

A review of research and nursing management of mental health problems in pregnancy and motherhood

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Abstract: In this article, the authors explore the risks pregnant women experience due to mental illness and intimate partner violence (IPV) and discuss the nursing role involved in the management of their care. For many women, pregnancy is a time of hopeful anticipation, yet for others, pregnancy reflects a new or an ongoing struggle with mental illness. The sequelae of untreated mental illness can be as severe as infanticide, maternal suicide, lack of maternal attachment, and inability to parent. Newborns whose mothers misuse alcohol and drugs are at risk of fetal alcohol spectrum disorders and neonatal addiction syndrome. Women who live with IPV risk their physical and mental well-being as well as the safety of their newborn. Implications for practice include the use of assessment tools early and during the treatment trajectory; otherwise, mental illness and IPV in pregnancy would go undetected/untreated. Identifying postpartum depression early is key toward providing timely care for both the mother and infant; yet, few obstetric practices use a depression assessment tool such as the Edinburgh Postnatal Depression Scale. During the initial intake assessment, the Edinburgh Postnatal Depression Scale can provide the means of early treatment through targeted assessment. Further implications include specialized services for substance-misusing pregnant women whose issues are different and separate from those of men, integration of services to address their multifaceted needs, and educating nurses to the reality of comorbidity as the norm rather than the rare occurrence, with a truly holistic approach that diminishes stigma.

Keywords: intimate partner violence, mental illness, pregnancy, serious mental illness, Women Abuse Screening Tool, depression, domestic violence, family violence, HITS

Significance and background

Pregnancy not only is a period of anxious anticipation but also can be a time that exacerbates preexisting mental illness or brings about the onset of a new diagnosis of mental illness. This is a critical time when nurses can strategically intervene to prevent the sequelae of serious mental illness (SMI). Research demonstrates that pregnant women face the full spectrum of mental illnesses, including depression,¹ anxiety,² substance use,^{3,4} and schizophrenia.⁵⁻⁸ In addition, intimate partner violence (IPV) complicates the progress of the pregnancy, aggravates the existing mental illness, and increases the risk to mother and child. Pregnancy is a life-changing period; yet for many women, it is a challenge to their health, well-being, and social situation. This review focuses primarily on the current literature of IPV and SMI in pregnant women and also on the nursing role. PubMed was searched till July 2015 using the keywords and phrases of postpartum depression, women and violence, intimate partner violence, domestic violence, serious mental illness, mental illness and pregnancy, and substance

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abuse/pregnancy for all English articles. A predominant theme across all categories was the ongoing need for initial and continuous assessment throughout the pregnancy and in motherhood. We discuss the need for sex-sensitive care and attention to comorbidity.

Intimate partner violence

IPV is a significant problem worldwide⁹ and is associated with harmful consequences for both mother and children. IPV may result in newborn outcomes, such as prematurity and low birth weight.¹⁰ The US Department of Justice estimates that over a lifetime, 52% of women will experience IPV.¹¹ Researchers, however, disagree on the prevalence of IPV during pregnancy or if a woman is at increased risk for IPV during the time from conception to delivery. Gazmararian et al conducted a comprehensive literature review and concluded that the prevalence of IPV in pregnancy ranged from 1% to 20% depending on how IPV is assessed and the population is studied.¹² Population-based studies such as the US Centers for Disease Control and Prevention's Pregnant Risk Assessment Monitoring System, which includes tens of thousands of women from eleven states, suggested the prevalence of IPV during pregnancy to be 2.9%–5.7%.¹³ However, the way IPV is assessed in population-based studies may lead to an underestimate of those affected.^{14–17} The prevalence of IPV during pregnancy may be much higher due to the reluctance of women to report about IPV, which is especially true during pregnancy. Interestingly, some researchers believe that violence during pregnancy may be a more common problem than conditions for which a pregnant woman is normally screened.¹⁸

Pregnancy IPV has also been associated with many mental health factors.¹⁹ Women who experience IPV during or outside of pregnancy were found to have a ninefold increase in risk for mood and anxiety disorders.²⁰ In addition, women who experience mental health problems during pregnancy are more likely to have an adverse newborn outcome.²¹

Women who are victims of IPV often do not seek health care services. Pregnancy provides an opportunity for health care providers to address comorbidity or co-occurring illnesses such as IPV and depression. Depression is the most common mental health consequence of IPV.²² Almost 40% of abused women report the symptoms of depression.²³ In addition, depression has been associated with both preterm birth and low birth weight.²⁴

Assessment and screening

Screening for IPV during pregnancy is essential. Women should be assessed for IPV at every health care encounter

and at each visit during pregnancy.^{25,26} Tools such as the seven-item Women Abuse Screening Tool are available for assessment.²⁷ The tool Women Abuse Screening Tool was specifically designed to be used in family practice settings to identify women experiencing physical and or emotional abuse by their intimate partner. This tool is comprehensive, but cut points have not been well validated.²⁸ The five-item Abuse Assessment Screen is commonly used as an IPV screening tool due to the ease of administration and established reliability and validity.²⁹ This tool is less accurate in identifying women who have experienced minor emotional and/or physical abuse and is most sensitive to major physical violence. The four-item HITS, an acronym for the four questions asking about hurt, insult, threatens, and screams, is a brief instrument used to assess IPV tendency.³⁰ The scale includes four questions about being hurt, insulted, threatened with harm, and screamed at by a partner in the past year. Respondents are asked to answer each question using a 5-point scale from never 1) to frequently 5). The total HITS score can range from 4 to 20. The scale has been validated in the family practice setting in a study that compared 160 family practice patients whose abuse status was unknown with 99 self-identified victims of abuse.³⁰ Patients who have an English HITS score >10.5 or a Spanish HITS score >5.5 are identified as victims of domestic violence.³¹ In addition, the US Centers for Disease Control and Prevention has developed a compendium of brief partner violence assessment tools recommended for use in health care settings.³² There is insufficient evidence to recommend one IPV screening tool over another.³³ Feder et al, in a comprehensive review of dozens of studies conducted worldwide, concluded that the HITS screening tool, in addition to being the easiest for providers to remember, demonstrated the best predictive power, validity, and reliability.²⁸ A limitation of the tool is that it does not inquire about sexual abuse or ongoing violence. Therefore, it may be necessary to combine the HITS with another screening tool. Any of these tools could be effective in the prenatal setting to screen for IPV. Steps in screening and intervention for IPV are summarized in the acronym RADAR developed by the Massachusetts Medical Society³⁴: Routinely screen every patient. Assume that every patient is at risk for IPV. Ask the patient directly, kindly and nonjudgmentally. Ask in private, explain confidentiality, and mandatory reporting in your state. Ask at each visit throughout the pregnancy. It may take time for the woman to reveal abuse and abuse can happen at different times during pregnancy. Document your findings in the health record if violence is identified and, if not, record no. Observe behavior of husband or partner.

Assess the patient's safety. Is she or her children in immediate danger? If so, action is needed. Review options and provide referrals.³⁵

Serious mental illness

The Substance Abuse and Mental Health Services Administration defines SMI as "persons aged 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria ...".³⁶ In a systematic review and meta-synthesis, Dolman et al investigated the qualitative research on the experiences of mothers with SMI and the experiences of health professionals who treat women with SMI. The meta-synthesis provided two overarching themes: experiences of motherhood and experiences of services. Four subthemes emerged: guilt, coping with dual identities, stigma, and the centrality of motherhood. Stigma was a repetitive theme as women struggled to identify themselves as potentially good mothers against the more prevalent societal views of mental illness.³⁷ In attempting to live up to societal expectations, women internalized stigma as self-stigma, thus viewing themselves as inadequate.³⁷ Guilt also revolved around women's fears that they may pass on their mental illness, whether genetically or environmentally. Across several studies, in Dolman's meta-synthesis, a recurring theme was their sense of isolation and loneliness. Many women had few people to talk to and limited social outlets.

Simply talking to women with SMI has a therapeutic potential. The nursing role is primarily engaged in developing a trusting relationship that supports treatment, acknowledges the client's fears, and intervenes with the escalation of depression and psychotic symptoms, including suicide and homicide. Yet, nurses are often reticent to do this. In a cross-sectional, exploratory study using focus groups, McConachie and Whitford discovered that nursing attitudes toward women with SMI ranged from passive to task oriented.³⁸ Psychiatric nurses were often hesitant to advocate for psychotropic drugs, demonstrated poor understanding of medication use during pregnancy and breastfeeding, and were "nervous about the legal and ethical implications of their practice".³⁸ Moreover, nurses voiced reluctance to discuss the consequences of untreated postpartum depression (PPD) and psychosis (maternal suicide and infanticide) while acknowledging their severity.³⁸ Increasingly, the picture of women with SMI is a picture of comorbidity. The symptoms of schizophrenia, anxiety, and depression are more likely to occur concurrently in women than in men; therefore, the need for screening and treatment is even greater. The choice of antipsychotics is also

difficult when the risk to the newborn is weighed against the mental health of the individual. Currently, the clinical focus of maintaining pregnant women on antipsychotics is a mixed one.⁵ McCauley-Elsom et al identified that some clinicians exclude antipsychotic therapy completely, a few others maintain their clients on antipsychotics, and still others introduce the older class of antipsychotics.⁵ Some clinicians withhold antipsychotics at the start of the pregnancy and reintroduce them during the last trimester.⁵ Currently, the literature shows no evidence of increased risk to the newborn with atypical antipsychotics.³⁹ However, there are data associating olanzapine with maternal weight gain and gestational diabetes.⁴⁰ Advanced practice nurses (nurse practitioners, midwives, and clinical nurse specialists) and their clients need to have a discussion that encompasses the severity of their mental illness with the risk to the newborn.

Assessment and screening

Women with SMI need to be assessed early. The symptoms of psychosis, particularly negative symptomatology, are not necessarily observable or easy to assess. The Positive and Negative Syndrome Scale (PANSS)⁴¹ rates the severity of a range of psychotic and nonpsychotic symptoms using a semi-structured interview format.⁴¹ Each of the 30 items is rated by the interviewer on a 7-point severity scale. Higher scores indicate greater severity. The PANSS consists of three subscales: positive symptoms, negative symptoms, and general symptoms. The total score is 30–210.⁴¹ The PANSS is used extensively and demonstrates good interrater reliability.⁴¹

Substance use and pregnancy

Substance use during pregnancy is a public health problem and challenge for health care professionals. According to the Substance Abuse and Mental Health Services Administration, the rate of current illicit drug use from the 2012–2013 National Survey on Drug Use and Health: Summary of National Findings was 14.6% among pregnant women aged 15–17, 8.6% among pregnant women aged 18–25, and 3.2% among pregnant women aged 26–44.⁴² From the combined SAMSHA 2012–2013 data, it is observed that alcohol use among pregnant women between the ages of 15 and 44 was an annual average of 9.4% self-reported current alcohol use.⁴²

Trends in drug use include methamphetamines, marijuana, cocaine, and opiates. Currently, opioid use in pregnancy is a growing health problem.^{43,44} Women who use heroin intravenously face additional complications that include overdosing, contracting sexually transmitted and other infectious diseases, and living in potentially lethal, explosive, and

violent environments.⁴ Not only are these pregnant women at risk physically but also they are at risk mentally due to stress and anxiety. An additional risk for pregnant women who use opioids is the concomitant use of other drugs (polysubstance use), such as alcohol, benzodiazepines, amphetamines, and cocaine, which are potentially teratogenic.^{4,45}

Pregnant women, with comorbid substance use disorders, also require a different intervention perspective. Hamilton and Campbell suggest an integrated model, which addresses the stigma of self-reported drug use, the specific drug, and the personality of the individual.³ Of the models in the current use, a sequential model requires abstinence and recovery before working on a mental health issue, while a parallel model treats both diagnoses at the same time. The integrated model incorporates the work of several disciplines (nursing, psychology, addictionology, obstetrics, and medicine) to provide a more holistic and healing approach to recovery.³

Assessment and screening

In substance use, assessment tools include the Drug Abuse Screening Test (DAST-10), a ten-item modified version of the original DAST tool that assesses drug use with scores ranging from 0 to 10.⁴⁶ Scores of 1–2 are early indicators of problem use, and scores of 3 or higher denote moderate-to-severe use. The DAST-10 is internally consistent ($\alpha=0.86$) and stable (interclass correlation coefficient = 0.71).⁴⁶ Tolerance, Worried, Eye-Opener, Amnesia, and K/cut down on consumption is a five-item alcohol screening test specifically designed to screen pregnant women for alcohol misuse.⁴³ A critical barrier is the absence of programs that address the unique needs of impending motherhood and the physical/mental challenges of pregnancy.⁴⁷ According to Steversson and Rieckmann, “As of 2007, out of 13, 638 mental health and substance use facilities nationwide, 1,926 had programs specifically designed for pregnant and postpartum women. This number represents 14.1% of the total treatment facilities in existence at this time”.⁴⁸ Core issues specific to women include addiction, cognitive, and behavioral deficits in the offspring, potentially losing custody of the infant once the baby is born, lack of child care, and lack of services.^{47,49,50} These concerns are even more evident in rural areas. Jackson and Shannon explored the barriers experienced by 85 pregnant women seeking substance use treatment who resided in rural areas of Kentucky. Treatment barriers were measured with three qualitative questions in face-to-face interviews. Only 13% of the women identified affordability as a barrier.⁵¹ However, 51% of the women identified acceptability as a major barrier, and 46% considered accessibility as a predominant barrier.⁴⁹

Accessibility barriers included personal responsibilities at work and home, lack of child care, and barriers that discouraged entry into treatment, such as long waiting lists.

Women considered acceptability as a barrier primarily in relation to stigma and labeling – the fear of being perceived by others as “inadequate or less than”.⁵¹

Postpartum depression

“I felt like a freak, like I was the only one in the world who couldn’t cope with their baby”.⁵² This personal anecdote highlights the symptoms of depression that include lethargy, amotivation, disturbances in sleep and appetite, as well as feelings of hopelessness and persistent thoughts of suicide.⁵³ Prevalence rates indicate that 10%–20% of women are affected by PPD and 41% have a previous history of PPD.⁵⁴ According to the Diagnostic and Statistical Manual-5, “50% of postpartum major depressive episodes actually begin prior to delivery”.⁵⁵ In fact, one of the strongest predictors of PPD is untreated depression antepartum or early in the pregnancy.^{56–58} These are similar findings to those of Meadows-Oliver et al who discovered that the rate of depression in adolescent mothers (between 46% and 54%) was significantly higher than in the general adolescent population (7.5%).⁵⁹ Given that unplanned pregnancies occur at a higher rate in this population, as opposed to women in general, the need for education and depression screening for adolescents is critically important.⁵⁹

Women suffering from depression have difficulty coping with their newborns and providing nurturing gestures. Research shows that maternal depression is associated with insecure maternal attachments, parenting problems, and unresponsive caregiving.⁵⁶ Offspring of depressed mothers have a greater frequency of addiction and behavioral problems and often suffer from depression themselves.^{54,56}

Stigma and access

Stigma remains an issue for pregnant women with PPD, particularly when depression and pregnancy are at odds with the public media’s perception of the happy mother. This dichotomy and the internal struggle to maintain this image often keep depressed mothers from seeking psychiatric help. In addition, pregnant women with SMI are concerned about concrete issues, such as loss of custody and child care, that threaten their ability to be mothers.⁶⁰

Stigma is an impediment to accessing care early on. Women with PPD rarely seek help, and when they do, it is under the guise of a physical ailment (ie, fatigue and lack of energy). When these women seek help, the baby and pregnancy

remain the focus of the health care professionals' concern and subsequent treatment. Their complaints are often associated with hormonal changes and not directly attributed to changes in mental health status. Therefore, the underlying mental health problem is often untreated.⁶¹ The role of nurse practitioners and midwives is to move beyond the initial physical assessment, address comorbidity, and treat the client holistically.

Assessment and screening

Given the potentially serious outcomes of untreated depression (eg, infanticide, maternal suicide, and long-lasting effects on offspring), early and continuous assessment by the nurse is crucial. Screening allows health care professionals to identify the extent and seriousness of the disorder, develop timetables for intervention, and practice proactive care and treatment. Despite evidence suggesting women who experience depression earlier in their pregnancy are at risk for PPD, a few obstetric practices require administration of the Edinburgh Postnatal Depression Scale (EPDS; 1987) during their initial intake assessment.² In addition, while there are recommendations across the literature calling for the use of the EPDS upon initial assessment, there is little consistency in the health care field on its use.⁶² The EPDS is a ten-item questionnaire used to assess PPD.⁶³ Total scores range from 0 to 30 with higher scores, above 13, indicating an assessment of major depression, while cutoff scores of 9 or 10 indicate a possible diagnosis of minor depression.⁶³ Numerous studies support the conclusion that there is adequate internal consistency/reliability of the scale (0.88) and sensitivity (0.86).^{62,64} In addition, the EPDS contains an anxiety subscale with three anxiety-specific questions that are effective in screening for anxiety disorders^{65,66} and changes in maternal anxiety states.

The significance of early depression as a tangible risk factor for PPD calls for the assessment of depression regardless of pregnancy state. Another assessment tool is the Beck Depression Inventory; although not specifically targeted toward pregnant women, it is considered the gold standard and most widely used tool to detect the severity of depression.⁶⁷ This instrument is a 21-item, multiple choice scale ranging from 1 (minimal) to 3 (severe). Scores between 30 and 63 indicate major-to-severe depression. Reliability has been determined within aggregates and across populations, with a correlation coefficient of 0.86.⁶⁷

Implications for practice

Assessment

The nursing role in the care of pregnant women with mental illness requires an integrated approach in the form of

assessment (early and continuous) and interventions that address the barriers of stigma, lack of access, and follow-up. In an integrated approach, intervention is epitomized by expanding the roles of health care professionals, particularly, in creating different means of support and follow-up that aligns with the individual client's needs.²

Assessment and screening

Ideally, the assessment for PPD should be ongoing throughout the pregnancy and postpartum period. Pregnant adolescents should be carefully assessed for depression and IPV. Nurses need to be on the forefront of educating colleagues and other health care professions to take PPD assessment seriously and include the EPDS for every obstetric visit. Perhaps as significant is the goal of educating obstetric nurses and midwives to make substance use and IPV assessment a part of the initial intake assessment and ongoing at other health care visits. Other assessment tools that assess for psychosis, anxiety disorders, and depression should be encouraged when mental illness is suspected. In most cases, comorbidity or co-occurring problems are the norm.⁶⁸ Assessing appropriately requires using therapeutic communication skills that are integral to nursing practice. If pregnant women are experiencing IPV or the diagnosis is depression, substance use or anxiety disorders, a sense of shame, stigma, and self-stigma preclude women from seeking care, asking the right questions and responding to nursing interventions. When these women need help, they may actually avoid seeking help. Concrete initiatives include educating nurses to the demeaning nature of stigma and modeling communication skills that engage with the client. A nonjudgmental approach by the nurse is paramount. For example, Hamilton and Campbell suggest a "curious and interested approach".³

Assessment and IPV

Pregnancy provides a unique opportunity and an important window to identify patients experiencing violence and make appropriate referrals. Trust between the health care provider and patient is developed over time and is a key factor in a woman's decision to disclose information about IPV. Pregnancy may be a time for a woman to think of the future, which can be a motivator for change. Nurses can serve as important advocates for change in a woman's life offering information, compassion, and support. Nurses must be diligent in assessing for IPV, and although all women are at risk for becoming victims of IPV, some are at high risk. For example, single women, women of young maternal age/adolescents, woman with an unplanned pregnancy, women with

mental illness and/or depression, alcohol or substance users, and women who lack social support are all at high risk.⁹

Assessment and substance use disorder

The nurse's role in working with clients who misuse substances is to support recovery and prevent relapse, while maintaining maternal and fetal safety. The assessment primarily relies on self-reported use, which has its drawbacks. Implicit in this, the very action of admitting drug use can result in loss of custody of their unborn and other children and prosecution, thus, discouraging pregnant women with substance misuse issues from admitting their own use and seeking recovery options.⁵⁰ It is also relevant to view misuse of substances as related to self-medication of SMI, IPV, and depression. Psychiatric nurses, nurse practitioners, clinical nurse specialists, and nurse midwives need to incorporate in their practice teaching coping strategies, so that coping skills become part of the skill set of pregnant women who struggle with mental illness and IPV.

Integration of services

Integration of services is key toward providing comprehensive care to pregnant women with mental illness. As noted by Maddocks et al, "social workers for children might not necessarily have that great an understanding of adult mental health and vice versa. There needs to be common ground".⁶⁹ Nurses need to advocate for the use of antepartum multidisciplinary facilities that provide care to substance-misusing women. Jackson and Shannon emphasize this stating, "Traditional treatment approaches, which are designed for men will not suffice".⁵¹ The authors elaborate on these services that can include parenting skills, job training, prenatal care, and creating support systems.⁵¹

Nguyen et al established the Childbirth and Mental Illness clinic in Western Australia; it comprises a midwife, general practitioner/obstetrician psychiatrist, and social worker, in a collaborative approach with the patient, families, and communities in providing prenatal care for at-risk women.² Planning included routine prenatal care, preparation for delivery, and evaluation of the client's support network. The authors discovered that an integrated clinic provided a specific direction to care that is person centered and supportive. Social support was an important positive mediating factor in dealing with the stressors of pregnancy, and an integrated model was one way of providing support.⁷⁰ This included support from family, significant others, and community resources.

Connelly et al investigated the effectiveness of a collaborative model in relation to routine care across several

obstetric clinics in California serving a diverse group of low-income women.⁴⁴ The researchers identified a range of comorbid problems including depressive symptoms, IPV, and substance use.⁴⁴ In a largely Latina sample, they discovered that ~20% screened positive for depressive symptoms and more than 30% reported psychosocial issues during the pregnancy period. Similar to the clinic established by Nguyen et al,² the range of support and targeted treatment provided an unexpected outcome-social support.⁴⁴

The available literature reveals that women at risk of SMI, pre- and post pregnancy, are not well served by the current system. Further research is indicated to determine the efficacy of different assessment tools and to allow for the recommendation of a standard approach for all or for a tailored approach to meet the needs of this specific population.

Nursing implications must include prenatal and postnatal testing and screening, increased emphasis on pregnancy, mental illness and IPV in education, and inclusion of psychiatric nurses, psychiatrists, and mental health social workers as part of the interdisciplinary team. A prevalent theme across the literature is the inability of nurses to respond to pregnant women with mental illness. Despite a focus on holistic care, nurses appear to have difficulty addressing the multifaceted needs of pregnant women with SMI.

Finally, supporting these women during their pregnancy and afterward is critical.⁷⁰ In the UK and other international countries, there is an expanding movement to provide sex-sensitive mental health services.²³ A Swedish study by Engvist et al identified education as the means to address anxiety exhibited by nurses and advanced practice clinicians who work with pregnant women and mothers with SMI.⁷¹ All nurses can be there to provide support and education for women who already feel judged and isolated.

Disclosure

The authors report no conflicts of interest in this work.

References

1. Corrigan C, Kwasky A, Groh C. Social support, postpartum depression and professional assistance: a survey of mothers on the Midwestern United States. *J Perinat Educ*. 2015;24(1):48–60.
2. Nguyen T, Faulkner D, Allen S, et al. Managing pregnant women with serious mental illness: using the Edinburgh postnatal depression scale as a marker of anxiety and depressive symptoms. *Aust NZ J Psychiatry*. 2010;44:1036–1042.
3. Hamilton I, Campbell A. Antenatal comorbidity of mental health and substance use: assessment and engagement. *Br J Midwifery*. 2013;21(11):768–773.
4. Winklbaur B, Kopf N, Ebner N, et al. Treating pregnant women on opioids is not the same as treating pregnancy and opioid dependence: a Knowledge synthesis for better treatment for women and neonates. *Addiction*. 2008;103:1429–1440.

5. McCauley-Elson K, Gurchich C, Elson SJ, et al. Antipsychotics in pregnancy. *J Psychiatr Ment Health Nurs*. 2010;17:97–104.
6. Farr SL, Bitsko RH, Hayes DK, et al. Mental health and access to services among US women of reproductive age. *Am J Obstet Gynecol*. 2010;203(6):542. e1–542. e9.
7. Ko JY, Farr SL, Dietz PM, et al. Depression and treatment among US pregnant and nonpregnant women of reproductive age. 2005–2009. *J Womens Health*. 2012;21(8):830–836.
8. O'Hara MW. Postpartum depression: what do we know? *J Clin Psychol*. 2009;65(12):1258–1269.
9. Bailey BA. Partner violence during pregnancy: prevalence, effects, screening, and management. *Int J Womens Health*. 2011;2:183–197.
10. Alhusen JJ, Ray E, Sharps P, et al. Intimate partner violence during pregnancy: maternal and neonatal outcomes. *J Womens Health*. 2015;24:100–106.
11. Bachman R, Saltzman LE. *Violence against Women: Estimates from the Redesigned Survey*. Washington, DC: Bureau of Justice Statistics, US Department of Justice; 1995.
12. Gazmararian JA, Petersen R, Spitz AM, et al. Violence and reproductive health: current knowledge and future research directions. *Matern Child Health J*. 2000;4:79–84.
13. Centers for Disease Control and Prevention. *PRAMS 1996 Surveillance Report*. Atlanta, GA: Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention; 1997.
14. Curry MA. The interrelationships between abuse, substance use, and psychosocial stress during pregnancy. *J Obstet Gynecol Neonatal Nurs*. 1998;27:692–699.
15. Norton LB, Peipert JF, Zierler S, et al. Battering in pregnancy: an assessment of two screening methods. *Am J Obstet Gynecol*. 1995;85:321–325.
16. Dunn LL, Oths KS. Prenatal predictors of intimate partner abuse. *J Obstet Gynecol Neonatal Nurs*. 2004;33:54–63.
17. McFarlane J, Parker B, Soeken K. Abuse during pregnancy: associations with maternal health and infant birth weight. *Nurs Res*. 1996;45:37–42.
18. Gazmararian JA, Lazorick S, Spitz AM, et al. Prevalence of violence against pregnant women. *J Am Med Assoc*. 1996/1997;275:1915–1920.
19. Bacchus L, Mezey G, Bewley S, et al. Prevalence of domestic violence when midwives routinely enquire in pregnancy. *BJOG*. 2004;111:441–445.
20. Smith MV, Rosenheck RA, Cavaleri MA, et al. Screening for and detection of depression, panic disorder, and PTSD in public obstetric clinics. *Psychiatr Serv*. 2004;55:407–414.
21. Marcus SM, Flynn HA, Blow FC, et al. Depressive symptoms among pregnant women screened in obstetric settings. *J Womens Health*. 2003;12:373–380.
22. Campbell JC. Domestic homicide: risk assessment and professional duty to warn. *Md Med J*. 1994;3:885–889.22.
23. Gelles R, Straus MA. *Intimate Violence*. New York, NY: Simon and Schuster; 1988.
24. Flanagan JC, Moore TM, Gordon KC, et al. Women's stress, depression, and relationship adjustment profiles as they relate to intimate partner violence and mental health during pregnancy and postpartum. *Psychol Viol*. 2015;5:66–73.
25. Hellmuth JC, Gordon KC, Stuart GL, et al. Women's intimate partner violence perpetration during pregnancy and postpartum. *Matern Child Health J*. 2013;17:1405–1413.
26. Fox JA, Kim-Godwin YS. Stress and depression among Latina women in rural southeastern North Carolina. *J Community Health Nurs*. 2011;28:223–232.
27. Brown JB, Ryan BL, editors. *The Woman Abuse Screening Tool: A Ten Year Program of Research*. London, ON: The University of Western Ontario, Centre for Studies in Family Medicine; 2001.
28. Feder G, Ramsay J, Dunne D. How far does screening women for domestic (partner) in different health care settings meet criteria for a screening programme? Systematic reviews of nine UK National Screening Committee criteria. *Health Technol Assess*. 2009;16:2.
29. Jasinski JL. Pregnancy and domestic violence: a review of the literature. *Trauma Violence Abuse*. 2004;5:47–64.
30. Punukollu M. Domestic violence: screening make practical. *J Family Prac*. 2003;52:537–543.
31. Chen PH, Rovi S, Vega M, et al. Screening for domestic violence in a predominantly Hispanic clinical setting. *Fam Pract*. 2005;22:617–623.
32. Basile KC, Hertz MF, Back SE. *Intimate Partner Violence and Sexual Violence Victimization Assessment Instruments for Use in Healthcare Settings: Version 1*. 2007. Atlanta, GA: Centers for Disease Control and Prevention; 2007.
33. Agency for Health Care Research and Quality, US Department of Health and Human Services. *The Guide to Clinical Preventive Services 2014*. Atlanta, GA: CreateSpace Independent Publishing Platform; 2014.
34. Alpert EJ, Freud KM, Park CC, et al. *Partner Violence: How to Recognize and Treat Victims of Abuse*. Waltham, MA: Massachusetts Medical Society; 1992.
35. Horan DL, Chapin J, Klein L, et al. Domestic violence screening practices of obstetrician-gynecologists. *Am J Obstet Gynecol*. 1998;92:785–789.
36. Substance use and Mental Health Services Administration. *Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings. National Findings*. Rockville, MD: SAMHSA; 2015. [Office of Applied Studies, NSDUH Series H-42, HHS Publication No. SMA 11-4667].
37. Dolman C, Jones I, Howard L. Preconception to parenting: a systematic review and meta-analysis of the qualitative literature on mothers or women with serious mental illness. *Arch Womens Ment Health*. 2013;16:173–196.
38. McConachie S, Whitford H. Mental health nurses attitudes towards serious postpartum mental illness. *J Adv Nurs*. 2009;65(4):867–876.
39. McKenna K, Einarson A, Levinson A, et al. Significant changes in antipsychotic use in during a prospective comparative study. *Vet Hum Toxicol*. 2005;46:44–46.
40. Gentile S. Clinical utilization of atypical antipsychotics in pregnancy and lactation. *Ann Pharmacother*. 2006;38:1265–1271.
41. Kay SR, Opler LA, Lindenmayer JP. The positive and negative syndrome scale (PANSS): rationale and standardization. *Br J Psychiatry*. 1989;155:59–65.
42. Substance Use and Mental Health Services Administration. *Results from the 2012/2013 National Survey on Drug Use and Health: National Findings*. Rockville, MD: SAMHSA; 2013: 26–37. [Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434].
43. Russell M, Martier SS, Sokol RJ, et al. Screening for pregnancy risk-drinking. *Alcoholism*. 1994;18:1156–1161.
44. Connelly CD, Hazen AL, Baker-Ericzen MJ, et al. Screening for depression in the perinatal period enough? The co-occurrence of depression, substance use and intimate partner violence in culturally diverse women. *J Womens Health*. 2013;22(10):844–852. doi: 10.1089/jwh.2012.4121.
45. Radcliffe P. Substance-misusing women; stigma in the maternity setting. *Br J Midwifery*. 2011;19(8):497–506.
46. Bohn MJ, Babor TF, Kranzler HR. Validity of the drug abuse screening test (DAST-10) in inpatient substance users: problems of drug dependence. In: *Proceedings of the 53rd Annual Scientific Meeting. The Committee on Problems of Drug Dependence INC*. Vol 199. Rockville, MD: Department of Health and Human Services; 1991:223. [DHHS Publication No 9201888. NIDA Research Monograph No 119].
47. Chang L, Alicata D, Ernst T, et al. Structural and metabolic brain changes in the striatum associated with methamphetamine abuse. *Addiction*. 2007;102:16–32.
48. Stevenson JW, Rieckmann T. Legislating for the provision of comprehensive substance use treatment programs for pregnant and mothering women. *Duke J Gend Law Policy*. 2009;16(315):315–346.
49. Tuchman E. Women and addiction: the importance of gender issues in substance use research. *J Addict Dis*. 2010;29(2):127–138.
50. DeBortoli L, Coles J, Dolan M. Linking illicit substance misuse during pregnancy and child abuse: what is the quality of evidence? *Child Family Soc Work*. 2014;19:136–141.

51. Jackson A, Shannon L. Barriers to receiving substance use treatment among rural pregnant women in Kentucky. *Matern Child Health J*. 2012;16:1762–1770.
52. Mauthner NS. Postnatal depression: the significance of social contracts between mothers. *Womens Stud Int Forum*. 1995;18:311–323.
53. Wasserman D. *Depression*. New York: Oxford University Press; 2011.
54. Drake E, Howard E, Kinsey E. Online screening and referral for postpartum depression: an exploratory study. *Community Ment Health J*. 2014;50:305–311.
55. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Association; 2013.
56. Brand SR, Brennan PA. Impact of antenatal; and postpartum maternal mental illness: how are the children? *Clin Obstet Gynecol*. 2009;52:441–455.
57. Kinsella MT, Monk C. Impact of maternal stress, depression and anxiety on fetal neurobiological development. *Clin Obstet Gynecol*. 2009;52:425–440.
58. Witt WP, Wisk LE, Cheng ER, et al. Poor pre-pregnancy and antepartum mental health predicts postpartum mental health problems among US women: a nationally represented population based study. *Womens Health Issues*. 2011;21(4):304–313.
59. Meadows-Oliver M, Sadler ML, Swartz M, et al. Sources of stress and support of homeless teenage mothers. *J Child Adolesc Psychiatr Nurs*. 2007;20:116–125.
60. Clement S, Brohan E, Jeffrey D, et al. Development and psychometric properties of the barriers to access to care evaluation scale (BACE) related to people with mental ill health. *BMC Psychiatry*. 2012;12(1):36.
61. Jarosinski J, Pollard D. Postpartum depression: a qualitative perspective across ethnic groups. *Issues Ment Health Nurs*. 2014;35(3):189–197.
62. Anderson C. Using the Edinburgh postnatal depression scale to screen for the 10- symptoms among Latina, African-American, and Caucasian adolescents. *South Online J Nurs Res*. 2010;10(1):1–20.
63. Cox J, Holden J, Sagovsky R. Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale. *Br J Psychiatry*. 1987;150:782–786.
64. Mayberry L, Horowitz J, Declercq E. Depression symptom prevalence and demographic risk factors among pregnant women during the first two years postpartum. *J Obstet Gynecol Neonatal Nurs*. 2007;36:542–549.
65. Matthey S. Using the Edinburgh Postnatal Depression Scale to screen for anxiety. *Depress Anxiety*. 2008;25:926–931.
66. Nemoda Z, Massart R, Suderman M, et al. Maternal depression is associated with DNA methylation changes in cord blood T lymphocytes and adult hippocampi. *Transl Psychiatry*. 2015;5:1–8.
67. Beck AT, Steer RA, Carbin, MG. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*. 1988;8(1):77–100.
68. Holden KB, McKenzie R, Pruitt V, et al. Depressive symptoms, substance use and intimate partner violence among pregnant women of diverse ethnicities. *J Health Care Poor Underserved*. 2012;23:2226–2241.
69. Maddocks S, Johnson S, Wright N, et al. A phenomenological exploration of the lived experience of mental health nurses who care for clients with enduring mental health problems who are parents. *J Psychiatr Ment Health Nurs*. 2010;17(8):674–682.
70. Jesse E, Kim H, Herndon C. Social support and self-esteem as mediators between stress and antepartum depressive symptoms in rural pregnant women. *Res Nurs Health*. 2014;37:241–252.
71. Engvist I, Ahlin A, Ferszt G, et al. Nurses-Psychiatrists' main collaborators when treating women with postpartum psychosis. *J Psychiatr Ment Health Nurs*. 2010;17(6):241–252.

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