Applying new techniques to an old ally: A qualitative validation study of the Edinburgh Postnatal Depression Scale

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Summary
Purpose: To present the results of a study that used cognitive interviewing techniques to interview pregnant and postpartum women about their experience of completing the Edinburgh Postnatal Depression Scale.
Background: Most large-scale initiatives that screen women for depression during pregnancy and the first 3–6 months postpartum use the Edinburgh Postnatal Depression Scale. The scale is a 10-item instrument that is commonly self-administered and has been extensively validated using quantitative methods. However, the authors could find no published research that applied newer in-depth methods for assessing comprehension and interpretation to the scale.
Participants and methods: The design was an in-depth, qualitative instrument validation study. A total of nine pregnant and postpartum women who were referred for psychiatric care completed the Edinburgh Postnatal Depression Scale and then were interviewed about their experiences. Cognitive interviewing techniques were used to generate an in-depth examination of how women understood and interpreted the items, and to explore meaning, acceptability, and disclosure issues.
Results: Overall, participants felt that the instrument was straightforward, easy to read, and relatively simple to answer. It is important to note that eight of the nine participants had completed some post-secondary education and, thus, participant’s average literacy level was relatively high. Women identified minor concerns or expressed interpretive differences on six of the ten Edinburgh Postnatal Depression Scale items. These six items are examined in detail.
Conclusion: The results suggest that it may be useful for the Edinburgh Postnatal Depression Scale to be administered in the context of a discussion about a woman’s mental health concerns, which could involve asking her for more details about her responses to particular items that have
Introduction

The American Psychiatric Association (APA) estimates that approximately 10–20% of mothers experience postpartum depression (PPD). Yet, it is argued that PPD remains under-diagnosed because of women’s reluctance to seek assistance, lack of physician expertise in detecting depression, and the difficulty of identifying PPD due to similarities between depressive symptoms and experiences of new motherhood—for example, lack of sleep and changes in weight. Researchers and practitioners are also increasingly concerned with depression during the prenatal period and identifying pregnant women who are at high risk for PPD before birth. As a result of this research and clinical interest, maternal depression is increasingly being viewed as a significant social problem and efforts to screen, prevent, and treat depression during pregnancy and the postpartum period have significantly increased in recent years. The Edinburgh Postnatal Depression Scale (EPDS), originally developed by Cox, Holden and Sagovsky in 1987, has become the most common tool used to screen women who may be at-risk of PPD. As a result, the scale is an important part of prevention and early identification efforts.

Literature review

PPD is a significant concern because of its impact on women, children, and families, and has increasingly received attention in the mental health and psychiatric literature. Research has examined the experience, treatment, and prevention of PPD using both qualitative and quantitative methodologies. For example, Beck employed metasynthesis to bring together the results of 18 qualitative studies. Her work was able to identify four key perspectives women used to talk about their experiences of PPD, including incongruity between the expectations and realities of motherhood and pervasive loss. In addition to these academically oriented studies, there are a number of popular autobiographies of women’s PPD experiences, including Brooke Shields’s Down Came the Rain and Elaine Hanzak’s Eyes Without Sparkle.

Quantitative studies have focused on prevention and treatment, as well as demonstrating that maternal depression has a significant impact on future generations by increasing children’s risk of mental health and social problems. More specifically, these studies show that PPD can inhibit mother–child bonding and negatively affect the care-giving environment, leading to problems with cognitive and emotional development in children including symptoms of depression, anxiety, and conduct disorder. Researchers have argued that, if not prevented or treated properly, these mental health problems in children will lead to significant health care costs as a result of continuing distress and impairment throughout these children’s lives.

Screening for postpartum depression

Recently, the EPDS has been used in a number of large-scale initiatives to screen for depression in women during pregnancy, as well as postnatally. Research on the validity and reliability of the EPDS in different populations is extensive, including studies that have examined its translation into a variety of languages. However, there continues to be apprehension about such wide-spread screening initiatives because of disagreement about the psychometric properties of screening tools in general and whether screening actually improves clinical outcomes. As a result, it has been argued that more research needs to be conducted before any universal, mental health-related screening initiatives are implemented.

Additionally, specific aspects of the EPDS continue to be questioned, including the cross-cultural validity of the scale with respect to the metaphors it employs and the meaning of symptoms, as well as the scale’s potential misuse in practice. These debates prompted Cox and Holden, two of the original developers of the scale, to publish a handbook about the application of the EPDS in clinical practice. Their book discusses the need to address issues of socio-cultural equivalence when the EPDS is used outside of the UK; however, the comments are primarily directed towards translations of the EPDS into other languages, rather than how the English version of the scale may be understood differently in other Western countries.

Studies have also documented specific concerns about the EPDS including acceptability of routine use, variability in cut-off scores and formats, readability, the process of screening, and clinical care following identification. Thus, more research is warranted about the value of screening tools in general, but also about the EPDS specifically, including how the EPDS is administered and how women respond to this instrument. Moreover, given the sensitive quality of a number of the items, acceptability of the questions and willingness to disclose are issues that should be examined.

Methods

The methodological design was an in-depth instrument validation study. Newer in-depth qualitative validation methods have not been applied to the EPDS when it has been administered during the postpartum or the antenatal period. A more thorough understanding of the cognitive processes that underlie women’s responses to the EPDS is warranted to inform implementation in these contexts. As described by Mallinson, questions and response options included on survey instruments, or similar tools such as the EPDS, are based upon shared understandings of language. If respondents interpret questions and answers in different or unexpected ways then the validity of the data can be undermined.
Thus, it is important to establish how individuals understand questions on an instrument, and the cognitive processes that are involved when they decide on their answers, in order to establish whether the instrument is being interpreted as it was intended.

This study used ‘cognitive interviewing techniques’ — more formally known as ‘cognitive aspects of survey methodology (CASM)’ — to examine the experiences of pregnant and postpartum women who had completed the EPDS. The cognitive interviewing questions focused on how the participants comprehended, interpreted, and responded to the items on the EPDS to provide qualitative information about the validity of the scale. Thus, the goal of cognitive interviewing techniques is to provide an in-depth examination of how respondents understand items on survey instruments and to explore meaning, acceptability, and disclosure issues.

Cognitive interviews involve specific probing questions about each item. For example, item one of the EPDS states: “I have been able to laugh and see the funny side of things.” The goal of testing this question was to understand how the phrase “funny side of things” was interpreted and to identify what events or objects are thought of when the woman reads the word “things.” In the interview, the woman would be asked to read the question and answer stems aloud and then the interviewer would ask her whether she had any initial comments about the question or response stems. Next, the interviewer would ask the following specific probes: (1) what do you think they mean by the phrase “see the funny side of things”? and (2) can you give me some examples of what you are thinking of when you read the word “things” in the phrase “the funny side of things”?

This procedure was repeated for each of the ten items on the EPDS; however, the specific probe questions differed depending on the item content. Participants were then asked about their overall reaction to filling out the scale and were queried about whether there were any issues related to depression or a “low mood” during pregnancy that might have been missed or not captured by the questions on the EPDS.

Study design

Each woman who participated in the study was referred to a psychiatrist for a psychiatric assessment because of mental health concerns during pregnancy or the postpartum period. These referrals were received from the low-risk obstetric clinic, high-risk obstetric clinic, mood disorders clinic, or general practitioners in Calgary, Alberta, Canada. Based on the information that was forwarded as part of the referral and collected during the assessment, the psychiatrist determined whether the individual met the eligibility criteria for the CASM interview about the EPDS. The inclusion criteria for participants in the CASM interviews were as follows: (1) currently pregnant or recently postpartum, and (2) referral regarding mental health concerns. Exclusion criteria included: (1) primary diagnosis of substance abuse disorder, schizophrenia, or other psychotic disorders and (2) non-English speaking.

The EPDS was administered to eligible women immediately before their psychiatric assessment. Prior to completing the EPDS, informed consent was explained and each participant signed an informed consent form. Following their psychiatric assessment, the women were interviewed about the EPDS using CASM techniques. These interviews occurred at a time and place that was convenient for the participant. For some women, this was immediately following their psychiatric assessment in the hospital outpatient clinic and for others it was up to three weeks after their assessment in their home or a local coffee shop.

Participants

CASM developers recommend a minimum of 7—12 participants for each instrument item tested, but repetition of findings (saturation) may occur at varying time points from as few as 4—5 participants to as many as a few dozen. The EPDS is not a very complex instrument so the authors were confident that relevant findings could be identified with a relatively small sample. Moreover, in contrast to positivist studies that are concerned with generalizability, analytic accuracy and insight in CASM-based research depends on the in-depth data collected from each individual participant and the diversity among participants. Both of these aspects of the research contribute to the richness of the data that is collected.

Thus, the results and recommendations produced by a CASM study are significant because this type of research investigates and documents complexities, not because the conclusions are generalizable in terms of sample size or representativeness of the sample.

Nine women who were referred for a psychiatric consultation completed the EPDS and took part in the cognitive interview. Each woman was asked about all ten items on the EPDS, resulting in responses from nine participants for every EPDS item. Four women were pregnant (average of 33 weeks) and four women were in the postpartum period (average of six months), and one woman had experienced a miscarriage. Five of the women had one other child (average age 3.5 years old) and for the remainder of the participants this was their first child.

The participants ranged in age from 31 to 40 years old, with an average age of 34 years. Two participants self-identified as Caucasian and the other seven women stated that they did not self-identify with a particular ethnicity. Seven of the nine participants were married. Although the majority of participants were currently receiving maternity benefits, three women did have part-time jobs and five women had full-time employment outside of the home. One woman was unemployed and receiving health benefits from the government. The majority of the women had attained average to above-average levels of education. Eight of the nine women had completed post-secondary education, with half of these women completing graduate degrees.

Ethical approval and procedures

Ethics approval for this study was received from the Conjoint Health Research Ethics Board (CHREB), Office of Medical Bioethics at the University of Calgary. The CHREB at the University of Calgary complies with The Canadian Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans formulated by the following national agencies: Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada.
The CASM interviews were completed by the primary investigator (RG), a researcher who was not involved in the ongoing care of the women. Initial psychiatric assessments and follow up care were conducted by a psychiatrist (NB). When a referral was received that matched the study criteria, NB notified her secretary to verbally inform potential participants about the research when making the initial appointment. In describing the study, the secretary followed a script that was approved as part of the ethics application. This script specifically stated that involvement in the study was voluntary and a decision about whether to participate had no bearing on the care that the woman was to receive. Thus, the women were informed that they would have an appointment booked with the psychiatrist regardless of their decision about the research study. If a woman verbally expressed an interest in the study to the secretary, RG would meet with this individual immediately before their appointment with the psychiatrist to confirm their interest and administer informed consent.

The consent form included a section titled “Do I have to participate?” that again specified that the individual’s participation was voluntary and that they could refuse to participate in the study or could withdraw from the study at any time. The form also stated that the individual would receive all health care services regardless of whether she participated in the study or withdrew from the study. Following the informed consent procedure, the participant completed the EPDS. The EPDS would usually be administered to all referrals as part of the psychiatrist’s clinical assessment, but for the period of this study the primary investigator (RG) administered the instrument.

Data analysis

CASM-based interviews involve specific probing questions about each item, as well as general inquiries about the participant’s reaction to the question. Responses to the items are documented systematically, mostly as qualitative information. Observations are made across participants for consistency in responses, and recommendations for item changes or interpretation are drawn from these observations. Often CASM methods will be used to pre-test an instrument so questions and responses can be altered according to the results of the cognitive interview. In this case the instrument is standardized so it is not possible to change items directly; however, issues with particular items can be flagged to aid interpretation of responses and scores by practitioners or researchers using the scale. The funding organization that provided financial support to the first author did not have any role in the collection or the analysis of the data, and did not have the right to approve or disapprove of the finished manuscript.

Results

The findings shed light on the utility and appropriateness of the EPDS for depression screening in pregnant and postpartum women and how practitioners can administer the scale most effectively. Overall, participants felt that the instrument was straightforward, easy to read, and relatively simple to answer. No major concerns were identified with acceptability or readability of the instrument by this group of women with average to above average educational levels. The following section will outline specific findings for six EPDS items in more detail. These items are discussed in more depth either because women had concerns about these items or the analysis of the interview data demonstrated that there were differences in how women were interpreting the items.

Item 3: I have blamed myself unnecessarily when things went wrong

A number of women felt unsure of how to judge whether they blamed themselves unnecessarily. For example, one woman asked the question: “Can you make that distinction? Especially as a brand new mom—you don’t know what to expect.” Another woman commented that you “…can rationalize it as unnecessary when you have experienced it often but in the state of your first time [of being a mother] maybe you wouldn’t think it was unnecessary.”

Some women also felt blaming themselves was reflective of their personality, rather than a potential symptom of depression: “This is my personality anyways (pause) from my upbringing where I always took the blame; my mother didn’t apologize.” Another woman stated: “[I blame myself] more to take pressure off of my spouse, to take more responsibility. It is not necessarily pregnancy-related, just circumstantial.”

For those who felt they could distinguish between necessary and unnecessary blame, the answer stem “yes, some of the time” had quite diverse interpretations. Some women chose this response if they felt they were unnecessarily blaming themselves 25% of the time, others would choose it if they were unnecessarily blaming themselves 50–75% of the time.

Item 4: I have been anxious or worried for no good reason

Similar to item three, many women felt it was difficult to judge whether they had a “good reason” for their concerns. Some women felt that they always had a good reason and that, as a result, the way the item was worded was descending. One woman said: “I don’t like it [the phrase ‘for no good reason’] because there is always a reason. …[It lays] further blame and makes me wonder whether I should even be talking about my anxiety.” Another participant stated:

It is really hard to assess whether you are anxious or worried for no good reason because when you are anxious or worried you think it’s a good reason. It also makes the woman question the validity of her concerns and is patronizing. It makes the woman experience self-doubt, yet pregnant women have a lot of good reasons to be anxious.

However, the phrase “for no good reason” clarified the item for women who reported experiencing high levels of anxiety: “This is an important question in my situation because anxiety is prevalent.” When asked what the phrase “for no good reason” meant to her, this woman replied: “…[anxiety caused by] talking to a friend on the phone, doing laundry, driving the car—things that didn’t use to cause anxiety or worry.”
Item 6: Things have been getting on top of me

A number of women found the phrase “getting on top of me” to be confusing, awkward, and even sexual. One participant stated that she found the phrase “weird” and that she interpreted it literally to mean that things were physically on top of her. However, the term coping, which is used in the answer stems, helped to clarify the meaning of the phrase. After reading the answer stems, this same woman said that she assumed the phrase meant feeling out of control and unable to cope. When asked how else the question could be phrased, the majority of women identified more with the statement: “I have been feeling overwhelmed.”

Item 7: I have been so unhappy that I have had difficulty sleeping

Women commented that their sleeping difficulties were usually not due to unhappiness, which they equated with sadness. Instead, they identified these problems as being caused by anxiety or “racing thoughts,” in addition to mothering duties that interrupted their sleep patterns (such as night time feedings). As one woman said: “It’s not about this [being unhappy], it’s more about racing thoughts about not coping. Physiologically my body can’t relax.” Another woman comments that the term unhappy is “…too closed for me—unhappy versus anxious, worried, hormones out of whack, the baby, and your circadian rhythms. Unhappy means sad, crying, melancholic. My sleeping difficulties may be because I’m a worry wart but not because I’m unhappy.”

Many women noted that although unhappiness may not have been the cause of their sleeping difficulties, being tired often lead to being unhappy: “Things were running through my head, I couldn’t relax and I would get really upset. I would not call this unhappy, but when you can’t sleep this causes unhappiness. You get so frustrated and you get down.”

Item 9: I have been so unhappy that I have been crying

The answer stem “yes, quite often” could have very diverse interpretations. Most women would choose this response if they were crying at least once or twice a day; however, one woman said: “I don’t normally cry so if I cried twice in one week I would know it was going somewhere.”

Item 10: The thought of harming myself has occurred to me

Most women said this item was difficult to answer and they felt that some women may be hesitant to answer honestly. They spoke about the shame and guilt that is associated with suicidal thoughts and about concerns regarding the health care system intervening in their lives (e.g., being hospitalized or having their children taken away). One participant stated: “You feel like you’re crazy when you do that [have thoughts about harming yourself]. It is admitting something is really wrong—you’ve passed the line. You’ve been taught never to think like that.” Another woman commented: “I think someone would be hesitant to answer especially if they thought it [about suicide] but wouldn’t act on it. What if they take my baby ‘cause they think I can’t deal? Or make me go to the hospital? Or go on meds if I don’t want to?”

Women also commented on how it was even more difficult to admit suicidal thoughts because they were mothers: “Women do not want to feel unfit [to mother], which makes it even more difficult. Prenatal and postpartum women already have a greater sense of guilt and responsibility because your actions do not just affect you.” Another woman said: “For this question they [women who complete the EPDS] would know intuitively that your answer could affect someone’s judgment of your mothering skills.” Most participants felt that if a woman did answer “yes” to this item then it took a great deal of courage and may be the “ultimate cry for help.”

Discussion

Our findings indicate that, in general, the EPDS was a straightforward and acceptable instrument to use with the women in our sample. However, even though the EPDS is a relatively simple instrument, the results suggest that it may be useful to administer the scale in the context of a discussion about a woman’s mental health concerns, which could involve asking for details about the woman’s responses to particular items that have been identified in the study as potentially problematic. In their recent EPDS handbook, Cox and Holden’ state that if a woman receives a high-score on the EPDS practitioners should confirm the diagnosis by asking about the presence or absence of specific symptoms of depression. However, our results indicate that this type of discussion may need to happen even if a woman receives a score on the EPDS that is below the cut-off point to ensure that the woman’s responses are accurately understood by the practitioner. Whether practitioners should engage in a more involved conversation about the woman’s mental health is situational and practitioners need to employ their own knowledge and expertise to judge whether this conversation is necessary. It is also important to note that eight of the nine participants had completed some post-secondary education and, thus, participant’s average literacy level was relatively high.

Thus, what this research indicates is that practitioners should not simply accept the results of the EPDS as unequivocal, but consider whether they feel confident that the self-assessment accurately reflects the woman’s mental health in the postpartum period. If concerns or questions about the woman’s distress levels remain after she completes the EPDS, a more involved discussion may be needed. This conversation could be facilitated by returning to specific items identified by the women in this study as potentially problematic.

For example, if a woman answered “yes, some of the time” to item 3 (blaming herself unnecessarily), the practitioner could return to this item and ask her to specify how often she felt this was blaming herself since this particular response elicited diverse time estimates in our study (ranging from 25–75% of the time). The practitioner may also wish to inquire about how she judged her blame to be ‘unnecessary’ given that, for many women in our study, this was difficult to evaluate. Similarly, for item 9 it may be important for the practitioner to clarify how often during a seven-day period
the woman was crying and what specific meaning this had for her. Although most women felt that “quite often” meant they cried once or twice a day, one participant felt that if she cried twice a week her emotions were “going somewhere.” Finally, for women who seem to be put off by the wording in item 6 (things have been getting on top of me), alternate wording that used the term “overwhelmed” could be provided verbally for clarification.

In addition to the EPDS identifying depression, our results indicate that items 4 and 7 could point to potentially high levels of anxiety. Thus, if practitioners notice that a woman’s responses are elevated on these items it may be important to explore anxiety-related concerns. Finally, it is critical to recognize that women may have difficulty fully disclosing their feelings for item 10, which addresses thoughts of self-harm, because of the shame and guilt associated with suicidal thoughts. This is of particular concern if the administrator of the scale is unknown to the woman and the woman is uncertain about what would happen to her and her family if she admitted such feelings. Therefore, initial responses to item 10 should be interpreted cautiously, and issues of self-harm explored by a qualified mental health professional in a confidential, non-judgmental context where rapport has been established. If there are significant concerns about self-harm, it is essential that the practitioner is clear and explicit about what interventions may be initiated by the health care system and what this means for the woman and her family.

Conclusion

The EPDS is the most commonly used instrument to screen for depression during the postpartum period and is increasingly being used in antenatal settings. This 10-item scale is commonly self-administered and has been extensively validated using quantitative methods. However, newer in-depth qualitative methods for assessing comprehension and interpretation have rarely been applied to the EPDS. This article presented the results of a study that used cognitive aspects of survey methodology (CASM) methods to interview pregnant and postpartum women about their experience of completing the EPDS.

Overall, participants felt that the instrument was straightforward, easy to read, and relatively simple to answer. However, women identified minor concerns or expressed interpretive differences on six out of the 10 items on the EPDS. These results suggest that it may be useful to administer the scale in the context of a discussion about a woman’s mental health concerns. This could involve asking the woman for more details about her responses to particular items that were identified as potentially problematic to ensure that practitioners are accurately interpreting the woman’s responses. Whether practitioners should engage in a more involved conversation about the woman’s mental health is situational and will depend on the practitioner’s knowledge and expertise to judge whether this discussion is necessary. It is important to note that the socioeconomic characteristics of the women in this study sample limit the applicability of the findings to certain groups; the results provide little to no information on how more marginalized women would comprehend and interpret the scale.

Recommendations for further research

Women did report that their experiences during pregnancy were quite distinct from those during the postpartum period, both physically and emotionally. This raises some concerns about using a scale that was specifically developed for the postpartum period in a pregnant population. Cox and Holden7 discuss a number of studies that have used the EPDS in an antenatal setting, either to screen for depression during pregnancy or to predict who is at risk for developing depression during the postpartum period. The authors state that the use of the EPDS in the antenatal period remains a controversial issue, and they specifically argue against the routine use of antenatal administration of the EPDS for the purposes of predicting PPD because current studies have not provided evidence of its predictive validity.7 Our results support the position that more research in larger samples is needed to examine the validity of the EPDS as a screening tool in the antenatal period. In addition, the women interviewed for this study were relatively homogenous—the majority were Caucasian, in their 30s, married, employed either part or full time, and had completed some post-secondary education. It is important that in-depth, qualitative research, similar to the study presented in this paper, be undertaken with women who are single, with women from different socio-economic and age groups, and with women who self-identify with different ethnicities.

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