Community-Based Postpartum Depression Screening: Results From the CARE Study

June Andrews Horowitz, Ph.D., R.N.
Christine A. Murphy, Ph.D., R.N.
Katherine E. Gregory, Ph.D., R.N.
Joanne Wojcik, M.S., R.N.

This column describes findings and best-practice recommendations from CARE (Communicating and Relating Effectively), a prospective randomized study in which 5,169 mothers were screened for postpartum depression. The prevalence rate was 13%. Results support use of the Edinburgh Postnatal Depression Screening Scale and a diagnostic assessment for those who screen positive. Of the 674 mothers with positive screens, 26% were not asked about their emotional state by clinicians. Screening must be linked to treatment options via referral and follow-up. Best-practice strategies for implementing screening include educating clinicians and postpartum women. (*Psychiatric Services* 60:1432–1434, 2009)

Undiagnosed and untreated, postpartum depression can lead to chronic depression for affected mothers and ongoing negative effects for their children (1–3). In 2006 New Jersey was the first state to legislatively mandate postpartum depression screening, followed the same year by Illinois; the Mothers Act (S 1375) was introduced in Congress in January 2009. Such legislative efforts have accelerated the need for accurate and feasible procedures for postpartum depression screening. Community-based screening initiatives that follow the evidence-based framework set forth by the Agency for Healthcare Research and Quality (AHRQ) (4) can be successfully implemented in research and clinical settings to identify women at risk of postpartum depression and connect them to treatment options.

The CARE study (Communicating and Relating Effectively), which began in 2004 and is scheduled to end in 2010, is a relationship-focused nursing intervention designed to promote responsive interaction over time between depressed mothers and their infants; the study has three phases. Phase 1 involved establishing an effective postpartum screening mechanism for women in the community and determining enrollment eligibility by *DSM-IV* diagnostic evaluations. Phases 2 and 3 involve participation in a randomized clinical trial of a teaching-coaching intervention and follow-up interviews with enrolled mothers. This column describes successful strategies, findings, and recommendations from phase 1 to help clinicians in research and clinical settings initiate effective postpartum screening initiatives.

The screening program

Procedure

The evidence-based AHRQ screening framework recommends formal postpartum screening, diagnostic evaluation for those with positive screens, and random group assignment to the treatment or control group with follow-up evaluations (4). Applying this framework, research nurses visited mothers recovering on the postpartum units of two Harvard teaching hospitals from August 2004 through September 2007. The study was approved by the institutional review boards of Partners Human Research Committee and Boston College. All mothers who received a diagnostic interview and who enrolled in the study provided written informed consent.

Research nurses visited mothers who had been previously identified by staff as meeting all eligibility criteria: English-speaking; medically stable and sufficiently recovered from labor and birth; and uncomplicated delivery of full-term, singleton infants cared for in the newborn nursery. Interested mothers were approached by research nurses and asked to complete a form that gave researchers permission to contact them for depression screening at four weeks postpartum. Postpartum "blues" resolve by two weeks, and postpartum depression is defined as beginning by four weeks (5).

Research nurses telephoned all mothers who signed a permission form and who did not return an opt-out card. The ten-item Edinburgh Postnatal Depression Scale (EPDS) (6) and the brief version of the Mothers Information Tool (MIT) were administered by telephone. The MIT was developed to elicit demographic information and responses to a series of open-ended questions. If the nurse failed to contact a mother by the end of the fifth week, the EPDS and MIT were mailed. The authors of the EPDS recommended use of the lower score of 9 or 10 to reduce failed detection to less than 10%.

The authors are affiliated with the W. F. Connell School of Nursing, Boston College, 140 Commonwealth Ave., Chestnut Hill, MA 02467 (e-mail: horowitz@bc.edu). William M. Glazer, M.D., is editor of this column.

Therefore, if an EPDS score was ≥10 on either the phone or mail-in screen, she was informed about the research study and invited to undergo a diagnostic interview with possible enrollment in the clinical trial. Cox and colleagues (6) and others (7) suggested that a score of ≥13 indicates referral to mental health care. Data from the study reported here support the recommendations of Gaynes and colleagues (4) and others (7–9) that the EPDS merits continued use as a standard postpartum depression screening measure.

If a mother's EPDS score was ≥13 or her response to EPDS item 10 (thoughts of self-harm) was anything other than zero, the nurse encouraged her to contact her clinician immediately if she was currently receiving mental health treatment or to contact her primary care provider or the Department of Psychiatry at the delivery hospital for follow-up evaluation. An advanced practice psychiatric nurse also contacted her to provide a brief evaluation and to assist her to seek follow-up. If nurses were unable to contact a mother with an EPDS score of ≥13 by phone, a letter was sent with CARE study contact information that suggested she contact her doctor, midwife, or another clinician.

Diagnostic evaluation

All mothers with an EPDS score of ≥10 were invited to participate in the Structured Clinical Interview for DSM-IV administered by the advanced practice nurse in their homes. When conducted by a qualified clinician, this interview is the "gold standard" for confirming a depression diagnosis (8). Mothers with confirmed diagnoses of minor or major depression were invited to enroll in the clinical trial. Enrolled mothers whose scores indicated risk of self-harm (≥13) were offered the same assistance described above.

Outcomes of the program

Screening

Over two-and-a-half years, 5,169 mothers aged 14 to 49 were screened by telephone or mail. Of this group, 674 (13%) mothers scored ≥10 on the EPDS. The prevalence rate for the mothers who self-administered and mailed in the EPDS (N=260, 19%) was higher than for those who were screened with the EPDS by a nurse on the phone (N=425, 11%).

Most mothers screened were Caucasian (N=3,382, 66%), followed by Hispanic (N=620, 12%), black (N=449, 9%), Asian or Pacific Islander (N=401, 8%), and "other" (N=286, 5%). Thirty-one mothers did not indicate their race-ethnicity. The mean± SD age was 32.2±5.4, and the mean years of education were 16.3±2.9. A total of 2,478 (48%) were primiparas. A smaller proportion of white mothers (N=381, 11%) screened positive on the EPDS compared with Hispanic mothers (N=113, 18%), Asian-American mothers (N=69, 17%), mothers in the "other" racial-ethnic group (N=46, 16%), and black mothers (N=65, 15%) ($p<.001$). Compared with mothers who had at least a high school education, a greater proportion of those who were not high school graduates screened positive ($p<.001$).

Diagnostic interview

Of the 674 mothers who were offered a diagnostic interview and subsequent enrollment in the nine-month study, 267 (40%) declined for a variety of reasons. A total of 185 mothers with positive EPDS screens received diagnostic interviews. Of this group, 111 (60%) were given a diagnosis of major depression and 24 (13%) were given a diagnosis of minor depression. Forty-one of the mothers who had a diagnostic interview (22%) did not receive a diagnosis of depression and were excluded from the study.

Responses to open-ended questions

The first of the four open-ended questions asked mothers whether clinicians had asked about their emotional state. Of the 4,419 mothers screened who had seen a clinician by four- to six-weeks postpartum, 2,806 (63%) reported that they had been asked by the clinician about how they were feeling emotionally. In contrast, 1,613 (37%) reported that they were not asked about their emotional state by a clinician. No significant differences in age, education, or depression status (yes or no) were found between those who were and were not asked. Multiparous mothers were asked less often than primiparous mothers ($p<.001$). Asian, Caucasian, and Hispanic mothers were asked less often than black mothers and mothers in the "other" racial-ethnic category ($p=.012$). A total of 178 mothers with an EPDS score of ≥10 were not asked by a clinician about their emotional health.

Clinicians who were most often identified were pediatricians, obstetricians, nurse midwives, and nurse practitioners. When mothers were asked to elaborate, most reported that the clinician provided a specific checklist or asked specific questions about how they were feeling. Others reported being asked only general or informal questions about their emotional health.

The third question asked how the mother responded to the clinician's question about her emotional state. Most reported that their response was "fine," "good," "ok," "stable," or "had no problem." Other responses were categorized as "has social or health care support," feels sad or overwhelmed," "feels stress from other sources," "is seeking treatment for postpartum depression," or "feels stress related to breastfeeding or parenting." Seventy-three mothers with an EPDS score of ≥10 denied feeling sad when asked about their emotional state by the clinician.

The fourth question asked how the clinician followed up. Most mothers reported that the clinician offered some type of unspecified intervention, a psychiatric consultation or referral, advice, or emotional support. A handful stated that they were offered support but did not act on it. However, 91 mothers with elevated EPDS scores or who told the clinician that they felt "sad" were not offered any intervention.

Discussion

Results indicate that systematic, large-scale, timely, community-based screening with the EPDS and follow-up with a *DSM-IV* diagnostic interview is a feasible approach and leads to accurate diagnoses and effective linkage of mothers with treatment options.

The findings that the multiparous women were not asked about their

emotional state as often as first-time mothers and that members of some racial-ethnic subgroups were asked more often than others underscore the need for universal systematic screening to reduce the undetected cases of depression that result from informal screening and from reliance on clinicians' immediate judgments (9). Although race-ethnicity and educational attainment were related to elevated EPDS scores, it is likely that various combinations of biological, psychosocial, and economic risk factors play a role in the risk of postpartum depression for any given clinical population.

A significant number of women with positive screens were not asked about their emotional state during the early postpartum period. Clinicians must persevere in developing screening strategies that effectively reach out to postpartum women in all settings where they seek care for themselves or their child. Screening with the EPDS takes from five to ten minutes, and thus any interaction between a mother and a provider presents an opportunity for beginning a discussion of the mother's well-being after childbirth. Clinicians in obstetric, pediatric, and primary care settings can incorporate screening into the patient interview, discuss results, and initiate referral or follow-up via existing mechanisms that are available to the patient. Women can be screened on the telephone by a nurse at the time of registration or when appointments are confirmed.

It is noteworthy that some mothers with elevated EPDS scores denied feeling sad when they were asked about their emotional well-being. However, some mothers may have felt that their "blues" were resolving, and some may have felt embarrassed to report feeling sad. Universal postpartum depression screening may reduce resistance among women who feel stigmatized when singled out for depression assessment that is not a routine part of their care. Postpartum women would benefit from education about depression during the perinatal and postpartum periods and follow-up evaluation.

Implementation of best practices

How can clinicians implement best-practice screening protocols in their practice settings? First, they should be aware that postpartum depression screening is feasible and that there are valid, reliable, free, and easy-to-administer measures, such as the EPDS, that take only a few minutes to complete. Second, they should know that although four to six weeks is the optimal and recommended time for screening, women can and should be screened during the first year after birth whenever they make well-child, obstetrical, or primary care visits (4,9) Third, because prevalence rates can differ depending on the mode of EPDS administration (telephone versus self-administration), clinicians should discuss EPDS scores with women who self-administer to clarify any ambiguous items and confirm accuracy.

Fourth, an effective protocol always begins with educating clinicians about postpartum depression and its effects on mothers and infants, because beliefs about postpartum depression strongly influence screening practices (9). Clinicians in training must have up-to-date information so that screening for postpartum depression will become integral to their practice. Web sites such as MedEdPPD.org provide current information about postpartum depression, screening tools, patient materials, and care pathways for clinicians. Finally, and most important, a protocol for positive screens that includes referral for a *DSM-IV* diagnostic interview and follow-up is essential because screening alone is insufficient for getting affected women into treatment (9).

Conclusions

Supporting primary care providers and other clinicians in their efforts to incorporate postpartum depression screening as standard practice will enable frontline professionals in the health care system to ensure the mental health and well-being of women during their childbearing years.

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