Journal of Midwifery & Women's Health www.jmwh.org

Original Review

Depression Screening During Pregnancy

Ginger Breedlove, CNM, PhD, ARNP, Denise Fryzelka, CNM, MS

Depression in the antepartum period is more commonly missed by clinicians than is intimate partner violence, although more women and families suffer from this debilitating disease. Early identification and appropriate psychotherapeutic interventions significantly reduce the risk of adverse effects for the mother, infant, and family. Despite debate regarding specificity and sensitivity, 2 instruments have been predominantly referenced for use in antepartum screening: the Edinburgh Postnatal Depression Scale and the Center for Epidemiologic Studies Depression Scale. Routine screening combined with interview methods provides high reliability for predicting a risk for depression in pregnancy and postpartum. Caution should be exercised when new onset is identified or when women who were using psychotropic medications before pregnancy are being treated, because the relative risk of prenatal exposure to medication is counterbalanced by the risk of relapse of maternal psychiatric disorders.
J Midwifery Womens Health 2011;56:18–25

Keywords: antepartum period, depression, pregnancy, screening

INTRODUCTION

Despite the overriding expectation of pregnancy and childbirth as joyous occasions, these are times of dynamic change that, for many women, are a catalyst for the new onset of depressive disorders or a precipitant for recurrent depression. Women who suffer from depression during the antepartum period are often overlooked and can invisibly suffer because of discomfort with disclosure and/or a health care system deficiency in routine screening. Depression is the leading cause of disease-related disability among women, and the incidence of depression in women is greatest during their reproductive years, occurring at a rate of 5% to 25%.[1]

Unfortunately, depression in pregnant women is usually diagnosed long after it has precipitated harm to the mother, child, and other individuals involved. Untreated depression in pregnancy can negatively impact perinatal outcomes, quality of life, relationship with the infant-child, and healthy family transitions.[2–4] However, fewer than 50% of pregnant and postpartum women are routinely screened by their health care providers.[5–8]

Although there is more awareness about postpartum depression today than in the past, depression during pregnancy has received little attention from providers or the public.[9] Recently, the Health Resources Service Administration issued state grants to launch intensive public education activities to promote better understanding of perinatal depression and the warning signs associated with it. In 2008, several noteworthy initiatives were designed to highlight the problems associated with perinatal depression. The American Public Health Association mission added the goal of making universal depression screening and treatment in pregnancy and the postpartum period a standard of care throughout the United States.[10] Legislation in Illinois was enacted to increase awareness and promote early detection and treatment of perinatal depression. Illinois law now requires hospitals and providers of prenatal care to educate and screen all pregnant women for perinatal mental health disorders.[11]

Targeted screening for depression in early pregnancy while ruling out other health care problems is a first step to recognizing and reducing the impact of perinatal depression. Immediate and appropriate intervention is critical. Sufficient evidence demonstrates that depression left untreated can increase short-term and long-term health-related risks to mother and infant, including higher rates of miscarriage, premature birth, intrauterine growth restriction, and low birth weight infants; failure of maternal-infant bonding; delays in cognitive and language development; and behavioral issues with the growing child.[12–15]

The purpose of this review is to aid practitioners in early identification of depression in the antepartum period to decrease postpartum depression and improve pregnancy outcomes. Providers should be familiar with the prevalence, risk factors, symptoms and diagnosis, screening tools, and interventions associated with this perinatal complication.

BACKGROUND

Despite the lack of validated screening tools for diagnosing depression during pregnancy, the Agency for Healthcare Research and Quality (AHRQ) conducted a systematic review of perinatal depression, including studies conducted throughout the antepartum period.[16] The purpose of the AHRQ review was to evaluate the following 3 key questions regarding perinatal depression: 1) What are the incidence and prevalence of depression during pregnancy, postpartum, and non-childbearing periods? 2) What are the accuracies of screening tools for detecting depression during pregnancy and postpartum? and 3) Does prenatal or early postnatal screening, with subsequent intervention, lead to improved outcomes?[16] Thirty studies of moderate size met inclusion criteria that provided evidence of the percentage of the population experiencing depression during pregnancy. Point prevalence estimates for major depression ranged from 3.1% to

Address correspondence to Ginger Breedlove, CNM, PhD, ARNP, Professor, Graduate Studies, Division of Nursing, Shenandoah University, 1775 N. Sector Ct., Winchester, VA 22601. E-mail: gbreedlo@su.edu

 1526-9523/09/$36.00 doi:10.1111/j.1542-2011.2010.00002.x

4.9% in the first, second, or third trimester of pregnancy. Combined prevalence rates for major and minor depression examined at different times in pregnancy demonstrated wider ranges (2.3% to 16.2%, 5.7% to 20.4%, and 4.9% to 15%, for the first, second, and third trimesters, respectively).

The prevalence of depression during the antepartum period may be much higher than reported by the AHRQ review because the conclusions suggest that the findings were not representative of the racial and ethnic mix of the countries in which the studies were performed. Findings of research conducted in the United States alone suggest that 14.5% of pregnant women experience a new episode of depression (either minor or major) during pregnancy. In addition, 14.5% of mothers experience a new episode during the first 3 months postpartum.[16]

Bennett et al[5] published a meta-analysis investigating the prevalence of depressive symptoms and depression in pregnancy. Combined results of 21 studies that included 19,284 women found depression during the first trimester at 7.4% (95% confidence interval [CI], 2.2%-12.6%), during the second trimester at 12.8% (95% CI, 10.7%-14.8%), and during the third trimester at 12% (95% CI, 7.4%-16.7%). To gain insight into the results of specific screening tools, these authors compared the Beck Depression Inventory (BDI),[17] Edinburgh Postnatal Depression Scale (EPDS)[18] (both discussed in detail later in this article), and structured interviews. The prevalence of depression detected via structured interviews was similar to that detected via use of the EPDS, whereas the BDI found higher estimates of prevalence of depression.

Findings from the AHRQ evidence report on perinatal depression suggest that the EPDS and the Center for Epidemiologic Studies Depression Scale (CES-D) provide the highest level of specificity and sensitivity for depression screening during pregnancy.[16] Another systematic review conducted in 2003 evaluated 13 studies from 7 countries that administered antepartum screening tools to predict risk for postpartum depression. The purpose of the review was to describe screening properties of effective tools and to evaluate implications for screening.[19] The majority of studies in this review developed a study-specific screening instrument for use in pregnancy rather than using a validated depression screening tool. The screening tools were evaluated to determine positive predictive value in classifying women in the prenatal period as having a risk or no risk for postpartum depression. Timing of antepartum screening varied from 10 to 12 weeks' gestation to 36 weeks' gestation. Outcomes of postpartum depression were calculated by use of the EPDS, standardized psychiatric interviews, or both.[19] The prevalence of women depressed after birth ranged from 5.5% to 31.5%. The authors concluded that none of the screening methods met criteria for routine application in pregnancy because of poor sensitivity and low positive predictive values. Significant limitations to this systematic review include small sample sizes and poor controls for study variables, including variance in cut-off level for depression with the EPDS and inclusion of mothers with a history of depression, abuse, traumatic postnatal events, and personality disorders.

DEPRESSION SCREENING DURING PRENATAL CARE

In 2002, the American College of Nurse-Midwives (ACNM) reissued a position statement on depression screening, stating that "certified nurse-midwives (CNMs)/certified midwives (CMs) have a critical role to play in the integration of prevention, screening, treatment, and/or referral for depression into the care they provide for women." Because the signs of pregnancy-related depression and somatic discomforts of pregnancy often overlap, differences between minor or major depression and normal discomforts can be difficult to diagnose. Recommendations include screening all women for pregnancy-related depression by using established, self-administered tools.[20]

A study assessing attitudes of obstetrics and gynecology practitioners in the state of Washington explored the frequency of screening for depression and found that although the majority of practitioners surveyed were concerned about depression, only 44% reported conducting depression screening in their offices, regardless of symptoms. Nearly 50% reported that they thought they did not have enough training to treat depression.[7]

In 2004, a convenience sampling of ACNM members composed of CNMs/CMs attending the 2004 ACNM Annual Meeting & Exhibition yielded attendee surveys at a response rate of 42.6% (N = 378). Findings concluded that screening and management of depression is not fully integrated into primary care practice.[21] Measures surveyed that were related to attitudes about depression screening in primary care included knowledge about diagnosis, treatment, screening practices, and incorporation into midwifery practice. Although only 25.1% of CNMs/CMs who participated in this survey reported that they always screen women for depression in primary care visits, 58.5% reported that they usually screen for depression.[21] However, this survey did not examine screening and treatment for depression in pregnancy. If routine depression screening practices in primary care are not universally incorporated, it is likely that inadequate screening throughout antepartum care is common.

The role of perinatal screening for depression by British midwives found similar challenges, both in the adequacy of training and frequency of formal screening (N = 182, response rate 86%).[22] Results from this survey demonstrated that only 25% of midwives conducted formal antepartum screening to identify depression, whereas 94% asked women about previous or current psychological problems. Only 16% of midwives indicated that they received formal training in effectively screening for depression in women. Many reported difficulties with referral services, insufficient time for screening, and a deficiency in referral policies as compounding factors.[22]

Challenges CNMs/CMs face include perceived lack of qualified training and experience to correctly diagnose or treat depression, limited encounter time during antepartum visits for in-depth interviewing, and insufficient administration of depression screening tools.[21,22]

RISK FACTORS FOR DEPRESSION

Nonmodifiable factors for depression in the perinatal period include positive family history of depressive disorders.[23,24] A history of anxiety or depression at any time, including prior to pregnancy or in a previous pregnancy, is recognized as the greatest risk factor for a future episode of depression.[23,24] Other nonmodifiable risks for pregnant women may include life events such as death of a loved one, divorce, loss of job, pregnancy-related complications, or natural disasters.

Numerous studies have correlated perinatal depression with decreased functional status and social support and increased social conflict.[15,25–28] Psychosocial factors linked to associated risk for perinatal depression include unintended pregnancy, socioeconomic deprivation, recent negative life experiences, and high levels of interpersonal conflict.[23,28–30] Provider awareness of these modifiable as well as nonmodifiable risk factors for depression in pregnant woman can guide recognition of symptoms, correct diagnosis, and early, appropriate management.

SYMPTOMS AND DIAGNOSIS OF DEPRESSION DURING PREGNANCY

Depression during pregnancy can be a symptom of a broad range of differential diagnoses, from pregnancy-related hormonal influence leading to biological-psychological symptoms to severe mental disability. Identifying a pregnant woman with an undiagnosed depressive disorder (minor or major), a depressive phase of bipolar disorder, generalized anxiety disorder, posttraumatic stress disorder, panic disorder, or simply a mother with symptoms of a normal pregnancy is challenging at best. In gathering a history of common pregnancy discomforts, one might elicit similar symptoms found in mood disorders, such as sleeplessness, weight loss or gain, appetite changes, decreased libido, difficulty concentrating, diminished energy, and depressed mood. Each differential diagnosis, as classified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) includes the presence, frequency, and degree of various affective/mood, behavioral, or somatic/physical symptoms.[31]

ANTEPARTUM SCREENING FOR DEPRESSION

Incorporating screening measures early in pregnancy can increase the likelihood that women experiencing symptoms either as an initial episode or reoccurrence of previous depression will be identified early. Screening also facilitates discussion of or disclosure of therapeutic regimens including current or past depression management. Early detection of symptoms can facilitate timelier treatment, referral to appropriate mental health providers, and prevention of major depression. However, debate exists as to whether universal antepartum screening will definitively improve provider diagnosis and selected management regimens that lead to improved health as well as reduce the incidence of postpartum depressive disorders.[2,3]

Findings from a recent review published by the Cochrane Collaboration evaluated the effects of antenatal psychosocial assessment on mental health morbidity during pregnancy and the first postnatal year. In the 2 randomized trials assessed by the Cochrane group, although use of screening tools increased provider awareness of psychosocial risk, neither study provided sufficient evidence that routine assessment by itself improved outcomes.[2] Additionally, a randomized study by Yonkers et al,[3] designed to evaluate rates of detection of depression in a Healthy Start program to increase referral and treatment among perinatal women, demonstrated that paraprofessional systematic screening and referral for treatment did not reduce overall rates of depressive symptoms of participants at a publicly funded clinic. Although these studies found that routine, universal depression screening did not alter perinatal outcomes, further investigation is needed into how providers screen and refer, whether referral services are easily accessible, how to control for antidepressant medications initiated in pregnancy or postpartum, and type of screening used in the highest risk populations.

The notion that pregnant women prefer not being asked probing questions regarding mental health is unfounded. Studies investigating use of screening tools for identifying stress, depression, and anxiety during pregnancy have found that women view the screening process as acceptable, not upsetting, and comforting.[32] In a descriptive study conducted by Marcus et al,[33] 3472 pregnant women were screened in 10 obstetric clinics in Michigan. Ninety percent of women approached agreed to complete the CES-D for depressive symptomatology. Another study by Orr et al[2] enrolled 1163 women who responded to the CES-D survey, with a refusal rate less than 5%. Carter et al[34] reported a 92.5% participation rate ($N = 370$) in completing the EPDS form during pregnancy prior to participant randomization in a study investigating diagnosis and treatment regimen interventions. However, despite the high participation rate in the screening method for study enrollment, only 30.6% of those identified as having a positive risk for depression agreed to follow-up contact for randomization in the clinical trial.[34]

DEPRESSION SCREENING TOOLS

Even though several screening tools have been administered to assess the risk for antepartum depression, no tool provides a high degree of combined sensitivity and specificity for this purpose.[16] The CES-D and the EPDS are recommended to provide initial assessment of depressive symptoms because they are the most widely studied in prenatal research. Studies have also used the BDI and the Beck Depression Inventory-II (BDI-II), Patient Health Questionnaire-2 (PHQ-2), Hospital Anxiety and Depression Scale (HADS), and the Pregnancy Depression Scale (PDS). It is imperative to remember that these tools do not in themselves confirm diagnosis but serve as screening to indicate some form of risk for a possible depressive disorder.

Center for Epidemiologic Studies Depression Scale

The CES-D is widely used to screen for symptoms of depressive illness.[27,35] The CES-D measures cognitive, affective, behavioral, and somatic depressive symptoms experienced within the week prior to screening. The scale includes 20 items and takes approximately 5 minutes to complete. Four items are worded in a positive direction and reverse scored to control

for response bias. Responders are asked to rate statements on a scale of 0 to 3, and scores are summed to provide an overall score ranging from 0 to 60. A score of 16 or greater identifies women with a risk of depressive illness.[2]

Researchers suggest that the scale's performance in differentiating primary depression from depression that occurs in association with other disorders is not optimal and that the sensitivity for major depression is relatively low.[16] Mosak and Shore[36] conducted a cross-sectional study (N = 98) comparing the CES-D and EPDS for screening of depression. This study examined populations generally not seen in other studies (40.8% Hispanic), and in this population they found that the CES-D tool identified more pregnant and postpartum women as depressed than did the EPDS ($P < .01$). Conclusions highlighted the value of brief depression screening tools in working with pregnant and postpartum women.[36]

False-negative and false-positive results occur. The presence of schizophrenia, anxiety, drug abuse, phobias or panic disorders, and bipolar disorder can result in false-positive or false-negative depression screening results. Bipolar disorder, the most commonly misdiagnosed depressive disease, consists of alternating periods of elevated mood (mania) and depression. Mood swings run from mild mania to more severe periods of mania lasting hours to months before returning to depression. Manic symptoms can mask low periods of depression, and depression can be bipolar in nature, rather than a mild or moderate depressive disorder. Therefore, the CES-D should be used as a first-stage screening tool and is not recommended without follow-up interviews.[37] The CES-D scale has been published in its entirety in English and Spanish and is available for free use in the public domain from National Institutes of Mental Health (Appendix 1).

Edinburgh Postnatal Depression Scale

The EPDS has been widely tested, translated, and used in more than 23 countries identifying women who are at risk for postpartum depression.[38] The EPDS also has been widely validated as an effective screening tool for antepartum depression in the first, second, and third trimesters of pregnancy.[6,16] The EPDS is a 10-item scale, typically self-administered, requiring about 5 minutes to complete. When the results are inconclusive, the test can be readministered after 2 weeks. It is helpful to remind the woman to select which of each statement's 4 responses is closest to describing how she has been feeling in the previous 7 days. Attention to reverse scoring on 3 items is critical. The EPDS has a maximum score of 30. A score of 11 to 12 out of 30 has a sensitivity of 76.7% and specificity of 92.5% for predicting risk for depression.[16] A score of 12 or greater indicates possible depression of varying severity. The EPDS is a highly reliable instrument for sequential evaluations of depressive symptoms in pregnancy, and in particular, screening for major depressive disorder. One item (#10) on the EPDS queries suicidal thoughts and requires immediate attention. A careful clinical assessment should be conducted to confirm a potential diagnosis of depression or other health condition. The scale will not detect a risk for minor depression, anxiety disorders, phobias, bipolar disorder, or personality disorders. Users may reproduce the EPDS without permission by providing citation of the names of the authors, the title, and the source of the paper in all reproduced copies (Appendix 1).

Other Screening Tools for Depression in Pregnancy

Additional screening tools have been found in the review of the literature that do not have psychometric properties specific to pregnancy or have limited validation for use in pregnancy. These include the BDI and BDI-II, the PDS, the PHQ-2, and the HADS. It is unclear how often these tools are used in the prenatal setting when compared with the EPDS and CES-D.

Beck Depression Inventory

The BDI was developed as a self-report measure of depressive severity.[17] The 21-item questionnaire is measured on a 0 to 4 point scale, with a maximum score of 63, and has been used in both psychiatric and nonpsychiatric populations. The BDI and BDI-II have been investigated for determining depression in pregnancy.[18,39] One study found that the BDI cut-off recommendation in pregnancy of greater than 16 provided a sensitivity of 83% and specificity of 89% to detect symptoms of depression.[18] Another study using the BDI-II in pregnancy (a 2-item tool modified from the BDI) found depressive symptoms among 27% of low income women, with a cut-off of greater than or equal to 16. Sensitivity was 91%, and specificity was 52%.[39] The BDI is a proprietary product and thus a fee is required for use of this tool.

Pregnancy Depression Scale

A recent screening tool developed for assessing depression in the antepartum period is the PDS. Self-report questions elicit responses in 7 categories, scored on a 0 to 4 point scale, with the focus of questioning related to depressed mood, social withdrawal, and work function. The PDS maximum score is 26. A 50% chance of depression is correlated with a score of 12 to 15. A score of 16 or greater indicates a high likelihood of meeting the criteria for a major depressive disorder.[9] Initial findings of this tool stress the importance of the necessity that a specific instrument be used in obstetric settings. However, this instrument has not been adequately tested and is limited by the researchers' investigation in pregnant women with a previous diagnosis of clinical depression.

Patient Health Questionnaire-2

The most recently tested 2-item questionnaire specifically for use in pregnancy is the PHQ-2.[40] The frequency of depressed mood and anhedonia over the previous 2 weeks are evaluated. With a range of scores from 0 to 6, a score of 3 or greater has a sensitivity of 83% and specificity of 92% for major depression. The 2 questions and scoring of the PHQ are listed in Box 1.

Hospital Anxiety and Depression Scale

The HADS was designed for use in nonpsychiatric populations to screen levels of depression and anxiety by using 2 subscales.[41] This 14-item questionnaire is not widely used in

BOX 1. The Patient Health Questionnaire-2.

Over the past two weeks how often have you been bothered by any of the following problems?	Not at all	Several Days	More than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3

the United States for screening of depression in the antepartum period and, in comparison to the EPDS, was determined to be less effective at identifying depression.[42]

Summary of Screening Tools

Although there is utility in screening for depression in the perinatal period, none of the described screening instruments are sufficiently validated to serve as a reference standard for depression screening in pregnancy. As concluded in the review of the literature and reported by the AHRQ, when used, screening instruments are rather precise in identifying the risk for major depression but less able to differentiate between major and minor depression or the depressive phase of bipolar disorder.[16]

DOCUMENTATION AND BILLING ISSUES

Clinicians are additionally challenged by lack of formally recognized antepartum depression diagnostic and billing codes, which makes it difficult to determine the incidence of diagnosed depression in pregnancy and to obtain appropriate remuneration for provider services. For depression diagnosed in the antepartum period, no onset modifier has been established, recognized, or quantified in the DSM-IV-TR. Only postpartum onset is categorized for coding, under the general heading of mood disorders.[31] The DSM-IV-TR applies the "postpartum onset" modifier when an episode begins within the first 4 weeks postpartum, whereas the International Classification of Diseases, 10th Revision, which provides standardized billing and coding criteria, extends this window to 6 weeks after birth.

INTERVENTIONS AND MANAGEMENT

Post-screening management, treatment plans, and referral for at-risk women must be considered. Following positive screening or disclosure by the woman that she is depressed, immediate assessment for a risk of self-harm and/or suicidality should be conducted. Questions such as item 10 on the EPDS about self-harming impulses may or may not reflect the intent to die but should be used in probing for immediate risk status.[43] Self-harm and suicidal ideation is more common than suicide attempts or death. A literature review by Lindahl et al[43] found that 5% to 14% of women had thoughts of self-harm or had suicidal ideation at some point in the course of pregnancy and the early postpartum period.

When treatment and/or referral is indicated, interventions are guided by the woman's mental health status, available community resources, and accessibility to services (eg, insured status, financial need, supportive networks). Therapies may include behavioral, pharmacologic, and alternative modalities. If treatment is pursued in the maternal care setting, a thorough assessment of maternal history, discussion of possible options for treatment (including access to mental health services), and consultation for the appropriate management plan will be needed.

It is strongly advised that initiation of pharmacologic therapy in pregnancy should occur only in combination with or following a mental health consultation and continued talk therapy. Referral and/or comanagement with a mental health care professional is imperative for women who have a high risk score on one of the screening tools, indications of suicidal ideation, self-disclosure of concern, previous treatment in a pregnancy, or ineffective response to current regimens. Types of mental health professionals include psychiatrists, clinical psychologists, social workers, psychiatric and mental health nurse practitioners (PMHNPs), and psychotherapists. In areas where there are inadequate resources for referral, suggestions include seeking assistance from local or state public health departments or regional mental health and medical health centers. Management may include multiple treatment modalities as well as independent or multidisciplinary collaborative approaches.

Behavioral therapies for treatment of depression include psychotherapy (talk therapy), interpersonal therapy, cognitive behavioral therapy, psychoanalysis, and psychodynamic therapy. In addition, there are other types of therapy conducted in group settings such as marital or couples therapy, family therapy, and group therapy.[44] Providers should develop a resource list of therapists who have experience caring for women throughout pregnancy.

Any provider prescribing psychotropic medications during pregnancy should be prepared to educate clients with full disclosure about the risk of adverse effects, side effects, and benefits.[45] Documentation of the discussion should appear in the medical record. Controversy exists as to whether current medication should be continued, modified, or discontinued when a woman becomes pregnant, because the safety of various psychotropic medications in pregnancy is unclear.[4] The provider should cautiously approach the recommendation of modifying the medication use for depression during pregnancy. Continuation of previous mental health care services should be maintained during pregnancy.

Relapse of major depression during pregnancy in women who discontinue antidepressant medication use in pregnancy is high.[46] Cohen et al[46] conducted a prospective, naturalistic investigation of 201 women with a history of depression prior to pregnancy to determine time to relapse of depression. Among women who maintained antidepressant medication use throughout the pregnancy, only 26% had a relapse of major depression, compared with 68% of those who discontinued antidepressant medication. An overall goal should

be to encourage women to maintain talk therapy with trained professionals while maternity care providers consult other professionals regarding the use of psychotropic medications to minimize depressive relapse in pregnancy, with minimal risk to the fetus/infant.

Additionally, complementary therapies that may be used as adjunctive management include acupuncture, light therapy, hypnosis, homeopathy, meditation, yoga, massage therapy, and herbal and dietary supplements. Provider recommendation or usage of supplements may include phytoestrogens, evening primrose oil, vitamin D, omega-3 fatty acids, and S-adenosyl-L-methionine.[44] Providers should be informed regarding variations in formulas and side effects of supplement use in pregnancy.

CLINICAL RECOMMENDATIONS FOR PRACTICE

Although there is little evidence-based literature guiding universal perinatal depression screening, recommendations for practice in the antepartum period include early screening through use of the CES-D or EPDS, direct assessment of mental health history and current mental health status, and follow-up as indicated with appropriate treatment and referral.

Given the wide-scope public health problem posed by untreated depression in the antepartum period, screening for possible risk during a prenatal visit is straightforward and cost-efficient when compared to the cost of undiagnosed mental health disorders leading to consequential outcomes of undiagnosed maternal illness.[40] At minimum, every practice that cares for childbearing women should conduct early, routine screening for risk of depression by using 1 of 2 recommended tools. The AHRQ findings suggest that the CES-D and the EPDS have been validated and used in the majority of research investigating perinatal depression, including screening in the antepartum period (Appendix 1).

The American Congress of Obstetricians and Gynecologists Antepartum Record Form is one of the most widely used medical/obstetric recording tools in clinical practice. In the 2007 edition, page 1, within the medical history section, mental health is queried in questions 7 and 8.[47] If there is client disclosure of depressive history and/or family history of depression during use of this screening process, the provider is obligated to follow up with additional detailed and directed assessment. Provider initiation of screening can assure the woman of the importance of mental health while encouraging self-disclosure. Training personnel to administer risk screening tools at various intervals of care may allow more comprehensive assessment of the unique psychosocial and" behavioral needs of pregnant women (Appendix 1). Prenatal examinations dedicated to risk screening include equally important assessment domains such as investigating domestic violence, smoking, substance abuse, and sexually transmitted infections.

Once identification of risk or depressive disorder is completed, referral may include self-help groups such as Postpartum Support International, which has a volunteer coordinator in each of the United States and a 24-hour hotline; referral for behavioral therapies; or consultation for psychotropic medications (Appendix 2). It is important to remember that pharmacotherapy without oversight by an experienced therapist may be inappropriate management. Additionally, women who enter pregnancy while being treated with psychotropic medications must receive a clear explanation of the known risks and benefits to the fetus/infant and need to understand the high rate of relapse associated with discontinuation of psychotropic medications during pregnancy.[45] If indicated, in order to ensure selection of appropriate psychotropic medications, providers not experienced in diagnosis and management of perinatal mood disorders should defer prescribing and consult with an experienced mental health practitioner.

CONCLUSION

As a result of the ongoing practitioner-patient relationship during the perinatal period, the prenatal care provider is in the optimal position to elicit sensitive information regarding history or risk for depression. Women are willing and relieved to respond to in-depth questioning about mental health when provided the opportunity. In doing so, they may provide a greater degree of information about their mental health symptoms and/or risks. This intentional and focused interview, or screening, regarding mental health status may elicit additional relevant findings about personal or family history that will expedite treatment and prompt referral to appropriate resources.

A deficiency regarding the clinical practice of routine screening for depression during the antepartum period is evident. When comprehensive screening is not included during antepartum care, there is less likelihood that relevant information will be revealed. Subsequently, undiagnosed clinical depression in pregnancy may contribute to adverse perinatal complications such as inadequate maternal weight gain, preterm birth, and low infant birth weight. Expanding routine antepartum screening to include administration of either the CES-D or EPDS early in pregnancy is reflective of the clinician's understanding of the magnitude of prenatal depression and related maternal-fetal risk for consequences in absence of appropriate treatment. Inclusion of formalized screening emphasizes to the woman that she is not alone, not left to feel blame, and can be assisted in getting well. Each woman is unique and will base her choice on her history, diagnosis, and personal preferences. The antepartum period is clearly not a time to avoid screening, because depression affects no less than 2 lives, those of the mother and her child.

AUTHORS

Ginger Breedlove, CNM, PhD, ARNP, also works at the Kansas City Free Health Clinic providing women's health care.

Denise Fryzelka, CNM, MS, is a doctoral nursing student at Marquette University, Milwaukee, Wisconsin, and works at the nurse-midwifery service of the University of Wisconsin Hospital and Clinics, Madison, Wisconsin.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

REFERENCES

1.Feinberg E, Smith MV, Johnson Morales M, Claussen AH, Camille-Smith D, Perou R. Improving women's health during internatal periods: developing an evidence-based approach to addressing

maternal depression in pediatric settings. *J Womens Health.* 2006;15:692-703.
2. Austin MP, Priest SR, Sullivan EA. Antenatal psychosocial assessment for reducing perinatal mental health morbidity. *Cochrane Database Syst Rev.* 2008;(4):CD005124. doi: 10.1002/14651858.CD005124.pub.2.
3. Yonkers KA, Smith MV, Lin H, Howell HB, Shao L, Rosenheck RA. Depression screening of perinatal women: an evaluation of the Healthy Start depression initiative. *Psychiatr Serv.* 2009;60:322-328.
4. Yonkers KA, Wisner KL, Stewart DE, et al. The management of depression during pregnancy: a report from the American Psychiatric Association and the American College Of Obstetricians and Gynecologists. *Obstet Gynecol.* 2009;114:703-713.
5. Bennett HA, Einarson A, Taddio A, Koren G, Einarson T. Prevalence of depression during pregnancy: systematic review. *Obstet Gynecol.* 2004;103:698-709.
6. Ryan D, Milis L, Misri N. Depression during pregnancy. *Can Fam Physician.* 2005;51:1087-1093.
7. LaRocco-Cockburn A, Melville J, Bell M, Katon W. Depression screening attitudes and practices among obstetrician-gynecologists. *Obstet Gynecol.* 2003;101:892-898.
8. Dietrich AJ, Williams JW Jr, Ciotti MC, et al. Depression care attitudes and practices of newer obstetrician-gynecologists: a national survey. *Am J Obstet Gynecol.* 2003;189:267-273.
9. Altshuler LL, Cohen LS, Vitonis AF, et al. The pregnancy depression scale (PDS): a screening tool for depression in pregnancy. *Arch Womens Ment Health.* 2008;11:277-285.
10. Family Mental Health Institute urges states to adopt universal depression screening and treatment. American Public Health Association Web site. *http://www.apha.org/membergroups/newsletters/sectionnewsletters/matern/spring08/depresscreen.htm*. Accessed July 29, 2008.
11. Perinatal Mental Health Disorders Prevention and Treatment Act. Illinois Department of Healthcare and Family Services Web site. *http://www.hfs.illinois.gov/mch/pa0469.html*. Accessed July 29, 2008.
12. Lusskin SI, Pundiak TM, Habib SM. Perinatal depression: hiding in plain sight. *Can J Psychiatry.* 2007;52:479-487.
13. Field T, Diego M, Hernandez-Reif M. Prenatal depression effects on the fetus and newborn: a review. *Infant Behav Dev.* 2006;29:445-455.
14. Records K, Rice M. Psychosocial correlates of depression symptoms during the third trimester of pregnancy. *JOGNN.* 2007;36:231-242.
15. Orr ST, Blazer DG, James SA, Reiter JP. Depressive symptoms and indicators of maternal health status during pregnancy. *J Womens Health.* 2007;16:535-542.
16. Gaynes BN, Gavin N, Meltzer-Brody S, et al. *Perinatal Depression: Prevalence, Screening Accuracy, and Screening Outcomes*. Evidence Report/Technology Assessment No. 119. (Prepared by the RTI-University of North Carolina Evidence-based Practice Center, under Contract No. 290-02-0016.) AHRQ Publication No. 05-E006-2. Rockville, MD: Agency for Healthcare Research and Quality. February 2005.
17. Beck AT, Steer RA, Garbin MG. Psychometric properties of the Beck Depression Inventory: twenty-five years of evaluation. *Clin Psychol Rev.* 1988;8:77-100.
18. Holcomb WL, Stone LS, Lustman PJ, Gavard JA, Mostello DJ. Screening for depression in pregnancy: characteristics of the Beck Depression Inventory. *Obstet Gynecol.* 1996;88:1021-1025.
19. Austin MP, Lumley J. Antenatal screening for postnatal depression: a systematic review. *Acta Psychiatr Scand.* 2003;107:10-17.
20. Screening for Depression. Agency for Healthcare Research and Quality Web site. *www.ahrq.gov/clinic/usptf/uspsdepr.htm*. Accessed December 10, 2009.
21. Sanders L. Attitudes, perceived ability, and knowledge about depression screening: a survey of certified nurse-midwives/certified midwives. *J Midwif Womens Health.* 2006;51:340-346.
22. Tully L, Garcia J, Davidson L, Marchant S. Role of midwives in depression screening. *Br J Midwif.* 2002;10:374-378.
23. Robertson E, Grace S, Wallington T, Stewart DE. Antenatal risk factors for postpartum depression: a synthesis of recent literature. *Gen Hosp Psychiatry.* 2004;26:289-295.
24. Nonacs R, Cohen LS. Depression during pregnancy: diagnosis and treatment options. *J Clin Psychiatry.* 2002;63:24-30.
25. Kendler KS, Kessler RC, Walters EE, et al. Stressful life events, genetic liability, and onset of an episode of major depression in women. *Am J Psychiatry.* 1995;152:833-841.
26. Dennis CL, Janssen PA, Singer J. Identifying women at-risk for postpartum depression in the immediate postpartum period. *Acta Psychiatr Scand.* 2004;110:338-346.
27. Field T, Hernandez-Reif M, Diego M. Risk factors and stress variables that differentiate depressed from nondepressed pregnant women. *Infant Behav Dev.* 2006;29:169-174.
28. Westdahl C, Milan S, Magriples U, Kershaw T, Schindler Rising S, Ickovics JR. Social support and social conflict as predictors of prenatal depression. *Obstet Gynecol.* 2007;110:134-140.
29. Dietz PM, Williams SB, Callaghan WM, Bachman DJ, Whitlock EP, Hornbrook MC. Clinically identified maternal depression before, during and after pregnancies ending in live births. *Am J Psychiatry.* 2007;164:1515-1520.
30. Goodwin RD, Keyes K, Simuro N. Mental disorders and nicotine dependence among pregnant women in the United States. *Obstet Gynecol.* 2007;109:875-883.
31. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed. Text Revision (DSM-IV-TR). Arlington, VA: American Psychiatric Association; 2000.
32. Bronwyn L, Milgrom J. Acceptability of antenatal screening for depression in routine antenatal care. *Aust J Adv Nurs.* 2007;24:14-18.
33. Marcus SM, Flynn HA, Blow FC, Barry KL. Depressive symptoms among pregnant women screened in obstetric settings. *J Womens Health.* 2003;12:373-380.
34. Carter FA, Carter JD, Luty SE, Wilson DA, Frampton CMA, Joyce PR. Screening and treatment for depression during pregnancy: a cautionary note. *Aust N Z J Psychiatry.* 2005;39:255-261.
35. Radloff L. The CES-D scale: a self report depression scale for research in the general population. *Appl Psychol Meas.* 1977;1:385-401.
36. Mosack V, Shore E. Screening for depression among pregnant and postpartum women. *J Community Health Nurs.* 2006;23:37-47.
37. Fechner-Bates S, Coyne JC, Schwenk TL. The relationship of self-reported distress to depressive disorders and other psychopathology. *J Consult Clin Psychol.* 1994;62:550-559.
38. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: development of a 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry.* 1987;150:782-786.
39. Jesse DE, Graham M. Are you often sad and depressed: brief measures to identify women at risk for depression in pregnancy. *Matern Child Nurs J.* 2005;30:40-45.
40. Bennett IM, Coco A, Coyne JC, et al. Efficiency of a two-item prescreen to reduce the burden of depression screening in pregnancy and postpartum: an IMPLICIT network study. *J Am Board Fam Med.* 2008;21:317-325.
41. Jomeen J, Martin CR. Is the Hospital Anxiety and Depression Scale (HADS) a reliable screening tool in early pregnancy? *Psychol Health.* 2004;19:787-800.
42. Thompson WM, Harris B, Lazarus J, Richards C. A comparison of the performance of rating scales used in the diagnosis of postnatal depression. *Acta Psychiatr Scand.* 1998;98:224-227.
43. Lindahl V, Pearson JL, Colpe L. Prevalence of suicidality during pregnancy and the postpartum. *Arch Womens Ment Health.* 2005;8:77-87.
44. Nonacs, R. *A Deeper Shade of Blue: A Woman's Guide to Recognizing and Treating Depression in Her Childbearing Years*. New York: Simon and Schuster; 2006.
45. Hackley B. Antidepressant medication use in pregnancy. *J Midwif Womens Health.* 2010;55:x-x
46. Cohen LS, Altshuler LL, Harlow BL, et al. Relapse of major depression during pregnancy in women who maintain or discontinue antidepressant treatment. *JAMA.* 2006;295:499-507.

47. Prenatal Record Form A. American Congress of Obstetricians and Gynecologists Web site. *http://www.acog.org/bookstore/ACOG_Antepartum_Record_Plain_P_P327.cfm* Accessed December 14, 2010.

Appendix 1. Recommended Resources for Providers.

Elliott S, Henshaw C. *Emotional Effects of Childbirth: A Resource Pack for Midwives, Primary Care and Mental Health Professionals*. 2nd ed. Derby, UK: The Marce Society; 2002. Available at: www.marcesociety.com.

Center for Epidemiologic Studies Depression Scale (CES-D), Spanish Version available at: http://patienteducation.stanford.edu/research/cesdesp.pdf.

CES-D, English Version available at: http://patienteducation.stanford.edu/research/cesd10.pdf.

Edinburgh Postnatal Depression Scale, English Version available at: http://www.fresno.ucsf.edu/pediatrics/downloads/edinburghscale.pdf (Source: Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry*. 1987;150:782-786.).

Appendix 2. Recommended Resources for Patients.

Nonacs R. *A Deeper Shade of Blue: A Woman's Guide to Recognizing and Treating Depression in Her Childbearing Years*. New York: Simon & Schuster; 2006.

Health Resources Service Administration. *Depression During and After Pregnancy: A Resource for Women, Their Families, and Friends*. Rockville, MD: US Department of Health and Human Services; 2006. Available at: www.mchb.hrsa.gov/pregnancyandbeyond/depression.

Postpartum Support International: State-State Networks. Available at: http://postpartum.net.