Identifying, screening, and treating postpartum depression in adolescents

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Dedication

I would like to thank my parents who continuously encourage me and have believed in me from the moment I was born. Without their support I would have never made it through this program. I would also like to thank my extended family for their prayers and gifts that kept me going and reminded me of how much they care for me. Finally, I would like to thank my friends for helping me to keep my sanity throughout my time in Toledo.
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Introduction

The World Health Organization (WHO) states, “Depression and anxiety are twice as prevalent globally in women as in men, and are at their highest rates in the lifecycle during the childbearing years, from puberty to menopause” (WHO, 2007, p.1). The WHO estimates that 5-10% of the world population is suffering from depression and needs psychiatric treatment or psychosocial intervention. For women, the lifetime risk of developing depression in females is 10-20% (WHO, 2007). The prevalence of Postpartum Depression (PPD) across all age groups is as high as 34% during the immediate postpartum period (WHO, 2003). The PPD rates in adolescents (13-18 years old) 3 months postpartum have been reported to be as high as 56% (Logsdon, Birkimer, Simpson, & Looney, 2005). It has been suggested that the higher prevalence among teenage girls is due to lower income and education levels, unplanned pregnancies and less partner support which have all been linked to higher depression rates (Dennis, 2004; Gross, Wells, Radigan-Garcia, & Dietz, 2002; Troutman & Cutrona, 1990). Although rates of PPD are high across all age groups, the higher prevalence among adolescents suggests they are at increased risk and may require special attention when it comes to examining risk factors and developing preventive methods. Since PPD is a mood disorder in the same category as major depressive disorder, one must have a good understanding of major depression to fully understand PPD.
**Major Depressive Disorder**

Major depression is defined by the Diagnostic and Statistical Manual Version IV ((DSM IV-TR); American Psychiatric Association, 2000) as having either a depressed mood or loss of interest in pleasurable activity with four of the following symptoms: significant change in weight or appetite; insomnia or hypersomnia; psychomotor agitation or retardation; fatigue or loss of energy; feelings of worthlessness or excessive and/or inappropriate guilt; diminished ability to think or concentrate; or recurrent thoughts of death, with or without suicidal ideation. These symptoms must be present for at least two weeks and represent a change from previous functioning. Symptoms must cause clinically significant distress or impairment in social, occupational, or other areas of functioning. Symptoms cannot be due to the effects of a substance or medical condition and cannot be accounted for by bereavement (DSM-IV-TR, 2000). When onset of this disorder comes during or after pregnancy, the effect on the patient and family, specifically the infant, is magnified.
Antepartum Depression

Depression is prevalent in the period prior to (antepartum depression) and after birth (postpartum depression). Women who experience antepartum depression are at a greater risk for negative pregnancy outcomes (Wisner et al., 2000). These negative outcomes include premature birth, fetal distress, and neonatal behavioral differences (Wisner et al., 2000). Current evidence suggests that women previously diagnosed with major depression are more likely to experience a depressive episode during pregnancy. This is especially true for women who choose to discontinue their antidepressants during pregnancy (Wisner et al., 2000). Up to 43% of women with a history of depression may experience a major depressive episode during pregnancy and one study found that 68% of women who discontinued their antidepressant medication at the beginning of pregnancy had a relapse of depressive symptoms during pregnancy (Wisner et al., 2000). Rates of depression during pregnancy are alarming and need to be addressed, however, the pharmacological treatment of depression during pregnancy is controversial due to the limited information on the effects of the medication to the fetus (Wisner et al., 2000).

A problem in reviewing the literature on antepartum depression is the lack of a consistent definition. Many researchers refer to antepartum depression as any clinically negative mood state ranging from mild to severe (Campagne, 2004). However, in this review, antepartum depression will refer to major depression diagnosed during pregnancy. Therefore, according to the DSM-IV-TR, women with antepartum depression are not diagnosed with PPD if the antepartum depression continues beyond birth. The post-birth depression is considered to be a continuation of the already diagnosed disorder. In contrast, women diagnosed with major depression that resolves prior to or during pregnancy but re-experience depression after giving birth are said to
have PPD. To further understand this concept one must examine the three categories of PPD which include the postpartum blues, postpartum psychosis, and PPD.
Postpartum Depression

The “postpartum blues” occur in up to 70% of women during the 10 days postpartum (DSM-IV-TR, 2000) and is not considered to be a clinically significant condition. The blues are characterized by transient symptoms that resolve within days and do not impair functioning (DSM-IV-TR, 2000; Buist, 1996). Women suffering from the “postpartum blues” may experience tearfulness, irritability, lowered mood, anxiety and fatigue (Buist, 1996). It is essential for the healthcare provider to monitor these symptoms because women who experience “postpartum blues” are at an increased risk for developing PPD (DSM-IV-TR, 2000).

Although rare, it is possible for women with PPD to present with psychotic features. The DSM-IV-TR does not provide specific diagnostic criteria to differentiate PPD from psychosis, but it occurs after anywhere from 1 in 500 to 1 in 1,000 deliveries (DSM-IV TR, 2000). Symptoms that suggest psychosis include confusion, agitation, sleeplessness, disorientation, delusions, hallucinations, mood liability, and bizarre behavior (ACP PIER & AHFS DI Essentials, 2008). Women who experience PPD psychosis with command hallucinations (e.g., hearing voices that demand the mother to cause harm to the baby) or delusions that their infant is possessed (e.g., by demons) are most closely linked with infanticide (DSM-IV-TR, 2000). Women with a history of postpartum depression and other mood disorders, especially bipolar I disorder, are at an increased risk for PPD with psychosis (DSM-IV-TR, 2000). Women who experience PPD with psychosis have a 30%-50% risk of reoccurrence for each delivery thereafter (DSM-IV-TR, 2000). This highlights the need for healthcare professionals to obtain a thorough psychiatric history and to focus attention on prevention.

According to the DSM-IV-TR, PPD is diagnosed when a women who meets the criteria for major depression, experiences the onset of symptoms within 4 weeks of delivery (DSM-IV-
TR, 2000). While the 4 week criterion is part of the DSM-IV-TR, much of the research literature considers depression onset within the first year after delivery to be PPD (Lusskin, Pundiak, & Habib, 2007). In other words, a mother who experiences the onset of major depression up to a year after giving birth is said to have PPD. Symptoms that appear to be more prevalent in the postpartum period include fluctuations in mood, mood liability, and preoccupation with the infant well-being (DSM-IV-TR, 2000).
Effects on Mother

Experiencing symptoms of depression after delivery makes the transition to motherhood difficult. In extreme cases, some mothers are unable to cope with this transition and feel the need to give up on life. Although extreme, suicide is commonly seen by new mothers as the only way to escape the burden of depression. In developed countries suicide is the most common cause of maternal death in the year following delivery (WHO, 2009). Those mothers, who continue to experience symptoms of depression, may begin to view motherhood and their new child in a negative light (Bennett & Indman, 2003).
Effects on Child

Mothers with PPD are often more withdrawn and have less interaction with their new child, which can result in impaired child development. A recent study conducted in 18 US cities showed that children of mothers with PPD were more likely to suffer from aggression, anxious-depressed behavior and/or inattention-hyperactivity at three years of age. The risk of childhood behavior problems increased 50% when mothers with PPD also suffered from substance abuse or were victims of domestic violence (Whitaker, Orzal, & Kahn, 2006). Aside from behavioral maladjustment, maternal depression can lead to poor cognitive functioning (e.g., poor memory, judgment, IQ, and/or perception) and emotional maladjustment (e.g., inability to adapt to societal norms) in infants and children (Misri & Kendrick, 2007). In addition to these proximal effects, longitudinal effects are also seen in the form of psychiatric illnesses and medical disorders (e.g., cardiovascular and/or neuromuscular disorders) when a child reaches adolescence and young adulthood (Weissman et al., 2006). In a study examining the offspring of depressed parents, children were 5 times more likely to suffer from cardiovascular problems and twice as likely to suffer from neuromuscular disorders. Also, all the offspring with cardiovascular issues had psychiatric disorders and 91% had mood disorders which includes depression (Weissman et al., 2006). It is thought that individuals with major depression may have altered immune, platelet, and hypothalamic-pituitary-adrenal axis functioning which leads to these medical illnesses (Weissman et al., 2006). The negative emotional, behavioral, and social consequences of PPD on both the mother and child calls for greater effort to understand the etiology of PPD, so that it might be treated and even prevented.
Etiology of Depression

The etiology of depression is not fully understood and is unlikely due to a single factor (Ansorge, Hen, & Gingrich, 2007). Current research suggests neurobiological, environmental and genetic factors contribute to depression vulnerability (Ansorge et al., 2007). The experimental and clinical research evidence to date supports the notion that changes in neurotransmitter metabolite concentrations, reuptake sites, and receptors contribute to the development of major depression (Nemeroff, 2002). Serotonin and norepinephrine are two of the main neurotransmitters believed to be involved in depression symptoms (Nemeroff, 2002). Serotonin is involved in mood regulation and controls various activities including sleep and pain (Nestler et al., 2002). Norepinephrine is thought to be responsible for controlling emotions such as anxiety, aggression, stress and sleep patterns (Nestler et al., 2002). When these neurotransmitters are present in lower than normal amounts they are thought to result in depressive symptoms (Nestler et al., 2002). Research examining the etiology of PPD specifically, suggests that increased levels of progesterone, estradiol, corticotropin releasing hormone, and cortisol during pregnancy may be responsible for increased vulnerability to depression, in part due to their associations with serotonin and norepinepherine (Chrousos, Torpy, & Gold, 1998).

Postpartum depression can be an insidious disorder with severe negative consequences for the mother and her new child. Currently PPD is under diagnosed (Georgiopoulous, Bryan, Wollan, & Yawn, 2001), and so it is important that health care professionals identify, screen for and treat women at risk for this disorder. With PPD rates as high as 50% in adolescents, the focus of this paper is to review what is known concerning the risk factors associated with PPD in adolescents as well as the best methods for screening, preventing, and treating this population.
Research has shown that women diagnosed with PPD typically show symptoms during pregnancy. For example Evans et al reported that 51% (421/831) of those who screened high for depression on the EPDS at six weeks postpartum had high depression scores during pregnancy. (Evans, Heron, Francomb, Oke & Golding, 2001). Therefore, it is important for OB/GYN PAs to check for the risk factors associated with PPD. A meta-analysis of 84 studies examining predictors of PPD concluded that self esteem, single marital status, and unplanned/unwanted pregnancy were predictors among all women for PPD (Beck, 2001). This suggests that the risk factors for PPD cover several domains including psychological, social, and developmental/environmental.
**Risk Factors**

*Psychological*

Psychological factors are the strongest predictors of PPD in women across all age groups. These factors include the presence of anxiety, depression and/or stressful life events during pregnancy or soon after delivery, as well as having a previous history of depression (Robertson, Grace, Wallington, & Stewart, 2004). Women who develop depression during pregnancy are more likely to have somatic complaints than nondepressed women (Kelly, Russo, & Katon, 2001). These somatic symptoms include stomach pain, pain or problems during sexual intercourse, headaches, dizziness, heart pounding, shortness of breath, GI symptoms and nausea (Kelly et al., 2001). Women experiencing more frequent and intense pain symptoms then would normally be expected during pregnancy might benefit from an evaluation for depression. If they don’t meet the full criteria for major depression, they should be monitored for any change in symptoms for the remainder of the pregnancy. Adolescents show additional psychological risk factors for PPD.

Anger/irritability and sadness are the most common symptoms among inner city pregnant adolescents at risk for depression (Shanok & Miller, 2007). In addition pregnant adolescents report experiencing shame and guilt, feeling like a failure, and viewing their pregnancy as a punishment. Shanok & Miller (2007) suggested that individuals in their sample experienced secondary gain in response to their symptoms. For example, adolescents were more inclined to display symptoms of anger/irritability when it resulted in family members giving into their demands. Therefore, in many cases, the symptoms of depression were positively reinforced and thus increased rather than diminished.
A study examining pregnant adolescent mothers found that anticipated infant care emotionality during the third trimester was a strong predictor of PPD (Secco et al., 2007). Infant care emotionality is described as, “…the negative emotions the mother expects to feel if the infant continues to fuss or cry despite her care or interaction” (Secco et al., 2007). In other words, when an infant displays irritability in response to care being given by their mother, the mother can become frustrated and discouraged. This discouragement - or infant care emotionality - contributes to the development of depression as the mother begins to feel inadequate and incapable of filling her role. The study found that perceived family and friend support contributed positively to the anticipated infant care emotionality (Secco et al., 2007) suggesting that social issues may play a role in the development of PPD.

**Social**

Social risk factors that may contribute to women of all ages being more vulnerable to PPD include marital discord, low levels of social support, lower socioeconomic status, and financial strain (Robertson et al., 2004). Although these factors aren’t specific to adolescents, given the adolescents developmental stage, they are likely to experience greater interpersonal and financial difficulties without resources to cope with them and this may help explain, the increased prevalence in this population.

It has been suggested that adolescents receiving more support from their parents, the infant’s father and peers are less likely to suffer from PPD (Reid & Meadows-Oliver, 2007). Pregnant adolescents often attribute their depressive symptoms to social issues which include, family members being sad and/or rejecting of their condition (Secco et al., 2007). An example of this would be an adolescent whose mother acts hurt or saddened by her daughter’s pregnancy. While support is important, it has been suggested that too much support, especially support that
is different from that desired, can be detrimental (Logsdon, Birkimer, Simpson, & Looney, 2005). Feelings of depression can result when adolescents perceive the support they are receiving is due to others perceiving them as inadequate mothers. (Logsdon et al., 2005). In addition to the psychological and social risk factors that predict PPD are developmental/environmental factors.

*Developmental/Environmental*

A developmental risk factor common to women of all age groups is a family and/or personal history of depression (DSM-IV-TR, 2000). First degree relatives of those with a depression diagnosis are 1.5 to 2 times more likely to develop depression, compared with the general population (Lusskin et al., 2007). Women with a history of a previous nonpostpartum mood disorder are also at increased risk for developing PPD (DSM-IV-TR, 2000).

Adolescence itself can be a developmental risk factor for PPD (Secco et al., 2007). The adolescent years are a time for maturation and psychosocial growth (Birkeland, Thomson & Phares, 2005). When the added responsibility of caring for a child occurs during this time, it may result in depression (Birkeland et al., 2005). Adolescents are more likely to experience depressive symptoms when they feel trapped or wronged (e.g., view their pregnancy as a punishment) (Shanok & Miller, 2007). It is important for the OB PA to recognize such risk factors when meeting with their patients. Often times these factors are easier to recognize than the depressive signs and symptoms of PPD, which may be hidden by the patient because of the stigma associated with depression.
**Screening**

PPD has a wide range of symptoms and not every mother will present in the same way (Beck & Indman, 2005). Therefore, the OB PA must be alert to the variety of symptoms and continually assess the emotional status of the new mother. Women of all ages suffering from PPD report being: overwhelmed; on an emotional roller coaster; irritable; lonely and abnormal in some way (Beck & Indman, 2005). Many women hide these feelings due to social stigma (Beck, 2001). When compared to nondepressed postpartum women, women with PPD were more likely to report feelings of restlessness/agitation and impaired concentration/decision making (Bernstein et al., 2008). This highlights the importance of using a screening tool to assist the OB PA in assessing the broad range of symptoms.

Currently the United States Preventive Services Task Force recommends screening adults for depression in clinical practices that have adequate resources to provide appropriate follow up treatment (U.S. Preventive Services Task Force, 2002). Although the above recommendation is not specific to PPD or adolescents, there are some who argue that after identifying a patient at risk for PPD, a screening tool should be used to further evaluate that risk (Bowen & Muhajarine, 2006). As the risk of antepartum depression is high, particularly among adolescents, it is important to screen for depression during this time. If the screen is positive, further evaluation is warranted. For those women with a negative screen but where risk factors were identified, it is important to monitor for symptoms across the perinatal period.

**Timing**

Research (which has defined PPD as depression occurring in the 12 month period after delivery) has shown that women of all age groups are most vulnerable to PPD during the first three months after delivery (Monti, Agostini, Marano & Lupi, 2008). No evidence exists to
suggest adolescent mothers would be different. Therefore, it is essential for the OB PA to continue to monitor patients for depressive symptoms well beyond the immediate post-delivery period. The ideal time to screen women for PPD seems to be between 2 weeks and 6 months postpartum (Boyd, Le, & Somberg. 2005). In waiting two weeks after delivery, PAs may avoid false positives due to women experiencing the postpartum blues. There are a number of screening tools used for PPD.

**Screening Tools**

Although many screening tools are available for PPD, each has limitations. Current methodological barriers in determining the optimal screening measure include lack of: adequate sample sizes; diversity in samples (e.g., races, ages, and economic back rounds); and the use of a standard cutoff score (Gjerdingen & Yawn, 2007). Despite these problems, many screening measures have proven useful in detecting PPD. To evaluate these various screening measures one must look at their accuracy in identifying women with PPD.

Sensitivity and specificity are two methods used to assess the accuracy of a screening measure. Sensitivity is the ability of the screening measure to correctly identify a woman who in fact has PPD. Specificity is the ability of the measure to exclude woman who do not have PPD. In determining the presence of depression in adolescents who are pregnant, one can examine the sensitivity and specificity of both general depression screening measures and those specific to pregnant women.

The Beck Depression Inventory (BDI-I) & (BDI-II) and the Center for Epidemiological Studies Depression Scale (CES-D) are two validated depression screening tools (Boyd et al., 2005). Although created to identify depression in the general public, these self report measures are also used to assess antepartum and postpartum depression.
The BDI is a list of 21 symptoms (e.g., changes in appetite, fatigue, or changes in sleep patterns) or attitudes (e.g., pessimism, failure, or self dislike) that are rated on intensity over the past week including today (BDI-I) or the past two weeks (BDI-II). This screening can be done in the office and takes 5-10 minutes (Gaynes et al., 2005). Cutoff scores for the BDI have been suggested as ≤ 10 for mild, ≤ 20 for moderate, and ≥ 30 for severe depression (Furlanetto, Mendlowicz, & Romildo Bueno, 2004). In a recent study of 185 pregnant women the BDI-II showed 74% sensitivity and 83% specificity when a cutoff score of 11/12 was used (Su et al., 2007).

The CES-D consists of 20 items that measure depressive symptomology (e.g., feelings of loneliness, inability to concentrate, or crying more frequently). The CES-D can also be used in the office and takes five minutes to complete. Patients are asked to indicate how many days in the past week they have been feeling these symptoms (Boyd et al., 2005). In a study of 3952 postpartum Hispanic women, CES-D showed a sensitivity of 88% and a specificity of 73% (Kuo et al., 2004).

Since both the BDI and CES-D were created for the general population they have been criticized for their use in medical samples. Women who become more emotional and experience a change in appetite and sleeping patterns as a result of pregnancy are likely to report a greater number of somatic/physical symptoms and will screen higher for depression even though these symptoms are likely related to their medical condition.

The Edinburgh Postnatal Depression Scale (EPDS) is the most widely used and studied screening tool for PPD (Boyd et al., 2005). It is considered to be the “gold standard” for assessing the presence and severity of depressive symptoms in pregnant women. The EPDS is considered a better screen for PPD because it does not use questions assessing somatic symptoms.
that might be the result of normal pregnancy. The EPDS contains 10 items that evaluate a woman’s emotional and cognitive symptoms over the past 7 days (Boyd et al., 2005). This test can be self administered and takes about five minutes to complete. The EPDS was examined alongside the BDI in the same study described above. As compared to the BDI, the EPDS had a sensitivity of 83% and a specificity of 89% with a cutoff score of 12/13 (Su et al., 2007).

Despite its widespread use, some problems have been identified. A meta-analysis of 18 studies on the EPDS indicate that when used in a general population (as opposed to a clinical population where symptom complaints are made) of postpartum women the positive predictive value for depression is very low (Eberhard-Gran, Eskild, Tambs, Oepjordsmoen, & Samuelsen, 2001). This highlights the importance of viewing the EPDS as a screening tool rather than a diagnostic instrument. Another problem identified in this meta-analysis is that it suggested there may be systematic differences in responses based on the version of the EPDS used in a particular country. Large differences in sensitivity and specificity were found. This raises the question of whether there are methodological problems in translation, or cultural differences in responses.

Although there are additional screening measures for PPD (e.g., Postpartum Depression Screening Scale (Beck & Gable, 2001); Patient Health Questionnaire (Kroenke, Spitzer, & Williams, 2001); Postpartum Depression Predictors Inventory-Revised (Hanna, Jarman, & Savage, 2004)) the three discussed in this review are among the most widely used and studied.

To ensure best patient outcomes, follow up care is required after the PA has identified a potentially depressed patient with a screening tool (Pignone et al., 2002). The US Preventive Services Task Force (2002) concluded that screening must be followed up with collaborative care directed at diagnosis and treatment in order to improve outcome. One must remember that a positive screen is not a diagnosis. Therefore, after a positive screen, referral to a mental health
professional is suggested. The patient will then be working with a team of health care professionals that are equipped to diagnose and treat her condition.
The pharmacologic treatment of depression across all age groups, including adolescents, has proven to be effective (Logsdon, 2004). The literature suggests that specific serotonin reuptake inhibitors (SSRIs) should be the antidepressant of choice when treating adolescents with depression (Braconnier, Le Coent & Cohen, 2003).

SSRIs work by binding to the serotonin transporter (5-HTT) and thus inhibiting the reuptake of serotonin into the presynaptic neuron. This allows for higher levels of synaptic serotonin. SSRIs are considered safer than Tri Cyclic Antidepressants (TCAs) because they have fewer side effects and a higher toxic dose threshold (Norlander et al., 2008). This combination of safety and efficacy are reasons why SSRIs are considered first line drugs for depression. However, despite the efficacy of SSRI’s in treating adolescent depression, that efficacy comes with risk.

Antidepressant medication use in adolescents is associated with an increased risk of suicidality (FDA, 2002). The FDA (2002) reports, “Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (planning and attempts) in children, adolescents, and young adults in short-term studies of major depressive disorder, and other psychiatric disorders” (p. 1). The FDA has issued an order that all antidepressants carry a black box warning explaining this associated side effect. It is important to examine both the risks and benefits of antidepressant use during pregnancy.

**Antidepressant Use, Safety and Pregnancy**

It has been shown that antidepressants taken by the mother (any age group) cross the placenta, as they have been found in infant’s serum (after delivery) and in the mother’s breast milk (Kim et al., 2006). Since these drugs are transmitted to the fetus, concerns about
tetratogenesis and other dangers to the infant have resulted in a limited number of randomized controlled trials examining the potential ill effects of antidepressant use on mother and baby, during and after pregnancy (Bennett, Einarson, Taddio, Koren & Einarson, 2004). While treating antepartum depression with antidepressants is efficacious (Freeman, 2007), there are reports that suggest its use may lead to negative pregnancy outcomes.

In 2005 the FDA sent out a warning that paroxetine may be associated with cardiovascular malformation and overall major congenital malformations in the fetus when taken in the first trimester of pregnancy (FDA, 2005). Fluoxetine, when taken in high doses during pregnancy (across all age groups), has been linked to lower birth weights in newborns (Hendrick et al., 2003). Other reports have shown an increased risk of persistent pulmonary hypertension of the newborn when the mother was taking SSRIs during pregnancy (Chambers et al., 2006). In addition, SSRIs have been associated with jitteriness, poor muscle tone, and weak or absent crying, respiratory distress, hypoglycemia, low Apgar scores, and seizures in infants (Koren & Boucher, 2009).

Antidepressant (SSRIs) use during breastfeeding has been linked to infant somnolence, fever, hypotonia, colic, crying, irritability, poor feeding, seizures, and a decreased growth rate (Pearlstein, 2008). It is important to note however that this data is based on limited case reports and case studies. It is hard to assess the results of these studies since there are a number of other factors that might explain these results (Chambers et al., 2006). For example, it is hard for researchers to show that an infant’s poor feeding and irritability are due to their exposure to SSRIs and not due to their natural temperament. Therefore the research findings on SSRI use during pregnancy and the postpartum period remain inconclusive. As a result, many women
abstain from using antidepressant medication during this time. Fortunately there is another treatment option, psychotherapy.
**Psychotherapy**

The use of psychotherapies including Cognitive Behavioral Therapy (CBT) and Interpersonal Therapy (IPT) in adolescent females is also considered an important part of the treatment plan (Mufson et al., 2004; Klein, Jacobs & Reinecke, 2007). Researchers are still debating which treatment option, either pharmacologic or psychotherapy, is superior and many researchers suggest using a combination. The case for using psychotherapy with pregnant adolescents is compelling in light of the potential risk to both mother and child of pharmacotherapy (Stuart, O’Hara, & Gorman, 2003). This is mostly attributed to the lack of safety data on SSRI use during pregnancy and the postpartum period.

Cognitive Behavioral Therapy (CBT) and Interpersonal Therapy (IPT) are two forms of psychotherapy that are used to treat PPD (Misri & Kendrick, 2007). Misri and Kendrick (2007) describe CBT by saying, “CBT focuses on the interrelations between thoughts, affect, behavior, physical reactions and the environment; provides education about the interrelations between each of these domains; and includes strategies that target positive change in each.” (p. 491). For example, a mother who begins to feel that her child resents her because he only stops crying when the father picks him up would be taught that her child doesn’t have the capacity to resent her. The counselor would help her to begin thinking in a more rational and positive way as they talked about the mother’s thoughts and the child’s behavior. The standard length of CBT is 16 sessions (Cho, Kwon & Lee, 2008). IPT focuses on interpersonal problems that focus on 1 of 4 domains: interpersonal role disputes, role transitions, interpersonal deficits, or grief (Moses-Kolko & Roth, 2004). For example, many adolescents who become pregnant have a hard time adjusting to the role of being a mother. This situation can become even more complicated as the father of the child is dealing with the same problem and both partners have different expectations.
of each other. Through IPT therapy the mother is guided in making the transition to motherhood. IPT would also help define responsibilities between the father and mother that would also make the transition easier. The standard length of IPT ranges from 12-16 weeks. The literature supports the use of psychotherapy for depression in adolescent populations, in women with PPD and support is promising regarding its use with adolescent women with PPD.

Many studies suggest that psychotherapy is effective in reducing the symptoms of depression and increasing quality of life (Cuijpers, van Straten, Wamerdam, & Andersson, 2008). It has been suggested that CBT and IPT are efficacious forms of psychotherapy when treating depressed adolescent populations (David-Ferdon & Kaslow, 2008). A recent meta-analysis concluded that both CBT and IPT were effective in the treatment of moderate to severe depression in 12-18 year olds. Research on the use of psychotherapy during the postpartum period is consistent with these findings.

A study examining the use of IPT in women of all ages diagnosed with PPD (O’Hara, Stuart, Gorman & Wenzel, 2000) found depressive symptoms to be reduced by ≥ 50% in the IPT group, based on the BDI, compared to only 17% in the wait list control group. Two recent meta-analysis’ confirmed that psychological therapies (which included CBT and IPT) were efficacious in treating PPD when examining women of all ages (Lumley, Austin & Mitchell, 2004; Cuijpers, Brannmark, & van Straten, 2008). The meta-analysis concluded that when postnatal counseling interventions given to women with depression or probable depression the number needed to treat (NNT) was between 2-3. NNT is the number of people that must be exposed to an intervention to prevent one bad outcome. A low NNT is considered effective as in the above example, one only need treat 2 or 3 people to prevent one woman from having a bad outcome (which is better than having to treat 10 women to prevent one bad outcome). In addition, another study reported
that all psychological interventions (which included CBT and IPT) are equally effective in their treatment of depression in women of all ages (Cuijpers, van Straten, et al., 2008). Though the research is limited; psychotherapy appears to be effective in treating PPD in adolescents.

The effectiveness of using IPT with adolescents diagnosed with PPD was shown in two small studies. In the first study, IPT was delivered during health class to pregnant girls with varying levels of depressive symptoms. Results showed that depression symptoms were reduced by up to 50% after 12 weeks of IPT (Miller, Gur, Shanok & Weissman, 2008). In the second study IPT sessions were held after school for self-nominating pregnant girls with a DSM-IV-R diagnosis of depression or an adjustment disorder. Results of this study showed the decrease in symptoms remained at 20 weeks postpartum (Miller et al., 2008).

A concern in using psychotherapy with adolescents diagnosed with PPD is the limited number of studies examining it use. However, because IPT has been shown to be efficacious in older women with PPD, in nonpregnant adolescents, and in two studies of pregnant adolescents it may prove to be an effective intervention for adolescent women with PPD. This is an empirical question that remains unanswered. If psychotherapy is chosen as part of the treatment plan, one should be aware of other issues.

Barriers to the use of psychotherapy in this population are the high costs associated with its use, and resource consumption (Bennett et al., 2004). Adolescents who are pregnant may not have the financial resources to pay for treatment. Depending on the mother’s schedule, finding time to participate in these therapies may also be an issue. It is important that trained clinical psychologists, social workers and counselors are available to provide these empirically supported therapies (Doris, Ebmeier, & Shajahan, 1999). Where the adolescent lives can be a problem, as access to mental health care may prevent one from receiving services they need. Therefore, the
OB PA should be up to date on the government and community resources that the adolescent is eligible for and can benefit from when considering therapy (Logsdon, 2004).

Overall, when considering the treatment options for the patient with PPD, the choice should be made by the mother and partner (if available) after they have been educated on the available treatments. Depending on the age and desires of the adolescent, their parents may be a part of the treatment decision as well. However, ultimately the treatment choice would be up to the mother. If the depression is mild, psychotherapy alone may be helpful. If the mother is found to have antepartum depression or postpartum depression the risks and benefits of medication need to be evaluated (Freeman, 2007). The OB PA may also present the option of treating with both medication and psychotherapy. This requires the PA to present the risks and benefits of antidepressant use in a nonbiased way.
Conclusion

PPD is associated with increased rates of maternal suicide as well as increased behavioral, cognitive, medical and emotional disorders in their offspring. Adolescents are at an increased risk for depression during pregnancy when compared to adult women. Certain psychological, social, developmental and environmental risk factors make an adolescent more vulnerable to PPD. Women of all age groups are found to be most vulnerable for PPD during the first three months after delivery and so it is believed that the best time to screen for PPD is within 2 weeks to 6 months after delivery. Although all screening tools have limitations, the EPDS is currently the most widely used and studied screening tool for PPD. However, it is important to note that screening tools are beneficial only when appropriate follow-up and care are provided.

SSRIs are considered the medication of choice when treating depression. However, SSRIs, especially paroxetine and fluxetine have been linked with negative neonatal side effects (Cardiovascular malformations, congenital malformations and persistent pulmonary hypertension) when taken during pregnancy and while breast feeding. These side effects make the use of SSRIs during pregnancy and while breastfeeding controversial. Another treatment option, psychotherapy, specifically IPT and CBT, has proven to be efficacious when treating adolescents for depression. Two recent studies suggest that both forms of psychotherapy reduce PPD symptoms in adolescents specifically. This is an area where more research is needed given the numbers of pregnant adolescents experiencing depression.

Based on this review it is apparent that all adolescent women should be screened for depression in the third trimester of pregnancy as some will show signs of depression before
delivery. They should also be screened again at 6 weeks post partum as the evidence suggests that women of all ages are most vulnerable for depression within the three months after delivery.

The EPDS has been used and studied more in PPD than the BDI and CES-D due in part that it does not factor in somatic complaints that could be the result of normal pregnancy. While it is recommended that the EPDS be used in this population, issues concerning the EPDS’s validity in cross cultural samples and its varying sensitivity and specificity based on differing cut-off scores indicates more research needs to be done. When the EPDS is used in clinical settings (as opposed to research settings) as a screening tool rather than a diagnostic instrument, its value to the clinician is enhanced. This means that should a patient have a positive screen, they should not automatically be assumed to be depressed but should receive follow-up assessment by a trained individual. Since more sensitivity is seen with lower cutoff scores of the EPDS a score of 9 should be used for adolescents. Trained professionals would then follow up with these patients either on the phone or in person before a diagnosis of depression is made. This method would likely lead to false positive screens, however, it is better to have these identified and dismissed by qualified mental health professionals than to miss cases of PPD and having patients go untreated.

Once depression is diagnosed the patient should be educated on the treatment options that are currently available including both medication and psychotherapy. The risk and benefits of being treated should be set forth by the health care professional. The treatment plan should be individualized to each patient specifically depending on the risk-benefit ratio. For example, a woman that suffers from PPD but is hesitant to begin medication because of the potential danger to her offspring must be educated on the potential risks associated with untreated depression. She must understand the negative emotional, social, behavioral, and possible medical side effects that
may result in her offspring due to her untreated depression. Once she understands the risks of both depression and antidepressant use (to herself and fetus) she can make an informed choice concerning treatment options. She might consider a trial of psychotherapy before initiating medication. The risk to benefit ratio will differ between women depending on the degree of depression they are experiencing, the side effects of their depression, and their history of success with previous antidepressant medications.

When prescribing antidepressant medication for PPD, SSRIs should be used first. Currently, Paroxetine is the only SSRI with an FDA warning showing significant evidence for cardiovascular malformations in the fetuses with use during pregnancy. Therefore, Paroxetine should be avoided until more is known about its use in this population. It is important to note however, that the lack of FDA warnings on other SSRI’s is likely due to there being limited studies examining their safe use during pregnancy. This should not be interpreted to mean that they lack negative side effects. If the patient is already on an SSRI for depression and it is working, it is reasonable to keep them on that medication after reviewing its risks. It will be up to the patient to decide whether the risks of untreated depression out weigh the negative known and unknown risks of medication.

Based on the currently available research, the best approach to treating adolescents with PPD should include a combination of both psychotherapy, either CBT or IPT, and pharmacotherapy. Although the research on treating PPD in adolescents is scarce, the benefit of psychotherapy and pharmacotherapy for PPD in women of all age groups appears to be effective. Also, both treatment modalities have been proven to work in nonpregnant depressed adolescents.

This study has a number of limitations. First, the research was selective. It did not assess every available study concerning PPD in the general population. Since the research on PPD in
women of all ages was so vast only a representative sample from the available research was selected. Another drawback to this study was the limited amount of data concerning PPD in adolescents. Therefore, many of the conclusions are based on women of all age groups or depressed nonpregnant adolescents and these may not generalize to the pregnant adolescent population. The studies that examined pregnant adolescents had very small sample sizes. Therefore, their results may have limited generalizability as well.

More research needs to be done assessing the best PPD screening tools along with appropriate cut off scores in adolescent subjects as the cut offs used in older women may not be appropriate for adolescents. The data concerning SSRI safety during pregnancy is also scarce. More evidence is needed regarding both the safety of SSRIs during pregnancy and in adolescents as well as the efficacy of psychotherapies in pregnant adolescents before empirically supported guidelines can be developed concerning the treatment of PPD in this population.

Overall, early identification of depression through screening will allow for better management of the disorder. By setting up a treatment plan that is tailored to the patient’s needs the severity of depression symptoms will likely be reduced if not eliminated, benefitting both mother and child. Since the onset of PPD occurs and progresses rapidly it is essential to assess regularly and stay educated on effective treatment options in order to decrease its devastating effects.
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Abstract

Objective: Review risk factors and determine optimal ways an OB/GYN physician assistant can identify, screen for and treat adolescent women at risk for postpartum depression.

Method: A selective literature review of risk factors, three popular screening measures, and treatment modalities for postpartum depression in women generally and adolescents specifically was conducted using databases which included PubMed, EbscoHost, and PsychINFO.

Results/Conclusions: Psychological, social, and developmental risk factors put adolescents at an increased risk for depression during pregnancy. This review suggests that using the Edinburgh Postnatal Depression Scale within 2 weeks to 6 months after delivery is probably the best method for identification of postpartum depression. Concerning treatment of adolescent females, despite risks, SSRIs are the medications of choice as are Cognitive Behavioral Therapy and Interpersonal Therapy. Currently, the best approach to treating adolescents with PPD should include a combination of both psychotherapy and pharmacotherapy.