



Perinatal depression: A clinical update

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Abstract: Perinatal depression is a common condition with significant adverse maternal, fetal, neonatal, and early childhood outcomes. The perinatal period is an opportune time to screen, diagnose, and treat depression. Improved recognition of perinatal depression, particularly among low-income women, can lead to improved perinatal health outcomes.

Perinatal depression is a significant mental and public health problem and may be one of the most disabling disorders among women of childbearing age.¹ Perinatal depression is associated with a multitude of negative sequelae for women, children, and families, including poor maternal-fetal attachment, adverse neonatal outcomes (low birth weight, preterm birth, small for gestational age), poor infant attachment, early childhood developmental delays, and relationship strain.²⁻⁴

Despite the prevalence and sequelae of perinatal depression, most women who present with depressive symptoms are not screened and do not receive adequate treatment.⁵ Even in health systems that perform “universal screening” for antenatal depression, only about a third of the charts have documented depression screening scores and provider

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counseling.⁶ These shortcomings are disconcerting, as research suggests that effective treatment is available for antenatal depression and that diagnosed women are more likely to receive treatment.⁷

Extant research has identified barriers and facilitators to successfully recognizing and treating perinatal depression. These barriers and facilitators may occur at the patient, healthcare provider, and system levels of care. Timely and appropriate screening and patient-centered treatment are critical to addressing perinatal depression barriers. The purpose of this article is twofold. The first is to present an overview of research related to the impact of perinatal depression on maternal and infant outcomes. The second is to briefly address the topic areas of screening, assessment, diagnosis, treatment, and evaluation of perinatal depression among patients presenting to perinatal healthcare providers (e.g., family practice, pediatric, and obstetric settings).

■ Background and definition of the problem

Perinatal depression is considered the most underdiagnosed pregnancy complication in the United States with more than 400,000 infants born to mothers who are depressed each year.¹ The pregnancy and postpartum phases of the perinatal period are considered periods of high risk.⁸ Perinatal depression, defined here as minor or major episodes of depression occurring during pregnancy or the first postpartum year, affects an estimated 7% to 20% of women with rates as high as 35% to 40% among low-income and minority women.^{9,10} Depressive symptoms occurring during pregnancy often persist after delivery, suggesting an important role of antenatal symptoms in predicting postpartum depression.

Approximately half of postpartum depression cases have onsets during pregnancy.¹¹ Recognizing insufficient evidence demonstrative of a clear difference between postpartum and pregnancy depressive episodes, the American Psychiatric Association recently proposed the term “peripartum onset” as a specifier for major depressive episodes that occur during pregnancy and/or in the postpartum period.¹²

■ Risk factors for perinatal depression

Understanding risk factors for perinatal depression is essential for healthcare providers to more easily identify women at risk for developing this condition. Many risk factors for perinatal depression have been identified in the literature. Women with a lifetime history of depression are at increased risk for perinatal depression. Furthermore, antenatal period depression is the most significant risk factor for postpartum depression development.¹³ Depression

and anxiety are highly comorbid in nonpregnant samples, with nearly 60% of women diagnosed as depressed also meeting diagnostic criteria for an anxiety disorder.¹⁴

A recent systematic review, which examined the relation between maternal anxiety and depression in 11 studies, found anxiety to be one of the strongest associations with antenatal depressive symptoms.¹⁵

Depression disproportionately affects low-income women. Research suggests that poverty is a powerful predictor of depression irrespective of race/ethnicity.¹⁶ Research has found that nearly 40% of mothers participating in Head Start, a program serving predominantly low-income preschool children and their families, may experience depression.¹⁷ Other studies have concluded that race and ethnicity are risk factors for perinatal depression. This is particularly concerning, as research also demonstrates that ethnic minority patients are less likely to obtain care for depression than White patients and are less likely to receive clinically appropriate treatment when they do access care.¹⁸

Stress is another established risk factor for perinatal depression. Stress can be conceptualized in many ways, and the majority of studies that have examined the relation between stress and depression have conceptualized stress as stressful life events (divorce, serious illness, death in the family) or daily hassles (work hassles, time pressures, financial strain).¹⁵ A significant body of research has

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examined life stress as a predictor of perinatal depression, with most studies finding positive associations.

A sizeable body of research supports a significant relation between social support and perinatal depression. There is a moderate correlation between social support and perinatal depression across many studies when assessing social support available to perinatal women as support from any source.¹⁵ However, perinatal women who report the absence of a supportive partner have been found to be at greatest risk for perinatal depression across multiple studies.¹⁵ It is important to mention that many studies do not adequately control for important confounders of this relation (income, education, socioeconomic status, relationship violence).

Experiencing intimate partner violence (IPV) is also a predictor of perinatal depression. Extant research has found that between 3% and 9% of women experience IPV

during pregnancy, though there are well-established risk factors associated with higher rates of abuse during pregnancy, including young age, low socioeconomic status, single marital status, and minority race/ethnicity.¹⁹ Research conducted in low-income perinatal women found that up to 85% of women experiencing IPV during pregnancy also screened positive for depressive symptomatology on the Edinburgh Postnatal Depression Scale (EPDS); these women were at significantly increased risk for suicidal ideation.²⁰⁻²²



The majority of research examining the safety of breastfeeding with antidepressant use has found low rates of adverse reactions in infants.

Additional risk factors for perinatal depression include pregnancy complications.²³ Numerous studies have examined the relation between cesarean delivery and postpartum depression, with the majority of studies concluding mode of delivery is not a significant predictor; however, research has demonstrated that women with a strong preference for vaginal delivery but who require a cesarean delivery are at increased risk for postpartum depression in the early postpartum period.²⁴⁻²⁶ Further, neonatal factors may be associated with an increased risk for depressive symptoms, for example, infant colic and inconsolable crying are associated with maternal depressive symptoms.²⁷

■ Screening for perinatal depression

Because perinatal depression can have serious consequences regarding maternal morbidity and mortality (as well as adverse neonatal and early childhood outcomes), there is significant interest in improving its detection to increase appropriate treatment modalities.²⁸ Screening for depression has been widely supported as a component of routine obstetric care.²⁹ In 2015, the American Congress of Obstetricians and Gynecologists (ACOG) released a committee opinion recommending that clinicians screen patients for depression and anxiety symptoms at least once during the perinatal period using a validated tool.³⁰

ACOG's guidelines also highlight the importance of coupling screening with appropriate follow-up and treatment as indicated.³⁰ Recognizing the negative effects of perinatal depression on early childhood outcomes and the critical role pediatric healthcare providers play in providing care, the American Academy of Pediatrics recommends that pediatric providers routinely screen mothers for depression during 1-, 2-, and 4-month well-child visits.¹

The EPDS is the most commonly utilized instrument to screen for perinatal depression. This self-rated, 10-item instrument asks a woman to answer questions based on how she has felt in the previous 7 days ("I have felt sad or miserable; I have been able to laugh and see the funny side of things; things have been getting on top of me") and choose one of four possible responses.³¹ The EPDS does not focus on some of the somatic symptoms (changes in appetite, sleeping difficulties, energy level) that are more common among perinatal women in the absence of a mental disorder.

Its psychometric properties are the most established of any depression screening tool and it has been validated in diverse perinatal populations.³²

Recognizing the importance of universal screening for perinatal depression, the National Institute for Health and Clinical Excellence recommends

the use of two case-finding questions for depressive symptoms in perinatal women: "During the past month, have you often been bothered by feeling down, depressed or hopeless?"; and "during the past month, have you often been bothered by little interest or pleasure in doing things?" If a positive response is given to either question, the recommended follow-up question states: "Is this something you feel you need or want help with?" These two case-finding questions have been validated in diverse primary care settings, including perinatal women, and are endorsed by United States and Canadian bodies for depression screening in adults.^{33,34}

Screening for perinatal depression is viewed as acceptable by most perinatal women, and the majority of perinatal women are in favor of psychosocial screenings, such as depression and IPV.³⁵ Importantly, women are more likely to accept depression screening if they understand the purpose of the screening, interpretation of results, and treatment options available.³⁵ These findings support providers of perinatal women using a patient-centered approach to screening.

In addition to "paper and pencil" screening, healthcare providers should consider physiological disturbances, which may contribute to depressive symptoms. Research has demonstrated an increased depression risk in perinatal women with concurrent anemia, thyroid dysfunction, and fatigue.³⁶ Screening for anemia, particularly among women with excessive blood loss during their deliveries, is an important consideration and easily remedied.

In addition, iron deficiency anemia may alter thyroid hormone metabolism, so thyroid function should be assessed in cases of suspected anemia as well as in women with a history of thyroid disease or who exhibit symptoms of

thyroid disease. In women with a history of thyroid disease or with symptoms suggestive of thyroid disease, screening should occur in the first trimester. Otherwise, screening should occur when anemia is suspected.³⁶

■ Diagnosing depression

Regardless of the instrument used to screen for depression, it is important for healthcare providers to be aware that a positive screening result is not diagnostic for depression. The EPDS was developed specifically to screen for symptoms of possible perinatal depression. Screening techniques aim to identify women at risk for perinatal depression and in need of further diagnostic assessment. Depressive symptoms in the perinatal period range from maternity blues (commonly seen in the postpartum period) to major depressive disorder and postpartum psychosis.¹

Approximately 50% to 80% of new mothers experience maternity blues within the first few days after delivery.¹ Symptoms may include crying, sadness, and mood swings; however, these symptoms most often resolve within 1 to 2 weeks. Major depressive disorder (MDD) is defined by one or more major depressive episodes (MDE) along with the lifetime absence of mania and hypomania.¹² An MDE is constituted by a patient's report of at least five of nine symptoms present during the same 2-week period. Specific to MDD in the perinatal period, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) expanded the previous DSM-IV qualifier "with postnatal onset" to include "with peripartum onset."¹²

In addition to MDD onsets occurring within 4 weeks after delivery, the DSM-5 now includes onsets over the course of the entire pregnancy. This change recognizes that a high prevalence of "postpartum" depressive episodes has an onset in pregnancy and persist (often becoming more severe) throughout the postpartum period.³⁷ Further, this revision dispels the previously held belief that the pregnancy timeframe was protective against the development of MDD and acknowledges the importance of healthcare providers in addressing mental health throughout the perinatal period.

■ Treatment

Although generally accepted that pregnancy is not a protective period with respect to new onset or relapse of MDD, there continues to be a fair amount of controversy regarding how best to treat perinatal depression. Regardless of the ongoing debate, medication use during pregnancy has become relatively common with a 2- to 4-fold increase in medications for MDD over the past decade.³⁸

This increase is in spite of a fairly stable prevalence of psychiatric illness.³⁹ Recent research supports that nearly 13% of all pregnant women are taking an antidepressant during pregnancy with selective serotonin reuptake inhibitors (SSRIs) and selective serotonin norepinephrine reuptake inhibitors (SNRIs) being the most frequently prescribed antidepressants.^{39,40}

Currently, the research literature on the safety of antidepressant use during pregnancy and breastfeeding has yielded mixed results, making clinical recommendations difficult. Research examining the adverse reactions of SSRI exposure during pregnancy on the developing fetus has found an increased risk of various congenital malformations (congenital heart defects, craniosynostosis); however, inconsistencies between study results remain. Limitations in study interpretation include small sample sizes (low statistical power), failure to adequately control for maternal depression effect, and failure to control for other important confounders (smoking, folic acid intake, alcohol use).⁴¹⁻⁴⁴

Regardless of the instrument used to screen, healthcare providers must understand that a positive result is not diagnostic for depression.



Nonetheless, the healthcare provider must carefully discuss treatment options—both pharmacologic and nonpharmacologic—with each woman so an informed decision can be made. Many healthcare providers initiate SSRIs if pharmacologic treatment is warranted, as they are generally well tolerated.³⁸ Of the SSRI medications, fluoxetine and sertraline have more data regarding safety than the newer SSRIs (escitalopram) and SNRIs.^{38,42} The risk of pharmacologic therapy is largely focused on the infant's exposure to the antidepressant via breast milk in the postpartum period.⁴⁵

The majority of research examining the safety of breastfeeding with antidepressant use has found low rates of adverse reactions in infants exposed to antidepressants, including SSRIs.⁴⁵ As a general recommendation, breastfeeding mothers on drug therapy for perinatal depression should be instructed to take their medication immediately after breastfeeding. This helps minimize the amount of antidepressant present in the breast milk while maximizing its clearance prior to the next feeding.⁴⁵

■ Nonpharmacologic therapy

A growing number of nonpharmacologic interventions are aimed at mitigating the effects of perinatal depression,

including individual cognitive behavioral therapy (CBT), interpersonal psychotherapy (IPT), and group therapy.^{46,47} IPT is a time-limited therapy with demonstrated benefit for treating MDD. IPT is designed to improve depressive symptoms by assisting patients in navigating changes in their personal relationships. IPT focuses on issues, such as role change, social support, relationships, and life stress.⁴⁷

CBT has been used extensively in patients, including those with both depressive and anxiety disorders. CBT aims to reduce depressive symptoms by targeting and modifying negative patterns of thinking and behavior. CBT is typically provided by a clinical psychologist over a predetermined number of sessions; however, in practice, the length of therapy can vary (between 4 to 20 sessions).⁴⁶ A recent meta-analysis provides strong support for incorporating these interventions into the treatment plan for perinatal depression, with all interventions examined demonstrating greater benefit on depressive symptoms as compared to control conditions.⁴⁶

Furthermore, results demonstrated IPT to be more beneficial than group psychotherapy with regards to change in depressive symptoms pre- and postintervention. Interventions, including an interpersonal therapy component, had greater effects compared to interventions including a CBT component. Further studies are needed that examine manual-based IPT and CBT, administered with high fidelity, to firmly establish one modality as more effective than the other. Comparisons across these types of interventions have been difficult in part due to differences in intervention fidelity. This research is particularly vital given the rather low acceptability of pharmacologic therapy in this population coupled with a preference for nonpharmacologic interventions.⁴⁸

■ Healthcare providers to promote well-being


Similar to other screening (behavioral, psychosocial) initiatives in clinical practice, perceived barriers to implementation exist on the part of the healthcare provider, including a lack of time, inadequate training to diagnose or counsel, insufficient mental health referral sources, and lack of reimbursement.⁴⁹ Continuing to omit these critical screenings counters policies established to increase access to basic and quality care—particularly for low-income communities. The new focus on comprehensive care and wellness is purported to be best delivered through the patient-centered medical home (PCMH) model, featured prominently in the Affordable Care Act.⁵⁰

The PCMH model is particularly salient for low-income and underserved women. A lack of health insurance and inadequate social support often render this population particularly vulnerable to fragmented care.⁵¹ However, the PCMH model can provide continuous, patient-centered care, assisting perinatal women with coordination of care

through linkages with key community agencies.⁵⁰ These linkages could be particularly helpful for women without adequate support as well as those women who had pregnancy complications that may be exacerbating depressive symptoms.

Social media provides an ideal platform to link mothers who may report difficulties breastfeeding or infants with colic, for example, with support groups or resources in their communities. Additionally, national websites, such as Postpartum Support International (www.postpartum.net), Office on Women's Health (www.womenshealth.gov/mental-health/illnesses/postpartum-depression.html), and Postpartum Progress (www.postpartumprogress.com) offer an array of resources for antenatal, perinatal, and postpartum depression, including links to local resources.

■ Improving perinatal outcomes

Perinatal depression is an important public health issue with well-documented consequences for mothers, children, and families. Timely screening and appropriate treatment are requisite to prevent needless suffering. Healthcare providers caring for perinatal women and their children are uniquely situated to address perinatal depression given women are more likely to access healthcare during this time. Providers caring for underserved women and families are well positioned to improve maternal and early childhood outcomes for families at greatest risk of healthcare disparities. Efforts to expand access to care and facilitate the coordination of care in the perinatal period may serve to improve perinatal outcomes. 

REFERENCES

1. Earls MF, Committee on Psychosocial Aspects of Child and Family Health American Academy of Pediatrics. Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics*. 2010;126(5):1032-1039.
2. Grigoriadis S, VonderPorten EH, Mamisashvili L, et al. The impact of maternal depression during pregnancy on perinatal outcomes: a systematic review and meta-analysis. *J Clin Psychiat*. 2013;74(4):e321-e341.
3. Leis JA, Heron J, Stuart EA, Mendelson T. Associations between maternal mental health and child emotional and behavioral problems: does prenatal mental health matter? *J Abnorm Child Psychol*. 2014;42(1):161-171.
4. Alhusen JL, Hayat MJ, Gross D. A longitudinal study of maternal attachment and infant developmental outcomes. *Arch Womens Ment Health*. 2013;16(6):521-529.
5. Allbaugh LJ, Marcus SM, Ford EC, Flynn HA. Development of a screening and recruitment registry to facilitate perinatal depression research in obstetrics settings in the USA. *Int J Gynaecol Obstet*. 2015;128(3):260-263.
6. Byatt N, Simas TA, Lundquist RS, Johnson JV, Ziedonis DM. Strategies for improving perinatal depression treatment in North American outpatient obstetric settings. *J Psychosom Obstet Gynaecol*. 2012;33(4):143-161.
7. Milgrom J, Holt C. Early intervention to protect the mother-infant relationship following postnatal depression: study protocol for a randomised controlled trial. *Trials*. 2014;15:385.
8. Stewart DE. Clinical practice. Depression during pregnancy. *N Engl J Med*. 2011;365(17):1605-1611.
9. Witt WP, Wisk LE, Cheng ER, et al. Poor prepregnancy and antepartum mental health predicts postpartum mental health problems among US

- women: a nationally representative population-based study. *Womens Health Issues*. 2011;21(4):304-313.
10. Alhusen JL, Gross D, Hayat MJ, Rose L, Sharps P. The role of mental health on maternal-fetal attachment in low-income women. *J Obstet Gynecol Neonatal Nurs*. 2012;41(6):E71-E81.
 11. Norhayati MN, Hazlina NH, Asrenee AR, Emilin WM. Magnitude and risk factors for postpartum symptoms: a literature review. *J Affect Disord*. 2015;175:34-52.
 12. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Association; 2013.
 13. Field T. Prenatal depression effects on early development: a review. *Infant Behav Dev*. 2011;34(1):1-14.
 14. Kessler RC, Berglund P, Demler O, et al. The epidemiology of major depressive disorder: results from the national comorbidity survey replication (NCS-R). *JAMA*. 2003;289(23):3095-3105.
 15. Lancaster CA, Gold KJ, Flynn HA, Yoo H, Marcus SM, Davis MM. Risk factors for depressive symptoms during pregnancy: a systematic review. *Am J Obstet Gynecol*. 2010;202(1):5-14.
 16. Liu CH, Tronick E. Rates and predictors of postpartum depression by race and ethnicity: results from the 2004 to 2007 New York City PRAMS survey (Pregnancy Risk Assessment Monitoring System). *Matern Child Health J*. 2013;17(9):1599-1610.
 17. Miller EB, Farkas G, Vandell D, Duncan GJ. Do the effects of Head Start vary by parental preacademic stimulation? *Child Development*. 2014;85(4):1385-1400.
 18. Hahm HC, Cook BL, Ault-Brutus A, Alegria M. Intersection of race-ethnicity and gender in depression care: screening, access, and minimally adequate treatment. *Psychiatr Serv*. 2015;66(3):258-264.
 19. Tjaden P, Thoennes N. Full report of the prevalence, incidence, and consequences of violence against women: findings from the national violence against women survey. 2000. www.ncjrs.gov/pdffiles1/nij/183781.pdf.
 20. Alhusen JL, Bullock L, Sharps P, Schminkey D, Comstock E, Campbell J. Intimate partner violence during pregnancy and adverse neonatal outcomes in low-income women. *J Womens Health (Larchmt)*. 2014;23(11):920-926.
 21. Jackson CL, Ciciolla L, Crnic KA, Luecken LJ, Gonzales NA, Coonrod DV. Intimate partner violence before and during pregnancy: related demographic and psychosocial factors and postpartum depressive symptoms among Mexican American women. *J Interpers Violence*. 2015;30(4):659-679.
 22. Alhusen JL, Frohman N, Purcell G. Intimate partner violence and suicidal ideation in pregnant women. *Arch Womens Ment Health*. 2015;18(4):573-578.
 23. Lancaster CA, Gold KJ, Flynn HA, Yoo H, Marcus SM, Davis MM. Risk factors for depressive symptoms during pregnancy: a systematic review. *Am J Obstet Gynecol*. 2010;202(1):5-14.
 24. Adams SS, Eberhard-Gran M, Sandvik AR, Eskild A. Mode of delivery and postpartum emotional distress: a cohort study of 55,814 women. *BJOG*. 2012;119(3):298-305.
 25. Goker A, Yanikkerem E, Demet MM, Dikayak S, Yildirim Y, Koyuncu FM. Postpartum depression: is mode of delivery a risk factor? *ISRN Obstet Gynecol*. 2012;2012:616759.
 26. Houston KA, Kaimal AJ, Nakagawa S, Gregorich SE, Yee LM, Kuppermann M. Mode of delivery and postpartum depression: the role of patient preferences. *Am J Obstet Gynecol*. 2015;212(2):229.e1-229.e7.
 27. Hiscock H, Cook F, Bayer J, et al. Preventing early infant sleep and crying problems and postnatal depression: a randomized trial. *Pediatrics*. 2014;133(2):e346-e354.
 28. Howard LM, Molyneux E, Dennis CL, Rochat T, Stein A, Milgrom J. Non-psychotic mental disorders in the perinatal period. *Lancet*. 2014;384(9956):1775-1788.
 29. Allbaugh LJ, Marcus SM, Ford EC, Flynn HA. Development of a screening and recruitment registry to facilitate perinatal depression research in obstetrics settings in the USA. *Int J Gynaecol Obstet*. 2015;128(3):260-263.
 30. Committee on Obstetric Practice. The American College of Obstetricians and Gynecologists Committee opinion no. 630. Screening for perinatal depression. *Obstet Gynecol*. 2015;125(5):1268-1271.
 31. 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.
 32. Davis K, Pearlstein T, Stuart S, O'Hara M, Zlotnick C. Analysis of brief screening tools for the detection of postpartum depression: comparisons of the PRAMS 6-item instrument, PHQ-9, and structured interviews. *Arch Womens Ment Health*. 2013;16(4):271-277.
 33. Arroll B, Goodyear-Smith F, Kerse N, Fishman T, Gunn J. Effect of the addition of a "help" question to two screening questions on specificity for diagnosis of depression in general practice: diagnostic validity study. *BMJ*. 2005;331(7521):884.
 34. U.S. Preventive Services Task Force. Depression in adults: screening. 2009. www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/depression-in-adults-screening.
 35. Brealey SD, Hewitt C, Green JM, Morrell J, Gilbody S. Screening for postnatal depression: is it acceptable to women and healthcare professionals? A systematic review and meta-synthesis. *J Reprod Infant Psychol*. 2010;28:328-344.
 36. Corwin EJ, Murray-Kolb LE, Beard JL. Low hemoglobin level is a risk factor for postpartum depression. *J Nutr*. 2003;133(12):4139-4142.
 37. Di Florio A, Forty L, Gordon-Smith K, et al. Perinatal episodes across the mood disorder spectrum. *JAMA Psychiatry*. 2013;70(2):168-175.
 38. Meltzer-Brody S. New insights into perinatal depression: pathogenesis and treatment during pregnancy and postpartum. *Dialogues Clin Neurosci*. 2011;13(1):89-100.
 39. Cooper WO, Willy ME, Pont SJ, Ray WA. Increasing use of antidepressants in pregnancy. *Am J Obstet Gynecol*. 2007;196(6):544.e1-544.e5.
 40. Andrade SE, McPhillips H, Loren D, et al. Antidepressant medication use and risk of persistent pulmonary hypertension of the newborn. *Pharmacoepidemiol Drug Saf*. 2009;18(3):246-252.
 41. Robinson GE, Einarson A. Risks of untreated depression outweigh any risks of SSRIs. *Hum Reprod*. 2013;28(4):1145-1146.
 42. Einarson A, Choi J, Einarson TR, Koren G. Incidence of major malformations in infants following antidepressant exposure in pregnancy: results of a large prospective cohort study. *Can J Psychiatry*. 2009;54(4):242-246.
 43. Robinson GE. Controversies about the use of antidepressants in pregnancy. *J Nerv Ment Dis*. 2015;203(3):159-163.
 44. Vasilakis-Scaramozza C, Aschengrau A, Cabral H, Jick SS. Antidepressant use during early pregnancy and the risk of congenital anomalies. *Pharmacotherapy*. 2013;33(7):693-700.
 45. Payne JL. Antidepressant use in the postpartum period: practical considerations. *Am J Psychiatry*. 2007;164(9):1329-1332.
 46. Sockol LE. A systematic review of the efficacy of cognitive behavioral therapy for treating and preventing perinatal depression. *J Affect Disord*. 2015;177:7-21.
 47. Miniati M, Callari A, Calugi S, et al. Interpersonal psychotherapy for postpartum depression: a systematic review. *Arch Womens Ment Health*. 2014;17(4):257-268.
 48. Kim DR, Sockol L, Barber JP, et al. A survey of patient acceptability of repetitive transcranial magnetic stimulation (TMS) during pregnancy. *J Affect Disord*. 2011;129(1-3):385-390.
 49. Tabb KM, Choi S, Pinerros-Leano M, et al. Perinatal depression screening in a women, infants, and children (WIC) program: perception of feasibility and acceptability among a multidisciplinary staff. *Gen Hosp Psychiatry*. 2015;37(4):305-309.
 50. Anderson DR, Olayiwola JN. Community health centers and the patient-centered medical home: challenges and opportunities to reduce health care disparities in america. *J Health Care Poor Underserved*. 2012;23(3):949-957.
 51. Riddle MC, Lin J, Steinman JB, et al. Incorporating the principles of the patient-centered medical home into a student-run free clinic. *Adv Med Educ Pract*. 2014;5:289-297.
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