs self-report scales, single vs multiple assessment strategies), selection of cutoff scores and definition of measurement period. At the same time as the need for standardization is being felt, there is growing evidence that existing screening procedures are ill-suited to the perinatal period (Huffman et al., 1990). Symptomatic overlap between depression and normal features of pregnancy and postpartum adjustment has led researchers to modify existing scales or create new ones (Cox et al., 1987). In the absence of common guidelines however, increased specificity tends to be achieved at the expense of homogeneity. If a measure of standardization is to be attained, a more systematic scrutiny of various assessment methods' liabilities and assets in the perinatal context seems in order before any meaningful revision of current practices can take place. In the light of the need for a unification of screening procedures, self-rating scales or questionnaires seem especially suited to the standardization of assessment strategies. Considering that they are relatively inexpensive, easy to use, and that their administration requires little time or previous training, they lend themselves to generalized use more readily than clinician ratings. On the other hand, their obvious pitfalls in the postpartum context is that self-rating depression scales do not benefit from a clinician's judgment when weighing symptoms which may be normative in the perinatal period while being otherwise considered as hallmarks of depression (sleep and appetite disturbances, decreased energy, dissatisfaction with body image, loss of libido, etc.). If the use of clinician ratings is deemed too expensive to be realistically recommended as standard procedure, some fine tuning of existing self-rating scales must be completed before they can reasonably be relied upon. The purpose of the present study is to compare the relative merits of two such instruments by applying them simultaneously to a large sample of new mothers. The juxtaposition of a widely used scale, the Beck Depression Inventory (BDI), considered as a standard in its class, with one that has been constructed specifically for the post-partum, the Edinburgh Postnatal Depression Scale (EPDS), is intended to yield detailed information on the possible inadequacies of the former while highlighting any benefits offered by the latter, with subsequent recommendations regarding their applicability in the context of perinatal research. **METHOD** Subjects recruited during pregnancy were visited in their home by a clinical

psychologist at two and six months postpartum. As part of an ongoing research on the detection of postpartum depression (David et al., 1993; Saucier et al., 1993), the BDI was administered from the onset at both home visits, while the inclusion of the EPDS came later with the study already in progress, so that 154 women were administered the EPDS at two and six months postpartum and an additional 122 women filled an EDS form at six months postpartum only. BDI scores were available for all. Subjects Women expecting their first (56.6%) or second child (43.4%) were referred by their physician or recruited through advertisements in local newspapers. Subjects were considered eligible for participation if they were aged twenty or more, spoke French, and gave informed consent. Measures Beck Depression Inventory-Short Form (BDI). The Beck Depression Inventory (Beck et al., 1961), considered as a sensitive measure of syndrome depression, has come to serve as the standard among self-rating scales of depression (Rabkin and Klein, 1987) and is widely used in postpartum research (Huffman et al., 1990; Whiffen, 1988). The short form is used in this study in order to avoid contamination from somatic items such as weight loss and change in sleeping habits without compromising the established psychometric qualities of the scale. As elaborated by Beck and Beck (1972), the 13-item short form retains a high degree of internal consistency and concurrent validity both with the long form and with clinician's ratings of depression (Beck and Beamesderfer, 1974; Reynolds and Gould, 1981). On the basis of guidelines provided by Beck and Beck (1972), a cutoff score of 7/8 was adopted for the classification of subjects. Edinburgh Postnatal Depression Scale (EPDS). The Edinburgh Postnatal Depression Scale (Cox et al., 1987) was developed to counter the limitations of well established scales when used on childbearing women. The 10-item self-report scale was found to have satisfactory sensitivity and specificity, both in its original validation and in a more recent study involving a large community sample (Murray and Carothers, 1990). In accordance with the authors' suggestion, a cutoff score of 12/13 was adopted. RESULTS When scores obtained on the two indexes were computed as continuous variables, the comparison of the self-rating scales yielded high correlations, both at two months ( $r = .67, p < .001$ ) and six months postpartum ( $r = .79, p < .001$ ). When scores were used to produce categorical variables, the classification of subjects on the basis of recommended cutoff points yielded almost identical frequencies, the BDI reporting 8.1% at two months postpartum and 12.2% at six months postpartum, for a total incidence of 15.7%, while corresponding figures for the EPDS were 7.8%, 13.4% and 15.6% respectively. While the total number of cases detected was then remarkably similar, the two scales more often than not failed to identify the same individuals. At two months postpartum, there was only 21% agreement between the BDI and the EPDS. In 37% of cases women met BDI criteria but not EPDS criteria, and in 42% of cases women met EPDS criteria but not BDI criteria. At six months postpartum, agreement was somewhat more substantial, reaching 51%. In 26.5% of cases, women met BDI criteria but not EPDS criteria, and in 22.5% of cases, women met EPDS criteria but not BDI criteria. DISCUSSION The low concordance of classifications achieved by the two scales was all the more striking given the high level of agreement suggested by the balance of our data. Correlation coefficients obtained on the basis of continuous scores would lead one to think that the two instruments tapped into similar dimensions, garnering information apparently so closely related as to seem almost redundant. Classification of subjects on the basis of cutoff scores showed the two scales to be equally sensitive, yielding almost identical frequencies of all moments of measure. The similarities went even further in that the two instruments delineated similar patterns of onset and recovery. According to both scales, roughly half the cases were detected at two months and the remainder at six months postpartum. Both instruments indicated that slightly more than half of the cases of dysphoria detected at two months postpartum no longer met criteria at six months postpartum. While these many areas of agreement could have been expected from two instruments of similar nature purporting to measure the same thing, they make the low percentages of overlap between actual cases detected even more outstanding. In an attempt to uncover factors possibly involved in obtaining such low concordance, we looked at the response patterns belonging to convergent and divergent dysphoric subgroups on both scales. This exploratory search for a differential use of items (or differential acknowledgement of symptoms) entailed the comparison of 60 sets of BDI and EPDS

forms filled at two and six months postpartum, each having at least one result reaching the cutoff score. We compared the 28 cases where both scales agreed on positive classification with the 32 that did not. Within the divergent subsamples, we compared the 14 positive BDI with the 18 negative BDI, and the 18 positive EPDS with the 14 negative EPDS. In examining each case of discrepancy, we compared 14 positive BDI with 14 negative EPDS and 18 negative BDI with 18 positive EPDS. The comparative study of item use across the two scales can be informative to the extent that both instruments aim at the detection of similar symptomatology. Although not identical in form or content, there is much overlap between the 23 items of the EPDS and the BDI: both scales attempt to cover dimensions of sadness (with items such as low mood, sadness, crying), negative attitude (pessimism, dissatisfaction, lack of pleasurable anticipation), coping (efficiency, indecisiveness, coping, work ability, fatigue), low self-esteem (self-dislike, sense of failure, self-image) and anxiety (anxiety, fear and panic). Although we started by scrutinizing the responses obtained at two months postpartum and then examining the raw data collected to six months postpartum, the following observations can be applied indifferently to the whole sample, no detectable change occurring in the later postpartum. We did find distinct patterns of response linked respectively to positive and negative classification on each scale. Namely, positive BDIs were characterized by the acknowledgment of guilt and coping difficulties, with these items almost never being an issue in a BDI that did not reach the cutoff point (for a subject nonetheless classified as dysphoric by the EPDS), a difference significant at the .006 level for guilt and 0.35 for coping. A positive EPDS was always clearly admitting of sadness and anxiety (including fear notably), these items being most conspicuously absent from EPDS scores not reaching the cutoff point (yet belonging to subjects classified as dysphoric by the BDI). This differential use was found to be significant at the .005 level for sadness and .004 for fear (see Table 1).

**Table 1**  
**Differential Use of Items Among Depressed and Non-Depressed Divergent Subgroups**

	<i>BDI</i>		<i>EPDS</i>	
	<i>Guilt Item 5 Yes/No</i>	<i>Coping (Work Ability) Item 11 Yes/No</i>	<i>Sadness Item 8 Yes/No</i>	<i>Anxiety (fear) Item 5 Yes/No</i>
<b>divergent “depressed” (total score at or above cutoff point)</b>	9/5	12/2	16/2	10/8
<b>divergent “non- depressed” (total score below cutoff point)</b>	3/15	9/9	4/10	1/13
<b>Chi square</b>	7.62	4.5	12.22	8.18
<b><i>p</i></b>	.006	.035	.0005	.004

At the same time, it was found that those items which frequently characterized classification on one scale were useless for classification on the other scale. While guilt (in the form of self-blame) was represented in many positive EPDS, it did not discriminate between positive and negative EPDS total scores as sadness and anxiety did. Curiously enough, an admission of coping difficulties on the EPDS gave no indication as to what the total picture would be: it was equally high on positive and negative EPDS forms. Conversely, the most sensitive dimension for a positive EPDS; i.e., sadness, did not seem to make much difference to a BDI score, making the different reactivities of the two instruments appear almost mutually exclusive or complementary (see Table 2).

**Table 2**  
**Undifferential Use of Items Among Depressed and Non-Depressed Divergent Subgroups**

	<i>BDI</i>		<i>EPDS</i>	
	<i>Sadness Item 1 Yes/No</i>	<i>Coping Item 6 Yes/No</i>	<i>Guilt (Self- blame) Item 3 Yes/No</i>	
divergent "depressed" (total score at or above cutoff point)	6/8	11/7	14/4	
divergent "non- depressed" (total score below cutoff point)	10/8	9/5	8/6	
Chi square	.51	.04	1.56	
<i>p</i>	.48	.86	.21	

The two self-report instruments seem to tap into different dimensions centering on the presence or acknowledgement of different items or symptoms, which give a different phenomenological picture. Discrepancy occurs when one facet of depressive symptomatology clearly predominates, with the result that distress is picked up by one scale yet remains undetected by the other. For example, a typical case of discrepancy in favor of positive classification by BDI only would involve a woman who feels guilty and finds her efficiency diminished but does not report feelings of sadness, low mood or crying. Following this pattern, divergent classifications appear unavoidable should a subject's symptomatology be skewed in one direction. A woman who is not sad but fed up would have very little chance of being selected by the EPDS and in all likelihood would be identified by the BDI. A woman feeling miserable and scared would most probably be identified by the EPDS but could definitely be overlooked by the BDI if she did not feel guilty. In extreme cases, this differential sensitivity was less marked, as other symptoms added themselves to the main cluster (notably sadness in the BDI) to give an overall, more exhaustive "depressed" picture. However, a high score was not in itself a guarantee of concordance. For the two instruments to agree, both dimensions, each of which that appear to trigger a positive score for a different scale, had to be present. This was possible in the lower ranges, as it happened when a subject scored guilt and coping items on the BDI and sadness and anxiety items on the EPDS, regardless of other items checked. We found very little evidence of discrepancy being linked to the relative severity of the cutoff points used for each instrument. While a few cases of positive BDIs seemed doubtful, a cutoff score of 8 appearing at times somewhat too lax, the range of scores in both convergent and divergent subgroups was wide enough to suggest that discrepancy rates had not been artificially boosted by an excess of scores hovering around the cutoff level. We cannot conclude from our data that one or the other instrument showed hypersensitivity or overreactivity, but rather that they seemed to respond to or elicit different patterns of depressive symptomatology. This differential sensitivity was at times so marked that it raised questions about the effect the instruments themselves had on the acknowledgement of symptoms. If, admittedly, postnatal distress itself is manifold and can comprise distinct subtypes which are not equally perceived by different measures, the rating scales on their own may be contributing to the diversity. When a woman answers to the EPDS in a manner that suggests extreme levels of despair and despondency, yet fills at the same time a BDI form which does not let any of this transpire, one must also look at the way each scale is constructed to account for such selective disclosure. Some influence could well be exerted through the phrasing and presentation of items, options available, and range of answers. In this respect it could be argued that the EPDS allows greater

modulation by offering frequency options and a more detailed range of intensity than can be found in the BDI. This apparent flexibility seems to work both ways, by encouraging some women to be more circumspect or even conservative in their answers (compared to their BDI response set) or conversely, to read into it the facilitation of an urge to confide or complain, the latter reaction being observed more frequently. The difference between the two instruments can be felt in the general impression created by each, the EPDS giving a more labile picture while the BDI conveys a feeling of set or fixed ways. The BDI tends to evoke a more objective outlook by asking about reality of impairment, while the EPDS focus is more subjective, probing feelings of impairment. In several aspects, the BDI adopts a more definitive stance, inquiring about the presence/absence of a given symptom, while the EPDS leaves room for occasional intrusion of same symptom. There is an air of finality to some BDI phrasings ("I feel quite guilty") that do not offer the critical distance afforded by related EPDS statements ("I have blamed myself unnecessarily"). These structural differences can lend an aura of empathy to the EPDS, while the BDI may occasionally appear unsympathetic and even forbidding. Spontaneous comments to that effect, however, did not come from the most severely depressed women, who may well have appreciated the sternness of the BDI for allowing them to report the severity and relentless quality of their suffering. Regarding the pitfalls of the perinatal context, the BDI did appear overreactive in the sphere of low self-esteem, with items such as selfdislike and negative self-image being chronically contaminated by the reality of weight gain linked to childbearing. It is interesting to note, however, that such a slant did not affect the overall results of our detailed comparisons. Such items nevertheless play a part in contributing to false positive BDI scores. Another factor that could have elicited differing response sets was the time frame pertaining to each instrument. While the BDI inquired about present day symptoms, the EPDS covered a week's worth. This may be contributed to some underreporting of symptoms on the BDI compared to the EPDS (the reverse being barely observed). Such an effect may have been tempered by the definite aspect of BDI symptom definition, which gave them a durable quality over and beyond the present day specification. As regards temporality, it seemed on the contrary that a moment of crisis was most likely to be reflected by the EPDS, while the BDI seemed more apt to describe a cluster of set or well established symptoms, thus effectively undoing the possible influence of differing time frames. As regards the leeway in interpretation of items allowed by each instrument, the terseness of some BDI phrasings lent itself to more manipulation from subjects than did the more nuanced EPDS statements. While filling the BDI, women would occasionally add some qualification to items that were judged either too strict or too narrow, specifying for example that their dissatisfaction stemmed from lack of time rather than decreased enjoyment, or that their feeling blue was proportional to their fatigue, etc. For most, the need for subtler shades of meaning seemed to be met by the more detailed option range of EPDS, which in the end did not leave room for alteration. It appears then that the two instruments, while purporting to measure the same phenomena, were quite differently attuned to various facets of postnatal distress, and not equal in eliciting their expression. While they seemed equally well suited to the detection of severe levels of depressive symptomatology, their blind spots and areas of special reactivity were most apparent in the lower ranges of impairment. It could be that in contrast to an entrenched, already well established syndrome of depression, moderate levels of dysphoria, even if noteworthy signals of ongoing breakdown, may tend to present more selective manifestations, and not the whole range of expected disturbance. In this case, as suggested by our data, the EPDS reacts to, or best reflects affective upheavals, while the BDI is better gauge of cognitive and attitudinal dysfunction. From yet another viewpoint, the EPDS may come across as an acknowledgment of feeling and the BDI as an acknowledgment of incapacitation. While the BDI would presumably be very sensitive to a breakdown of coping mechanisms, it would tend to be oblivious to a more labile or anxious expression of distress. On the other hand, the EPDS could fail to adequately report a depressive constellation where the subject is "beyond weeping." In conclusion, the high level of discrepancy observed in the classification of subjects from our sample did not likely stem from diverging severity of criteria on the part of the two self-rating scales. While some caution may be exerted in cases of

disagreement where the BDI score barely reaches the cutoff point, and may be simply a consequence of the inclusion of some false positives, in the vast majority of cases, the discrepancy reflected the differing sensitivities of instruments to the multifaceted aspects of postnatal distress. If detection of more than the severest range of disability is sought, then a multiple assessment strategy appears not only indicated, but necessary, until one instrument can be proven to achieve thoroughness of screening on its own.

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