

Perinatal Depression: Hiding in Plain Sight

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Objective: To promote prompt identification and treatment of perinatal depression and enhance preventive care for women at risk.

Methods: Using MEDLINE and PubMed searches, we reviewed the recent research on the origins, course, and consequences of pregnancy-related depression.

Results: Depressive disorders are more common in pregnancy and postpartum than widely assumed, and there is no predictable protective effect of pregnancy. Relapse rates are high, and the postpartum period represents a time of increased vulnerability to depression.

Conclusion: Early identification and treatment of perinatal depression will minimize morbidity and mortality for the woman, the child, and the family.

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Clinical Implications

- Early identification and treatment of mood and anxiety disorders helps minimize the negative consequences for the mother, child, and family.
- Effective allocation of health care resources will be helped by refinement in diagnostic subtypes, by more accurate estimates of prevalence, and by better identification of biopsychosocial risk factors for perinatal mood disorders.

Limitations

- Methodology, including diagnostic criteria, screening tools, timing of screening, and identification of risk factors varies considerably among studies in all domains.
- The use of homogeneous populations, control groups that are not ideal, and lack of adequate controls for tobacco, alcohol, and illicit substance use limits the generalizability of findings.
- Better understanding of diagnoses and risk factors will help refine treatment planning, thereby maximizing clinical benefits while minimizing risks.

Key Words: *depression, mood disorders, risk factors, epidemiology, pregnancy, postpartum, lactation*

The general public and medical professionals tend to think of pregnancy as a time of emotional well-being for women and their families. Although this is true for most, a substantial number of women will experience distressing symptoms that can make pregnancy and motherhood one of the most disturbing experiences of their lives.

At the turn of the 21st century, the Andrea Yates case focused an international spotlight on the tragic consequences of postpartum mental illness and sparked widespread interest in the field of perinatal mental health that has persisted to this

day.^{1,2} Ironically, had this tragedy occurred a mere 3 months later, after the terrorist attacks of September 11, 2001, it would not have had the same impact. Celebrity interest led to the publication of *Down Came the Rain*,³ Brooke Shield's account of her own battle with postpartum depression, which kept the topic in the public eye and helped destigmatize postpartum depression. The ranting of international movie star Tom Cruise against the use of medications to treat depression served to further publicize the issue. Although there is a large body of literature, dating from ancient times, on the psychiatric pitfalls of pregnancy and childbirth,⁴ the drama of the

Yates case and the interest of international celebrities has done more than anything else could have to publicize these illnesses.

Postpartum Support International and its members have been advocating for many years in support of legislation for postpartum depression awareness, treatment, support services, and research. In the late 1990s, a few US states, including California, New Jersey, and New York, were beginning to pass groundbreaking legislation for postpartum depression awareness. Until 2001, however, at the time of the Yates tragedy, only 2 states required hospitals to provide information on postpartum depression. With the intensification of public awareness, advocacy reached a new level, and New Jersey passed the first postpartum depression law in April 2006.⁵ This law requires all health care providers to screen women who have recently given birth for postpartum depression. In addition, the Legislature mandated the establishment of a state-wide perinatal mental health referral network.

Over the past 40 years, most research has focused on postpartum mood disorders, specifically, postpartum blues, postpartum depression, and postpartum psychosis. In the past decade, interest has shifted to antenatal depression. It has long been known that the postpartum period represents a time of heightened vulnerability to the new onset of depression and of increased risk of being hospitalized,^{6,7} but many assume that pregnancy offers protection against mental illness. However, longitudinal studies have shown that pregnancy offers no protection against the occurrence or reoccurrence of major depression.⁸

As awareness of perinatal depression has grown, attention has also turned to perinatal anxiety disorders such as generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, and posttraumatic stress disorder, which are often comorbid with depression. The diagnosis of bipolar disorder has broadened to include bipolar spectrum disorders. This has implications for the diagnosis and management of depression in pregnancy and postpartum.⁹⁻¹¹ The refinement of diagnostic subtypes and better identification of comorbidities will improve our ability to tailor treatment for a particular patient.

This review focuses on perinatal depression, looking at prevalence, risk factors, symptoms, screening, and the consequences of untreated maternal mental illness for child development.

Prevalence

Women are twice as likely as men to develop depression in their lifetime, with pregnancy and the postpartum period offering no particular protection against this illness.^{12,13} Because 49% of all pregnancies are unplanned,¹⁴ clinicians, whether they realize it or not, will encounter and treat many patients with antenatal depression in addition to those with depression following miscarriage or termination. The number of women who actually fulfill criteria for major depression during pregnancy is much smaller than the number who report depressive symptoms.¹⁵⁻²¹

The AHRQ reviewed the epidemiologic data published as of March 2004 regarding the incidence, prevalence, and screening methods for perinatal depression.¹³ Of the studies reviewed, 30 met strict inclusion criteria. The AHRQ noted that the studies' methodological limitations included relatively small sample sizes, patient populations that did not represent the racial and ethnic mix of the countries in which the studies were conducted, variable sampling times, inconsistent diagnostic criteria, and variable screening methods. Thus the generalizability of the findings is limited. Using strict criteria, the AHRQ estimated the point prevalence of major depression at different times during pregnancy to range from 3.1% to 4.9% and, during the first postpartum year, to range from 1.0% to 5.9%. When minor depression was included, the point prevalence ranges rose to 8.5% to 11.0% antenatally and 6.5% to 12.9% postnatally. However, CIs were wide, reflecting the limitations of the available data. Importantly, these prevalence estimates were no different from prevalence estimates among age-matched nonpregnant women.

The question of whether the risk for depression varies across pregnancy often arises. According to the AHRQ, the peak times for both major and minor depression are the second trimester and postpartum, although the report notes that CIs were wide.¹³ A separate metaanalysis found that the prevalence of depressive symptoms (as opposed to major depression) was greatest in the second and third trimesters. Prevalence rates for the 3 trimesters were 7.4% (95%CI, 2.2% to 12.6%), 12.8% (95%CI, 10.7% to 14.8%), and 12.0% (95%CI, 7.4% to 16.7%), respectively.²¹ In both cases, however, the variability of the studies limits the strength of the conclusions.^{13,21}

The limited data available on the incidence of perinatal depression suggest that 7.5% of women develop a new episode of major depression during pregnancy and that 6.5% develop a new episode during the first 3 months postpartum.

Abbreviations used in this article

AHRQ	Agency for Healthcare Research and Quality
CI	confidence interval
CRH	corticotropin-releasing hormone
EPDS	Edinburgh Postnatal Depression Scale
HPA	hypothalamic-pituitary-adrenal

The combined data for major and minor depression raise these figures to 14.5%, both antenatally and in the first 3 months postnatally.¹³ Childbirth, according to one study, may accelerate the development of a depressive disorder, with the rate of onset of new episodes of depression being 3 times higher in the first 5 weeks postpartum than in a nonpregnant control group.⁶ Among primiparous women between 0 and 5 months postpartum, a Danish population-based register study has demonstrated an increased risk for first-time contact with outpatient mental health services and for first-time admission for unipolar depression, compared with women who were between 11 and 12 months postpartum.⁷ The study did not include women who had twins or who had terminated, miscarried, or suffered a stillbirth.

The incidence and prevalence of depression for a given population may be considerably higher than the AHRQ figures, and individual risk factors should always be taken into account. For example, the point prevalence of DSM-IV major depression in a group of women from a periurban settlement in South Africa was found to be 34.7% at 2 months postpartum, nearly 3 times as high as in a British sample.²² Another study found the prevalence of postpartum depression to be 22% among recent immigrants to Israel, with two-thirds of these women reporting depression in the second trimester of pregnancy.²³ Pregnant adolescents constitute another patient population at elevated risk (and adolescents suffering from depression are also at high risk for becoming pregnant).²⁴

Large-scale prospective studies with a greater ethnoracial mix are needed to further characterize the incidence and prevalence of perinatal depression and to determine the optimal time for screening.

Screening

The AHRQ found only 10 studies of English-language screening instruments. Limitations included the facts that studies were primarily conducted on white populations, that screening instruments and cut-off scores varied, and that timing varied.¹³ Although the ideal screening method and timing have yet to be identified, the EPDS is the best studied instrument, and it is useful both antenatally and postnatally.²⁵ The EPDS has been translated into over a dozen languages, but using consistent cut-off scores would enhance its utility as a screening tool.²⁶ The Postpartum Depression Screening Scale was developed more recently but has not been studied in pregnancy.²⁷ The Beck Depression Inventory has also been used, but data during pregnancy and postpartum are similarly limited.¹³

Given that many episodes of postpartum depression began during pregnancy, and given the amount of contact that women have with health care providers during pregnancy,

pregnancy may well turn out to be the best time to start screening.²⁸⁻³¹ Other opportunities for screening include postpartum checkups and pediatric visits.^{32,33} Screening will be further enhanced if risk factors for the development of depression can also be identified during screening. For example, a population-based study of 594 postpartum women in Canada found that women who had depressive symptoms (that is, an EDPS score ≥ 10) at 1 week postpartum were more likely to screen positive again at 8 weeks if they had a history of childhood sexual abuse or a partner with a drug or alcohol problem, if they were recent immigrants, or if they had higher levels of interpersonal conflict (among other variables).³⁴ Unfortunately, even when identification occurs, very few women receive adequate, if any, treatment.^{15,35,36}

Diagnosis

Perinatal depressive disorders are distinguished by their timing rather than by their symptomatology. Criteria for major depression in pregnancy and postpartum are the same as those for nonpuerperal depression. The DSM-IV does not list a separate classification for either antenatal or postnatal depression and limits the postpartum-onset specifier to within 4 weeks of childbirth.³⁷ Clinically, however, depression that is identified within the first postpartum year is considered to be postpartum depression. In both pregnancy and postpartum, the diagnosis is often missed, not just because of a cultural antipathy to the concept but also because the neurovegetative symptoms of depression (sleep and appetite disturbances, anergia, and weight changes) are misattributed to the normative changes of pregnancy and the postpartum period. Sad, blue, hopeless, or helpless mood or suicidal ideation are among the distinguishing features of depression.

Postpartum depression is also often minimized as “postpartum blues.” This condition is transient, limited to 2 weeks postpartum, and characterized by mild mood swings, mild irritability and anxiety, mild insomnia, decreased concentration, and crying spells.³⁸ Symptoms, which affect over 50% of postpartum women, typically peak within 2 to 3 days after delivery, and resolve with minimal or no treatment.³⁹ Suicidal ideation is not part of “the blues,” nor is persistence beyond 2 weeks. Women with a history of major depression who develop postpartum blues require particularly close monitoring because their symptoms may in fact be the earliest signs of relapse.

The term “postpartum depression” is occasionally used erroneously to describe the acute illness of postpartum psychosis. Postpartum psychosis generally refers to a rapid decompensation that occurs within the first 1 to 4 weeks after delivery; it is characterized by hallucinations, delusions, confusion, dramatic mood swings, and agitation. The syndrome is frequently part of a bipolar disorder, generally requires

hospitalization, and carries with it a significant risk of suicide and infanticide.^{9,40,41} Untreated postpartum depression may progress to become a delusional depression, usually presenting several months postpartum. This is the so-called “late-onset postpartum psychosis.” This syndrome is also associated with suicide and infanticide, usually requires hospitalization, and may also be part of a bipolar disorder.¹¹ The timing and phenomenology are, however, different from the classic postpartum psychosis. The confusion of terms has further stigmatized postpartum depression and kept women from revealing their suffering.

Women are especially reticent when they do not feel bonded to the baby or have obsessional thoughts about harming the baby.⁴² Usually, these thoughts are ego-dystonic and recognized as illogical, and the mother is unlikely to act on them. If the patient has developed psychosis, however, there is a risk of infanticide. Women who avoid their babies require prompt evaluation.

Pathogenesis

The etiology of perinatal depression has yet to be elucidated conclusively. More is currently known about postnatal depression than about antenatal depression.⁴³ A confluence of genetic susceptibility,^{44,45} hormonal changes,⁴⁶ and life stressors⁴⁷ most likely leads to the final common pathway of depression.⁴³ The tremendous hormonal changes of parturition have been particularly implicated in postpartum blues, although studies have yielded conflicting results.^{38,46,48–50} In addition to estrogen^{46,51,52} and progesterone,^{46,53,54} other biochemical factors that have been investigated include thyroid hormone,^{55–57} cortisol,⁵⁴ testosterone,⁵⁸ CRH,⁵⁹ and cholesterol.⁶⁰ No single factor has been identified as the causative agent.⁶¹ Biological factors such as sleep deprivation may also contribute to the development of postpartum mood disorders.⁶²

Risk Factors

First-degree relatives of patients with depression are 1.5 to 3 times more likely to develop depression, compared with the general population, with a high rate of concordance among twins.⁶³ Thus a family history of depression increases the risk for a given patient.^{16,18,19,64,65}

Antenatal Depression

Psychosocial factors that increase the risk for depression in pregnancy (and postpartum) include unplanned pregnancy, ambivalence about the pregnancy, poor social support, marital difficulties, and adverse life events.^{18,19,64,66} Both a personal history and a family history of depression, particularly perinatal depression, are found to increase the risk of antenatal depression.^{8,16} One major risk factor for antenatal depression is discontinuation of antidepressant medications. A

prospective study of 201 women with major depressive disorder who were euthymic for at least 3 months prior to conception found that those who discontinued medications shortly before pregnancy or during the first trimester had a significantly increased risk of relapse, compared with women who stayed on medication.⁶⁷ Of the 65 women who discontinued medication, 68% relapsed, compared with 26% of the 82 women who maintained their antidepressants throughout pregnancy, giving a hazard ratio of 5.0 (95%CI, 2.8 to 9.1).

It is noteworthy that the relapse rate was far from negligible even in the women who stayed on medications, highlighting the importance of closely monitoring, throughout pregnancy, those women who are being treated for pre-pregnancy depression.

Postpartum Blues and Depression

Although a personal history of depression has been consistently correlated with postpartum depression, a family history of psychiatric illness has been implicated less consistently.^{65,68,69} Nevertheless, from a clinical perspective, the family history usually yields valuable clinical information.

Antenatal depression is a key risk factor for postpartum depression.^{20,28,69–71} Postpartum blues represent another key risk factor.^{72,73} In turn, risk factors for “the blues” include a history of depression, depressive symptoms during pregnancy, a family history of depression, premenstrual mood changes, oral contraceptive dysphoria, child care stressors, and psychosocial impairment in work, relationships, or leisure activities.^{38,74}

Psychosocial factors also increase the risk for postpartum depression. These factors include marital discord; lack of social support; stressful life events, such as bereavement and preterm birth; chronic stressors, such as financial difficulties; unplanned pregnancy; and ambivalence about pregnancy.^{19,64,75–78} In women who were hospitalized for depression after childbirth, a history of sexual abuse is a risk factor for protracted postpartum depression.⁷⁹ Pregnancy loss (that is, miscarriage, stillbirth, and abortion for an unintended pregnancy) is a risk factor for major depression postpartum,^{80–83} especially in women with a history of depression.

A general caveat should be kept in mind regarding the identification of risk factors for postpartum depression: many studies have small sample sizes and are restricted to specific socioeconomic classes or ethnoracial populations, and their findings have not been consistently reproducible.⁸⁴

The Consequences of Antenatal Depression and Anxiety

Risks to the Mother

Multiple consequences may arise from untreated antenatal depression, including maternal, fetal, infant, and child effects. For the gravida, these include noncompliance with prenatal care; self-medication with tobacco, alcohol, and drugs; reduced sleep; poor appetite; and poor weight gain during pregnancy.^{13,28,85–87}

Untreated depression may also lead to suicide, both during pregnancy and postpartum. The risk of suicide during pregnancy appears to be lower than the risk among age-adjusted nonpregnant women but is considered highest among pregnant teenagers and following a stillbirth.^{88–90}

A retrospective study of women in California who had attempted suicide during pregnancy found an elevated rate of suicide attempts in pregnant women, compared with the background rates for age-matched women.⁹¹ The rate of suicide attempts was 40/100 000 pregnancies, compared with background rates of 12.2/100 000 (among those aged 15 to 29 years) and 12.4/100 000 (among those aged 30 to 44 years). Of the attempts, 90% were potentially lethal ingestions of a harmful substance (for example, a poison or drug overdose). Young age, low socioeconomic status, multiparity, and a history of substance abuse were risk factors for attempts. Women who attempted suicide were at increased risk for maternal perinatal complications.⁹¹ Perinatal complications included premature labour, Caesarean delivery, maternal need for blood transfusion, and low birth weight.

The risk of suicide in the postpartum period is well established.^{88,89} The Confidential Enquiry into Maternal Deaths (1997 to 1999)⁸⁸ found that suicide was the leading cause of maternal death in the first postpartum year, accounting for 28% of deaths, and that the first 42 days postpartum may confer a greater risk. The study also demonstrated that these suicide victims used violent means, such as hanging or jumping, more often than overdose. As well, these women were found to have higher socioeconomic status and to be older, which challenges previously reported risk factors. Most of these women suffered from a psychiatric illness and nearly one-half had a history of a postpartum psychiatric admission.

Additional maternal risks reported to be associated with antenatal depression include spontaneous abortion, bleeding during gestation, and Caesarean section.^{85,91,92,87} A prospective, population-based study including 623 pregnant women concluded that untreated depression and anxiety were each independently associated with an increased risk for the development of preeclampsia (OR 2.5; 95%CI, 1.1 to 5.4 and OR 3.2; 95% CI 1.4 to 7.4, respectively).⁸⁷ Finally, the patient with antenatal depression often worsens postpartum in the

setting of sleep deprivation and the stress of caring for the newborn.⁶²

Risks to the Fetus and Infant

Research on the impact of maternal mental illness on fetal and child development is subject to limitations similar to the previously described limitations of studies on the prevalence of perinatal mood disorders. Substance abuse (that is abuse of alcohol, illicit drugs, or tobacco) is a confound that, at best, has been controlled for by self-report. Antenatal studies have not thus far controlled for exposure to partner mental illness or adequately controlled for exposure to medications and nutraceuticals. Nevertheless, general trends emerging from the literature can serve as a guide to clinical management.

Although a large body of data exists on the effects of untreated postpartum depression (and it is known that the offspring of parents who suffer from depression have a significantly increased risk of developing psychiatric disorders),⁹³ there are actually more data on the effects of antenatal anxiety than on the effects of antenatal depression.^{94–98} Still, because anxiety is a common symptom of depression and because anxiety disorders occur in 4.7% of pregnant patients, these data may also offer insights into perinatal depression.^{94,99}

Preterm delivery (defined as delivery at < 37 weeks' gestation) and low birth weight (< 2500 g) have been associated with anxiety and depression in pregnancy.^{84,85,92,100,101} Both of these conditions are associated with increased morbidity and mortality in the infant. Untreated depression has been linked to smaller head circumference, lower Apgar scores, admission to a neonatal care unit, and small for gestational age.^{85,92,101} Maternal anxiety in women seen for routine obstetric care in both the second and third trimesters has been correlated with alterations in heart rate variability (a marker for fetal distress), fetal movement patterns, and fetal sleep–wake cycles.^{94,102} The fetuses of highly anxious mothers who had also scored high on depression and anger measures also had growth delays, compared with the fetuses of mothers with less anxiety.⁹⁴ Findings at birth for the same cohort included lower dopamine and serotonin levels, lower vagal tone, greater right frontal electroencephalogram activation, and suboptimal performance on the Brazelton Neonatal Behavior Assessment Scale.⁹⁴ At age 8 months, infants exposed to antenatal anxiety were found to be highly reactive, to have poorer interactions with their mothers, and to have poorer scores on Bayley Scales of Infant Development.¹⁰² At age 24 months, they were also reported by their mothers to have more sleeping, activity, and feeding problems. Regulation difficulties in cognitive, behavioural, and emotional domains correlated with antenatal anxiety, after controlling for smoking and postnatal exposure to anxiety in addition to other possible confounds.

The Avon Longitudinal Study of Parents and Children has demonstrated the longer-term neurobehavioural consequences of antenatal anxiety in a cohort of 14 000 pregnant women and their offspring.^{96,97} Mothers were assessed by self-report during pregnancy at 18 and 32 weeks and again postpartum at 2, 8, 21, and 33 months. Child behaviour was assessed by parent report at ages 47 and 81 months. Despite the limitation of not using independent observers, the findings are provocative. Among the 7448 children (boys, $n = 3853$; girls, $n = 3595$) studied at ages 4 and 6 years, a sex difference was found. Girls were affected by antenatal anxiety at both time points in pregnancy, whereas boys' behavioural and emotional problems correlated only with 32-week anxiety.^{96,97}

Clinician and nonparent raters followed a cohort of 72 first-born children and mothers from pregnancy up to age 15 years.^{95,98,103} Attention-deficit hyperactivity disorder, externalizing problems, and self-reported anxiety in both girls and boys aged 8 to 9 years correlated with exposure to high antenatal anxiety at 12 to 22 weeks but not to such exposure at 32 to 40 weeks.⁹⁸ Among those aged 14 to 15 years, anxiety at 12 to 22 weeks predicted poorer scores on the Wechsler Intelligence Scale for Children–Revised subtests for vocabulary and block design tasks and greater impulsivity on continuous performance testing.^{95,103} Confounds that were controlled for included maternal smoking in pregnancy, parental education level, birth weight, and postnatal exposure to maternal anxiety. These findings suggest that second trimester anxiety, in particular, may have a negative effect on fetal brain development.¹⁰³

Pathogenesis

Various neuroendocrine mechanisms, as well as hormonal and inflammatory pathways, have been hypothesized to play a role in the association between maternal stress and adverse fetal outcomes. For example, CRH, adrenocorticotrophic hormone, and cortisol are thought to be prime mediators of this stress, affecting the development of the prefrontal cortex, the limbic system, and the HPA axis.^{84,85,102,104} Increased maternal stress results in higher levels of serum cortisol. The HPA axis is regulated by a negative feedback loop, but the placenta also secretes CRH that is not regulated by this feedback loop, resulting in increased overall levels of CRH and cortisol. Maternal mental health may also affect fetal development via the cardiovascular, neuroendocrine, and autoimmune systems. For example, maternal stress can lead to the production of various inflammatory cytokines and vasoactive hormones that may have negative effects on fetal outcome via vasoconstriction and increased uterine artery resistance.^{84,85,87,104,105}

The “fetal programming hypothesis” has been proposed as a mechanism to explain the effects on child development of antenatal exposure to abnormal mood changes. The hypothesis states that “the environment in utero can alter the development of the fetus during particular sensitive periods, with a permanent effect on the phenotype.”^{102, p238} The degree of sensitivity to maternal stress may be determined by genetic factors and the effects of placental CRH.¹⁰⁶

Although this review has necessarily focused on the effects of maternal mental illness on fetal, infant, and child outcomes, there are other factors that, in all fairness, should be taken into account. For example, a metaanalysis of 67 studies demonstrated that, after controlling for maternal age and socioeconomic factors, the relative risk for preterm birth, low birth weight, and being small for gestational age was significantly increased when the birth interval (the time elapsed between the woman's last delivery and the conception of the index child) was less than 18 months or greater than 59 months.¹⁰⁷ Coordination of research between obstetricians and psychiatrists will improve definition of the consequences of antenatal mental illness.

Postpartum Depression Effects on Child Development

The effects of postpartum depression on children have been well studied.¹⁰⁸ As an example, a population-based birth cohort study conducted in 18 US cities found that maternal depression and anxiety in the first postpartum year were associated with child behaviour problems at age 3 years, including aggression, anxious–depressed behaviour, and (or) inattention–hyperactivity. The findings were significant after controlling for sociodemographic factors, paternal mental health, and paternal substance use. The risk of child behaviour problems was increased in the 50% of mothers who had comorbid substance abuse and (or) were victims of domestic violence.¹⁰⁹

It is not, however, easy to quantify the relation between postpartum depression and neurobehavioural problems in the children, owing to variations in study designs that include differences in patient selection, assessment tools, and adjustment for confounders. For example, one study showed a correlation with food insecurity,¹¹⁰ and another study demonstrated that paternal depression strongly correlated with behaviour problems in boys, independent of maternal depression.¹¹¹

Maternal–Infant Bonding

The relationship between mother and baby begins during pregnancy, but its importance is not always appreciated until after the baby is born. Depression interferes with maternal–infant bonding in utero as well as postpartum.¹¹² Just as maternal depression can affect fetal and infant health,

the presence of ongoing depression postpartum can also profoundly affect the extent of attachment and bonding between mother and infant. In the more severe cases, this can lead to child abuse or neglect; however, even in milder cases, it can have lasting effects on child development and on the relationship with the mother, even after maternal depression has been treated. The Postpartum Bonding Questionnaire has been designed to detect such disturbances early.¹¹³ It is a 25-item questionnaire that focuses on 4 domains of maternal–infant bonding, including impaired bonding, rejection and anger, maternal anxiety, and the presence of incipient abuse requiring urgent intervention. Despite the potential for recall bias arising from its design as a self-report scale, it demonstrates high sensitivity as a screening tool to detect mothers with bonding disorders. With further refinement, it may serve as an important tool for use alongside the EPDS in primary care and obstetric clinics. Early identification of such disturbances in the mother–infant relationship will facilitate early intervention targeted at resolving these problems, independent of resolution of the mood disorder.

General Evaluation

The presence of a neuropsychiatric disorder does not exclude the potential coexistence of other medical and obstetric conditions. Therefore, the evaluation for perinatal depression should include a physical examination and baseline laboratory evaluations such as a complete blood count and thyroid, renal, and liver function tests. It is also recommended that the patient have a urine toxicology screen, given the high comorbidity between psychiatric disorders and substance abuse. It is essential to question the patient specifically about the use of medications (both prescription drugs and over-the-counter medications) and nutraceuticals, as well as about illicit drugs, alcohol, nicotine, and caffeine, all of which may exacerbate the mood disorder and potentially interact with any psychotropic medications prescribed.

When evaluating a pregnant or postpartum woman for depression, one should also screen for comorbid disorders such as generalized anxiety disorder, obsessive–compulsive disorder, panic disorder, phobias, posttraumatic stress disorder, and eating disorders.¹¹⁴ Careful screening for bipolar depression is essential.⁹

It is critically important to recognize that, when a woman who is pregnant or postpartum complains of feeling depressed, her complaints must be addressed with the utmost seriousness. Most women prefer to suffer in silence; by the time they have vocalized their complaints, they are usually experiencing significant distress. Women who are suffering from psychosis and women who avoid their babies should be evaluated emergently. Interviewing the partner or a member of the patient's support system yields valuable information about

the woman's clinical status and the stressors she may be facing at home. Whenever possible, have the patient come in with her baby so that her interaction with the child may be assessed.

Future Directions

A study conducted in the United States has demonstrated the feasibility of universal perinatal depression screening in a large academic medical centre and health care network when mechanisms are in place to handle the management of at-risk patients—in this case, the provision of a 24-hour hotline and referral network of mental health providers.³¹ As screening programs are expanded and risk factors identified, early intervention for perinatal depression will become the standard of care rather than the exception. Refinement of diagnostic categories (for example, distinguishing unipolar depression from bipolar spectrum disorders) and recognition of comorbid psychiatric conditions will enable clinicians to develop treatment modalities that promote prompt recovery while minimizing risks to the patient, the fetus, and the infant.

More research is needed on the roles of sociocultural factors in the development and course of perinatal depression. For example, in cultures where spousal support has been encouraged and help from the extended family is available, the course of postpartum depression may be attenuated.¹¹⁵ Close coordination in study design between the specialties of obstetrics and psychiatry will also improve the quality of results.

Finally, as the medical profession and the public come to understand more about the biological basis of mental illness, especially the interaction between genes and the environment, the stigma of perinatal depression will fade, and women themselves will seek treatment more readily.

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Résumé : La dépression périnatale : se cacher au grand jour

Objectif : Promouvoir l'identification et le traitement rapides de la dépression périnatale et accroître les soins préventifs pour les femmes à risque.

Méthodes : Par des recherches dans MEDLINE et PubMed, nous avons examiné la recherche récente sur les origines, l'évolution et les conséquences de la dépression liée à la grossesse.

Résultats : Les troubles dépressifs sont plus fréquents durant la grossesse et le post-partum qu'on ne le croit en général, et il n'y a pas d'effet protecteur prévisible de la grossesse. Les taux de rechute sont élevés, et la période du post-partum représente un temps de vulnérabilité accrue à la dépression.

Conclusion : L'identification et le traitement précoces de la dépression périnatale minimiseront la morbidité et la mortalité pour la femme, l'enfant et la famille.