

Understanding Postpartum Depression: A Comprehensive Review

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Abstract

Postpartum depression (PPD) is a significant mental health concern affecting women worldwide, with implications for maternal well-being and infant development. This article provides a comprehensive overview of PPD, including its prevalence, risk factors, and impact on maternal-infant health outcomes. The prevalence of PPD varies across different countries, with recent studies indicating rates ranging from 10% to 23% among new mothers. Younger maternal age, history of mental health issues, lack of social support, and stressful life events are among the identified risk factors for developing PPD. Untreated PPD can have detrimental effects on both maternal and infant health. Mothers experiencing PPD may struggle with bonding with their infants, leading to disrupted attachment and compromised emotional regulation in infants. Furthermore, untreated PPD is associated with adverse outcomes such as impaired cognitive development in infants and an increased risk of behavioral and emotional difficulties in children. Early detection and intervention are crucial in addressing PPD and mitigating its impact. Healthcare providers play a vital role in recognizing PPD symptoms and providing appropriate support and treatment options to affected mothers. Screening programs aimed at identifying at-risk women during prenatal and postnatal care can help in timely intervention and support. In conclusion, understanding the prevalence, risk factors, and consequences of PPD is essential for promoting maternal mental health and ensuring optimal outcomes for both mothers and infants. Efforts to increase awareness, improve screening practices, and enhance support services are critical in addressing this significant public health issue.

Introduction

Experiencing the journey of parenthood with a new baby is transformative, filled with excitement yet often accompanied by fatigue and feelings of being overwhelmed. It's natural to feel worried or uncertain during this time. However, if you find yourself grappling with extreme sadness, loneliness, severe mood swings, or frequent crying spells, you might be experiencing postpartum depression (PPD). Asian women bear the highest burden of maternal deaths globally.

Postpartum mood disorders come in three main types:

1. Postpartum blues or baby blues
2. Postpartum depression
3. Postpartum psychosis

The prevalence of postpartum depression is estimated at 13%, though it's challenging to ascertain accurately due to underreporting by affected mothers. Research suggests that only a small fraction of

women experiencing PPD symptoms disclose them to healthcare providers, often out of fear of stigma or being judged as inadequate mothers.

Determining the prevalence or incidence of depression typically involves validated assessments like standardized instruments, self-reported surveys, or clinical interviews. Participants are usually excluded if they're already under psychiatric care or if they show signs of possible depression during screening, aiming to identify undiagnosed cases.

Recognizing and addressing postpartum depression is crucial. Healthcare providers, often the first point of contact for new mothers, can play a vital role by receiving proper training to identify PPD symptoms early on. Early detection enables timely intervention, preventing the condition from worsening and improving outcomes for both mothers and infants. By offering support and guiding affected mothers toward suitable treatment options, healthcare providers can alleviate distress and mitigate the impact of PPD on infant development.

Untreated postpartum depression can significantly affect infants, leading to disrupted bonding, reduced stimulation, and compromised emotional regulation. Addressing PPD promptly can contribute to the optimal development and well-being of infants by providing early intervention and support. Failure to address PPD can have enduring consequences, including impaired mother-infant bonding, compromised cognitive development in infants, and an elevated risk of behavioural and emotional difficulties in children.

Epidemiology and Risk Factors

Before delving into the prevalence of depression among postpartum women, it's essential to consider the findings of large-scale epidemiological studies that report rates of major depression for women in the general population. However, comparing depression rates between postpartum and non-postpartum women is challenging due to methodological differences, especially in the timeframe considered for estimating prevalence.

Nevertheless, understanding the results of epidemiological studies on depression in the general female population can provide valuable context for interpreting findings on postpartum depression prevalence. Two significant surveys offer relevant data for women. The National Comorbidity Survey found a one-month period prevalence of DSM-III-R major depression among women aged 15 to 54 to be 5.9%. More recently, the National Epidemiologic Survey on Alcohol and Related Conditions reported a 12-month period prevalence of DSM-IV major depression of 10.1% for women aged 18 and older.

However, no three-month period prevalence estimates for adult women in the general population were found to directly compare with meta-analytic findings for postpartum depression.

Estimates of postpartum depression prevalence have varied widely due to differing criteria, timeframes, and populations studied. An early meta-analysis encompassing 59 studies with a total of 12,810 subjects reported an overall prevalence of postpartum depression of 13%.

In a later systematic review, Gavin et al. (2005) focused on studies using interview-based assessments of postpartum depression. They reported a period prevalence of 19.2% for major and minor depression (7.2% for major depression) in the first three months postpartum, with most episodes beginning after delivery. However, they noted significant uncertainty in depression rates across the postpartum period and whether depression is more common during this time compared to others in a woman's life.

Since Gavin et al.'s review, several studies have been published, offering varying prevalence estimates of depression. Large European studies have shown disparate results, ranging from a one-year period prevalence of 9.6% for major and minor depression in Pisa, Italy, to a six-week period prevalence of 9.2% for major and minor depression and dysthymia in Barcelona, Spain. These studies underscore the considerable variability in defining postpartum depression across developed countries.

Among women in the CDC survey, postpartum depression rates were highest among American Indian/Alaska Native women in 2018.

Prevalence of postpartum depression symptoms by race/ethnicity among 31 survey sites, 2018



Postpartum depression statistics vary worldwide, with Canada reporting that 23% of new mothers experienced symptoms of postpartum depression or anxiety in 2019, with younger mothers under 25 being at a higher risk, reaching 30% prevalence. In the UK, similar to the US, around 1 in 10 new mothers suffer from postpartum depression, while approximately 1 in 8 British women experience depression during pregnancy. In Australia, data from the 2010 National Infant Feeding Survey showed that about 56,000 new mothers were diagnosed with postpartum depression. Furthermore, around 1 in 5 Australian women, including those at high risk due to emotional distress or family history of depression, do not receive adequate prenatal and postnatal screening.

Clinical Presentation and Diagnosis

It's important to recognize that experiencing postnatal depression is not a reflection of personal failure. This condition is genuine and treatable. Symptoms of depression following childbirth can vary in severity, often more intense and persistent than the fleeting 'baby blues.' These symptoms may disrupt daily tasks and caring for your baby. While typically emerging within the first few weeks postpartum, they can also manifest during pregnancy or up to a year after birth. Symptoms include mood swings, excessive crying, difficulty bonding with the baby, social withdrawal, changes in appetite and sleep patterns, fatigue, loss of interest in previously enjoyable activities, irritability, feelings of inadequacy, impaired concentration, restlessness, severe anxiety, and even thoughts of harming oneself or the baby. Importantly, postpartum depression is not exclusive to mothers; studies indicate that new fathers can also experience similar symptoms.

Perinatal mood and anxiety disorder (PMAD) is a frequently employed term encompassing mental health

challenges occurring during pregnancy, postpartum, adoption, or following pregnancy/infant loss. Postpartum depression is commonly utilized as an overarching term interchangeable with PMAD. Mental health diagnoses occurring during pregnancy or the postpartum period may entail anxiety, post-traumatic stress disorder (PTSD), depression, psychosis, obsessive-compulsive disorder (OCD), and bipolar disorder.

Postpartum depression affects around 10–15% of adult mothers annually, with potential onset during any trimester of pregnancy in individuals experiencing depression and anxiety. Various risk factors contribute to the development of PPD following pregnancy. Perinatal infections, transmitted from mother to baby during pregnancy or childbirth, pose additional challenges. While the term perinatal depression (PND) is sometimes used interchangeably with PPD, it typically encompasses major or minor depression occurring during pregnancy or up to 12 months postpartum. Perinatal mental illnesses, ranging from antenatal depression to postpartum psychosis and post-traumatic stress disorder (PTSD), can manifest in varying degrees of severity, necessitating diverse forms of care and treatment. Distinguishing between the transient "baby blues" and more significant perinatal and postpartum depressions is crucial. While hormonal shifts, labor stresses, and adjusting to a newborn's demands may lead to transient mood changes, genuine PPD affects approximately 10-20% of all childbearing women. It represents a bona fide medical condition impacting pregnant individuals and new mothers up to their baby's first birthday. PPD may arise with or without identifiable risk factors, including a family history of depression. Although the exact triggers remain elusive, effective treatment options, including self-help strategies, social support, professional counseling, and medical interventions, offer hope for individuals navigating PPD.

Experiencing depression during pregnancy or after childbirth can be categorized as follows:

- Antenatal depression: occurring during pregnancy
- Postnatal depression (PND): manifesting within roughly the first year after childbirth
- Perinatal depression: encompassing the period from becoming pregnant to about one year after giving birth.

While postnatal depression is commonly recognized, antenatal depression is less acknowledged, and some individuals may experience both. The presentation of depressive symptoms varies depending on when depression sets in during the peripartum period. Notably, women experiencing depression within 8 weeks postpartum are nearly four times more likely to exhibit severe depression compared to those who experience depression during pregnancy. Moreover, these women are more prone to an anxious anhedonia subtype of depression compared to those who develop depression during pregnancy or 8–12 weeks postpartum.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) outlines criteria for major depressive disorder, consisting of nine symptoms. Diagnosis necessitates the presence of at least five of these symptoms:

- Anhedonia
- Thoughts of worthlessness or guilt
- Sleep disturbances

- Changes in appetite or weight
- Impaired concentration or memory
- Fatigue or low energy
- Psychomotor agitation or retardation
- Recurring thoughts of suicide or death

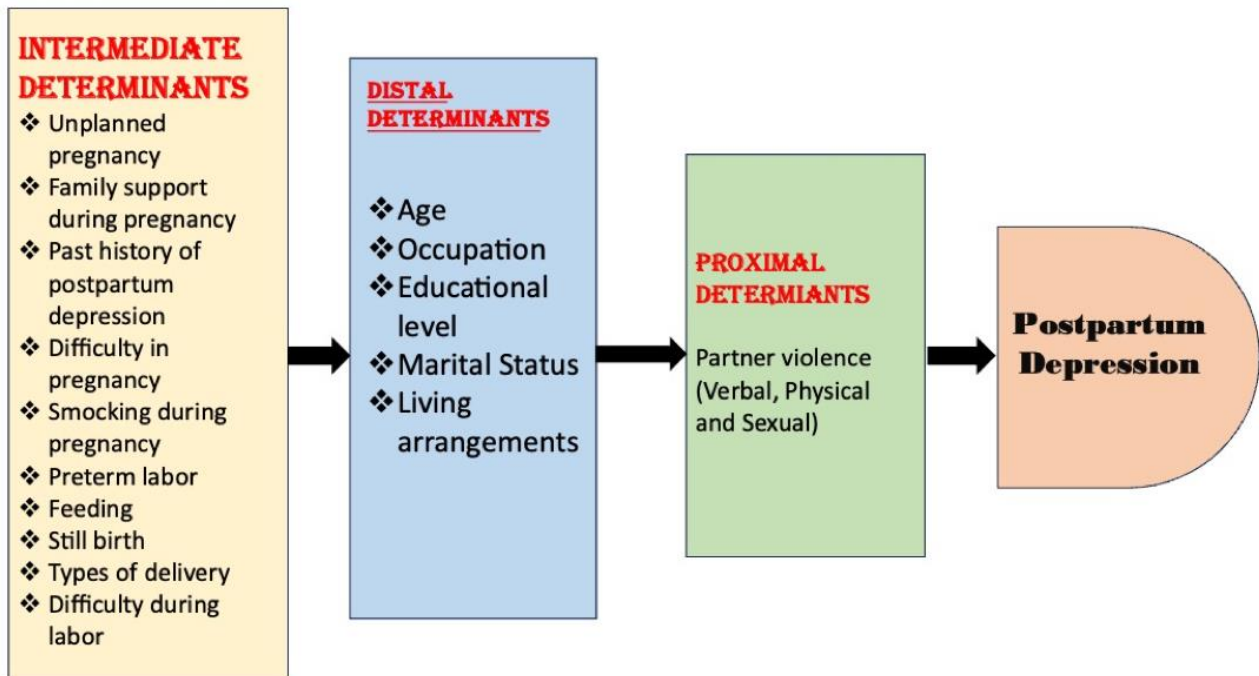
Other relevant symptoms can serve as indicators for screening for Postpartum depression (PPD). These include frequent tearfulness, diminished interest in bonding with the baby or experiencing anxiety about the baby, feelings of inadequacy as a parent, and fear of self-harm or harming the baby. In the Committee Opinion on perinatal depression screening, the American College of Obstetricians and Gynecologists recommend seven validated screening tests for use during pregnancy and the postpartum period. These tests include the Edinburgh Postnatal Depression Scale (EPDS), the Postpartum Depression Screening Scale (PDSS), the Patient Health Questionnaire-9 (PHQ-9), the Beck Depression Inventory (BDI), the Beck Depression Inventory II (BDI-II), the Centre for Epidemiologic Studies Depression Scale (CES-D), and the Zung Self-Rating Depression Scale (Zung SDS). However, specific guidance on the most appropriate test for particular settings or the optimal time frame for PPD detection is not provided. Among these, the Edinburgh Postnatal Depression Scale (EPDS) is one of the most commonly used questionnaires, consisting of 10 questions assessing mood and thoughts. Additionally, healthcare providers may order a blood test to assess for physical conditions such as hyperthyroidism or hypothyroidism that could contribute to depression. The diagnostic tools most frequently employed for diagnosing Postpartum depression (PPD) are the same as those utilized for Major depressive disorder (MDD), including the Structured Clinical Interview for DSM-IV (TR Axis I Disorders) and the Mini-International Neuropsychiatric Interview (MINI). The diagnostic criteria for PPD align with those used for major depression, with the term PPD typically applied to depression occurring within 12 months of childbirth in clinical practice. However, PPD is not categorized as a distinct diagnosis in the DSM-5; instead, patients receive a diagnosis of major depression with the specifier "with peripartum onset" for episodes commencing within 4 weeks postpartum. For episodes of postpartum depression arising more than four weeks after delivery, no modifier is specified in the DSM-5.

Influence of Various Factors on Postpartum Depression:

- **Lifestyle:-** Lifestyle factors play a significant role in shaping mental health, regardless of the type of depression experienced. Eating habits, sleep patterns, physical activity, and exercise regimens can impact postpartum depression. A well-balanced diet rich in essential vitamins, minerals, and proteins, along with appropriate carbohydrate intake, is crucial. Vitamin B6, known for its role in postpartum depression, aids in serotonin production, affecting mood positively. Exercise boosts endorphin and opioid levels, contributing to improved mental well-being. Conversely, substance abuse, smoking, and alcohol consumption have detrimental effects.
- **Obstetric risk factors:-** Obstetric risk factors such as umbilical cord prolapse, preterm birth, low birth weight, and low hemoglobin levels are associated with postpartum depression. Complications during pregnancy, including cesarean section delivery, further elevate the risk.
- **Psychological:-** Psychological factors such as a history of depression or anxiety, premenstrual syndrome (PMS), negative perceptions of the baby, the baby's gender, and a history of sexual abuse are

significant contributors to postpartum depression.

- **Sleep:-** Sleep patterns significantly influence depression risk, with both sleep quality and quantity impacting mental health status. Social support plays a crucial role, as lack thereof can precipitate postpartum depression. Domestic violence, including sexual, physical, and verbal abuse, is another potential causal factor. Smoking during pregnancy is also linked to an increased risk of postpartum depression.
- **Social Factors:-** Individuals may be at higher risk of postpartum depression if they experience relationship difficulties, financial stressors, or other challenging life events. Having a prematurely born baby or a child with special healthcare needs, a history of childhood abuse or adversity, an unplanned pregnancy, or a family history of depression also increases the likelihood of experiencing postpartum depression. Additionally, current or past experiences of domestic violence heighten the risk.



Impact on Mother and Child

The significant physiological changes during pregnancy and childbirth, particularly the fluctuations in steroid hormone levels, coupled with the alterations in mood, appetite, energy, and sleep patterns associated with infant care, suggest that some forms of postpartum depression differ from those occurring at other times. Even non-depressed postpartum women commonly experience symptoms such as fatigue, changes in appetite, and sleep disturbances, often associated with depression in non-postpartum women. This raises questions about the validity of these somatic symptoms as indicators of depression in postpartum women.

While having a baby is anticipated to be a joyful experience, the reality often differs. The physical toll of childbirth, coupled with the abrupt lifestyle changes of motherhood, can leave women feeling exhausted, anxious, and overwhelmed. It's crucial to recognize that postpartum depression likely impacts the entire family. Untreated, it can erode a mother's confidence in her parenting abilities and strain the couple's

relationship, particularly if communication breaks down. Additionally, it can have lasting effects on the child, with infants of depressed mothers showing social, emotional, and cognitive difficulties later in life.

Studies indicate that over 60% of couples have at least one partner experiencing depression late in pregnancy or after childbirth. Men whose partners have postpartum depression are at a significantly higher risk of developing depression themselves. Despite spending more time with their children, many fathers report a lack of parenting guidance from their own fathers, contributing to their understanding of parental roles. Paternal postpartum depression has been linked to adverse effects on child health and development. However, fathers are less likely to seek help for depression, and the lack of awareness surrounding paternal postpartum depression poses a barrier to seeking assistance. Depressed parents may exhibit less affection and responsiveness towards their child, leading to insecure attachment.

During the early weeks, a mother is typically the primary caregiver for her baby, crucial for the infant's understanding of the external world. However, if the mother is depressed, her energy and interest in the baby may diminish, impacting the emotional connection between mother and child. Babies are sensitive to their mother's mood and may react by becoming withdrawn or exhibiting signs of distress. Lack of responsive caregiving can lead to confusion and anxiety in infants, affecting their emotional well-being.

It is widely acknowledged that childbirth triggers a significant decline in various hormones, including estradiol, progesterone, and cortisol. **In withdrawal models**, these reproductive and stress hormones surge during pregnancy and then sharply decrease postpartum, leading to systemic dysregulation and the onset of postpartum depression (PPD). However, these models fail to fully explain how hormonal withdrawal contributes to depression in women, especially considering depressive symptoms that may manifest during pregnancy prior to delivery.

In depression models, PPD is linked to the dysregulation of stress hormones, particularly cortisol. Recent reviews propose that HPA axis dysregulation plays a central role in PPD development. Additionally, reduced dopaminergic function may contribute to PPD, as sudden estradiol withdrawal could disrupt dopaminergic pathways in the brain. Various neuroendocrine changes during pregnancy, including dysfunctional gamma-aminobutyric acid (GABA) signaling, may also contribute to PPD development. Furthermore, low levels of allopregnanolone during pregnancy have been associated with PPD. The involvement of GABA and allopregnanolone in PPD has also been suggested in other models of PPD pathophysiology.

Treatment Approaches

Antidepressants

The treatment of postpartum depression (PPD) often involves antidepressant medication, as emerging evidence suggests that PPD responds similarly to major depression in this regard. However, there are unique considerations to bear in mind when pharmacologically treating PPD, such as metabolic changes in the postpartum period, potential exposure of the infant to medication through breast milk, and concerns about the impact of depression and its treatment on the mother's ability to care for her newborn. Additionally, the perceived stigma associated with needing medication may influence treatment decisions

for both the patient and her healthcare provider. Factors such as the level of distress, access to care, and past treatment experiences also play a role in determining the most suitable treatment approach for PPD.

In a study involving 87 women with major or minor depression postpartum, participants were randomly assigned to receive fluoxetine or placebo alongside cognitive behavioral therapy (CBT) based counseling sessions, either once or six times. Breastfeeding mothers were not included in the study. All groups showed improvement, with the fluoxetine group demonstrating greater reduction in depression severity compared to the placebo group, and those who received six counseling sessions showing greater improvement than those who received only one session. Another study involving 35 women with postpartum depression and comorbid anxiety compared the effectiveness of paroxetine alone versus paroxetine in combination with CBT over a 12-week period. Both groups experienced significant improvement in depressive and anxiety symptoms, with response rates of 87.5% in the paroxetine group and 78.9% in the combined group.

Several open studies have reported the effectiveness of sertraline, venlafaxine, nefazodone, fluvoxamine, and bupropion in treating postpartum depression. Additionally, two placebo-controlled studies have investigated the role of medication in preventing recurrent PPD. In a small randomized pilot study, sertraline administered shortly after birth to nondepressed women with a history of PPD episodes was found to prevent recurrence and prolong time to relapse. However, another study comparing nortriptyline to placebo found no difference in recurrence rates or time to relapse between the two groups, with one out of four women experiencing a relapse in both.

Psychotherapy

Psychotherapy for postpartum depression (PPD) operates under the principle that interpersonal distress is intertwined with depressive symptoms. Consequently, treatment targets encompass psychiatric symptoms, Interpersonal Problem Areas (such as conflicts, transitions, and loss experiences in the patient's relationships), and social support. Interpersonal psychotherapy for PPD adheres to a biopsychosocial model, positing that biological, psychological, and social factors converge to shape an individual's susceptibility and response to stress. These factors are particularly salient in women with PPD due to the hormonal and biological changes associated with pregnancy and childbirth. Vulnerable women, especially when encountering significant interpersonal crises like perinatal loss, are prone to distress. Thus, the biopsychosocial model frames psychological challenges as individual responses to specific stressors, such as childbirth. Rather than viewing psychological distress solely as a medical condition, Interpersonal Problem Transition (IPT) broadens the perspective to consider the patient's functioning as influenced by temperament, personality, attachment style, genetics, physiological factors, and social relationships. Interpersonal Psychotherapy for PPD employs distinct therapeutic techniques tailored to perinatal women, including the Interpersonal Inventory, Interpersonal Problem Areas, and Interpersonal Formulation. The Interpersonal Problem Areas specific to PPD encompass Interpersonal Disputes, Grief and Loss, and Role Transitions.

Cognitive behavioral therapy (CBT)

Cognitive behavioral therapy (CBT) is a form of psychotherapy aimed at assisting individuals in managing their problems by altering their thoughts and behaviors. While commonly utilized for treating anxiety and

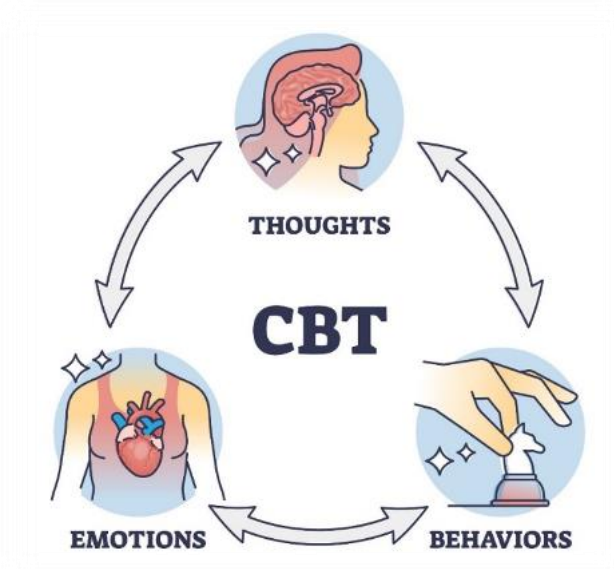
depression, CBT can also be beneficial for addressing other mental and physical health issues. It operates on several fundamental principles:

- Psychological difficulties often stem from flawed or unhelpful thought patterns.
- Learned patterns of unproductive behavior contribute to psychological issues.
- Individuals experiencing psychological problems can acquire new coping mechanisms to alleviate symptoms and enhance their effectiveness in life.

CBT typically focuses on modifying thought patterns, employing strategies such as:

- Identifying and re-evaluating distorted thinking patterns to align them with reality.
- Enhancing understanding of others' behavior and motivations.
- Employing problem-solving techniques to manage challenging situations.
- Cultivating self-confidence and belief in one's abilities.

While not all CBT sessions incorporate all these strategies, therapists and patients collaborate to understand the problem and devise a treatment plan. CBT emphasizes empowering individuals to become their own therapists. Through in-session exercises and homework assignments, patients develop coping skills to alter their thinking, manage problematic emotions, and adjust behavior. CBT therapists prioritize current life circumstances over past events, although some historical information is necessary to inform treatment. The primary focus remains on progressing toward more effective coping strategies for navigating life.



Complementary and Alternative Medicine (CAM)

Complementary and Alternative Medicine (CAM) encompasses treatments and therapies that fall outside the realm of conventional medical care. The National Center for Complementary and Integrative Health classifies complementary health approaches into two main categories:

1. Natural products
2. Mind/body practices.

Recent research has explored the potential impact of certain CAM therapies on patients. Among the CAM treatments studied for their effects on depression, notable ones include omega-3 fatty acids, folic acid, S-

adenosyl 1-methionine (SAME), St. John's wort, bright light therapy, exercise, acupuncture, and mindfulness-based psychotherapies. Additionally, nutraceuticals such as amino acids (tryptophan and tyrosine), vitamins (C and D3), inositol, zinc, and creatine have garnered attention due to their involvement in neurobiological mechanisms that may mitigate or prevent the onset of depression.

Prevention strategies

Prevention strategies can be implemented to reduce the likelihood of postpartum depression. Firstly, recognizing your risk factors is crucial. Women with low self-esteem, marital discord, inadequate support systems, or a history of depression or anxiety are more susceptible to developing postpartum depression. Additionally, those who experience the baby blues or significant life stressors are at heightened risk during the postpartum period.

It's essential to acknowledge that despite taking precautionary measures, postpartum depression may still occur, particularly if faced with uncontrollable stressors. However, proactive steps can be taken to prepare and minimize the risk.

While postpartum depression affects approximately 10% to 15% of women after childbirth, certain subgroups are at increased risk. For instance, women with a history of postpartum depression have a 50% chance of recurrence with subsequent pregnancies. Recognizing this, the US Preventive Services Task Force (USPSTF) recommended universal evaluation of pregnant and postpartum women to assess the risk of depressive illness. Referrals for counseling and further investigation are advised for those identified as at-risk.

Studies have shown that 30% to 50% of women with a history of major depression are prone to postpartum depression. Therefore, the primary aim is to identify high-risk women during pregnancy and the postpartum period to implement preventive interventions effectively.

There is a prevailing hope that investigating potential genetic influences on psychiatric disorders may shed light on the underlying pathophysiological mechanisms, leading to the discovery of cures or more effective treatments. Research has indicated the possibility of a genetic component underlying postpartum depression (PPD). Viktorin et al. discovered that the heritability of perinatal depression was estimated to be 54% in twin samples and 44% in sibling samples, indicating that approximately half of the variability in perinatal depression may be attributed to genetic factors. This is notably higher than the heritability of non-perinatal depression, which is estimated at 32%. Additionally, Forty et al. and Murphy-Eberenz et al. observed familial patterns of PPD with onset within four weeks post-partum among families with major depressive disorder (MDD). These findings suggest that while PPD has distinct characteristics, its genetic basis may partly overlap with that of other mood disorders.

The ROSE program, based on interpersonal therapy (IPT), is a notable intervention designed to support new mothers. This initiative involves 4 or 5 group sessions lasting 60 to 90 minutes during pregnancy, along with an individual 50-minute postpartum session. The program offers psychoeducation on the "baby blues" and postpartum depression, stress management techniques, guidance on developing a social support

system, identification of role transitions, increased awareness of common interpersonal conflicts during the transition to parenthood, and role-playing exercises with constructive feedback from group members.

Another intervention, the Mothers and Babies Program, utilizes cognitive-behavioral techniques. This program comprises 6 to 12 weekly 1- to 2-hour group sessions during pregnancy, supplemented by 2 to 5 postpartum booster sessions. It covers various modules, including basic cognitive-behavioral theories of mood, understanding the physiological effects of stress, strategies to reduce cognitive distortions and automatic thoughts contributing to depression and anxiety, recognizing the importance of pleasurable activities and social networks, and parenting techniques to foster secure attachment and child development.

Here are some strategies to mitigate the risk of postpartum depression:

- **Communicate with Your Healthcare Providers:** If you suspect you might be prone to postpartum depression, it's beneficial to inform your medical team.
- **Stay Active:** Exercise is a valuable tool for enhancing well-being during pregnancy and after childbirth. Research indicates that exercise can alleviate symptoms of depression in postpartum women. Recommended exercises include walking, cardio, stretching, and strength training.
- **Prioritize Rest:** Although it may seem counterintuitive after discussing exercise, rest and sufficient sleep are crucial for physical and emotional recovery following childbirth. In many cultures, women are encouraged to rest during the postpartum period, with support from family and friends.
- **Foster Bonding with Your Baby:** Amidst the challenges of newborn care, establishing a connection with your baby can enhance maternal attachment and enjoyment of motherhood. Skin-to-skin contact is particularly effective in strengthening this bond and reducing postpartum stress and depression.
- **Seek Support from Fellow Mothers:** Having a supportive network during the postpartum phase can lower the risk of depression. Despite the challenges of finding time for socializing, spending time with loved ones is essential for emotional well-being.
- **Don't Hesitate to Ask for Assistance:** Parenting a newborn requires significant effort, and seeking help from others can alleviate stress. If you're feeling overwhelmed, don't hesitate to ask for or accept assistance with household chores, cooking, or errands.
- **Access Breastfeeding Support:** While breastfeeding is a valuable way to connect with your baby, it can also be a source of stress if difficulties arise. Seeking assistance for breastfeeding challenges can alleviate feelings of guilt and shame that contribute to depression.
- **Maintain a Healthy Diet:** Proper nutrition is crucial for preventing and alleviating postpartum depression symptoms. Consuming foods rich in omega-3 fatty acids can positively impact mood, offering a natural way to improve emotional well-being.

Cultural Considerations

Cultural factors play a significant role in shaping experiences during pregnancy, childbirth, and the postpartum period. Asian women, constituting the largest proportion of maternal deaths globally, demonstrate diverse values, beliefs, and practices. Cultural backgrounds can influence dietary choices

during pregnancy, preferred positions during labor, and who attends the birth, with variations in practices postpartum, such as observing specific rules and periods of confinement.

While urbanization and education have influenced some women from middle and upper classes to seek medical interventions in hospitals, those from lower socioeconomic backgrounds and rural areas often adhere to traditional practices. Many opt for home deliveries assisted by local, untrained midwives or birth attendants. Post-birth, there is a confinement period, usually 40 days, believed to be a vulnerable time for the mother. Cultural norms dictate restricted movement, personal care assistance, body massages, and a special nourishing diet during this period.

In India, with its high infant mortality rate, newborns are considered vulnerable, and there's a fear of the evil eye (nazar). To protect the newborn, families may discourage admiration and avoid certain practices, such as weighing the baby. Placing a black dot of kajal on the newborn is a common practice to ward off the evil eye.

The influence of culture extends to seeking help for mental health concerns, including postpartum depression. Cultural norms impact whether individuals seek help, the types of help sought, coping styles, social supports, and the stigma attached to mental illness. Studies on women's experiences of postpartum depression have identified barriers to help-seeking, such as the inability to disclose feelings, reinforced by family and health professionals' reluctance to address emotional and practical needs. Lack of knowledge about postpartum depression and acceptance of myths hinder recognition of symptoms, while preferences for non-pharmacological, "talking therapies" highlight significant health service barriers.

Future Directions

PPD poses significant health risks for new mothers and their children, raising substantial public health concerns due to its high prevalence. The condition is likely influenced by a myriad of factors, encompassing biological, psychosocial, and environmental aspects. Despite various etiological models proposed for PPD, consensus remains elusive. Current treatment options include psychotherapy and antidepressant medications, with the recent FDA approval of Zulresso marking a milestone. However, the exorbitant cost of Zulresso renders it inaccessible for many PPD patients, underscoring the importance of preventive measures.

PPD presents a unique opportunity for prevention due to its occurrence within a well-defined timeframe following childbirth, preceded by pregnancy where women are in regular contact with the healthcare system. Prevention strategies can be broadly categorized as universal (targeting all pregnant women), selective (focusing on individuals with specific risk factors like primiparity or low socioeconomic status), and indicated (targeting individuals with depressive symptoms but no diagnosis). Reviews of prevention programs have yielded mixed conclusions, with limited evidence supporting various interventions during the perinatal period, including classes, postpartum follow-up, and psychotherapy. However, interventions providing professional support postpartum and targeting high-risk populations have shown more promising preventive effects.

While challenges persist in identifying effective prevention strategies, recent reviews of prevention trials

in major depression, including those involving postpartum women, offer more positive conclusions regarding the efficacy of prevention measures. Continued research and development of targeted interventions are essential to address the multifaceted nature of PPD and improve outcomes for affected individuals and their families.

Conclusion

In conclusion, postpartum depression (PPD) represents a significant mental health challenge affecting women globally, with profound implications for both maternal well-being and child development. The association between PPD and disturbances in the mother-infant relationship underscores the urgency of effective intervention strategies. While several antidepressant medications have shown promise for breastfeeding women, there remains a need for further research to expand treatment options. Efforts to implement PPD screening and treatment in primary care settings are underway, albeit with limited literature supporting such practices. Uncertainty persists regarding the true prevalence of PPD and the duration of the postpartum risk period, highlighting the importance of continued epidemiological research. Psychological, social, and environmental risk factors for PPD mirror those of depression occurring outside the postpartum period, emphasizing the need for holistic approaches to prevention and treatment. Although psychological interventions have shown efficacy, evidence for the effectiveness of antidepressant medication remains inconclusive. While preventive interventions have demonstrated some effectiveness, observed effects have been modest, necessitating further investigation into more robust prevention strategies. PPD continues to receive significant research and clinical attention globally, highlighting its pervasive nature beyond Western culture. In summary, while strides have been made in understanding and addressing PPD, important questions remain unanswered. Continued research efforts and the development of comprehensive, culturally sensitive interventions are essential to mitigate the burden of PPD on women and their families worldwide.

References

1. Dennis CL Psychosocial and psychological interventions for prevention of postnatal depression: systematic review. *BMJ* 2005;**331**:15.
2. Bielawska-Batorowicz E, Kassakowska-Petrycka K. Depressive mood in men after the birth of their offspring in relation to a partner's depression, social support, father's personality and prenatal expectations. *J Reprod Infant Psychol* 2006;**24**:21–9.
3. Richman JA, Raskin VD, Gaines C Gender roles, social support, and postpartum depressive symptomatology. The benefits of caring. *J Nerv Ment Dis* 1991;**179**:139–47.
4. Perren S, von Wyl A, Bürgin D, *et al.* Depressive symptoms and psychosocial stress across the transition to parenthood: associations with parental psychopathology and child difficulty. *J Psychosom Obstet Gynaecol* 2005;**26**:173–83.
5. Domingo-Salvany A, Regidor E, Alonso J, *et al.* Grupo de Trabajo de la sociedad Española de Epidemiología, Grupo de Trabajo Sociedad Española de Medicina Familiar y Comunitaria. Una propuesta de medida de la clase social. [Proposal for a social class measure: Working Group of the Spanish Society Epidemiology and the Spanish Society of Family and Community Medicine]. *Aten Primaria* 2000;**25**:350–63.

6. Rich-Edwards JW, Kleinman K, Abrams A, *et al.* Sociodemographic predictors of antenatal and postpartum depressive symptoms among women in a medical group practice. *J Epidemiol Community Health* 2006;**60**:221–7.
7. Matthey S, Barnett B, Kavanagh DJ, *et al.* Validation of the Edinburgh Postnatal Depression Scale for men, and comparison of item endorsement with their partners. *J Affect Disord* 2001;**64**:175–84.
8. Rubertsson C, Waldenström U, Wickberg B, *et al.* Depressive mood in early pregnancy and postpartum: prevalence and women at risk in a national Swedish sample. *J Reprod Infant Psychol* 2005;**23**:155–66.
9. Al Nasr RS, Altharwi K, Derbah MS, *et al.* Prevalence and predictors of postpartum depression in Riyadh, Saudi Arabia: A cross sectional study. *PLoS One*. 2020;**15**(2):e0228666. Published 2020 Feb 10. doi:10.1371/journal.pone.0228666
10. van der Zee-van den Berg AI, Boere-Boonekamp MM, Groothuis-Oudshoorn CGM, Reijneveld SA. The Edinburgh Postpartum Depression Scale: Stable structure but subscale of limited value to detect anxiety. *PLoS One*. 2019;**14**(9):e0221894. Published 2019 Sep 9. doi:10.1371/journal.pone.0221894
11. Moroianu M, Moroianu LA, Ciubara A, Matei M. Persistent Depressive Disorder: the Clinical Approach of the Patient Associating Depression and Dental Pathology - Case Report and Clinical Considerations. *BRAIN. Broad Research In Artificial Intelligence And Neuroscience* 2022;**13**(1):229-238.
12. Di Florio A, Putnam K, Altemus M, *et al.* The impact of education, country, race and ethnicity on the self-report of postpartum depression using the Edinburgh Postnatal Depression Scale. *Psychol Med*. 2017;**47**(5): 787-799. doi:10.1017/S0033291716002087
13. Loghin MG, Gorescki PG, Sima RM, Pleş L, Balan, Ioana Paunica DG, Bălălău OD. The obstetrical management of HIV-positive pregnancy. *J Mind Med Sci*. 2022;**9**(1):111-117. doi:10.22543/7674.91.P111117
14. Fitelson E, Kim S, Baker AS, Leight K. Treatment of postpartum depression: clinical, psychological and pharmacological options. *Int J Womens Health*. 2010; 3:1-14. doi:10.2147/IJWH.S6938
15. Coca KP, Chien LY, Lee EY, Souza ACP, Hong SA, Chang YS. Factors associated with postpartum depression symptoms among postpartum women in five countries during the COVID-19 pandemic: an online cross-sectional study. *BMC Psychiatry*. 2023; **23**(1):171. doi:10.1186/s12888-023-04607-0
16. Dimitriu M, Pantea Stoian A, Roşu G, Dan A, Caimacan A, Zygouropoulos N, Pacu I, Socea B, Ionescu C, Gheorghiu DC, Bacalbaşa N, Cîrstoveanu C, Haradja H, Gheorghiu N, Al-Azawi A, Măcău A-M, Pleş L, Merlo EM, Settineri S, Jacotă–Alexe F. Postpartum Depression - a serious, dangerous, disabling, extremely frequent condition that is almost completely ignored in Romania. *Mediterr J Clin Psychol*. 2020;**8**(3). doi: 10.6092/2282- 1619/mjcp-2413
17. Mehedintu C, Bratila E, Pantea-Stoian A *et al.* The analysis of weight gain evolution related to presence or absence of gestational diabetes and associated risk factors in pregnancy and postpartum. *Interdiab 2018: Diabetes Mellitus as Cardiovascular Disease*, Edited by: Serafinceanu C, Negoita O, Elian V. Book Series: International Conference on Interdisciplinary Management of Diabetes Mellitus and its Complications. 2018;735-745.
18. Agnafors S, Sydsjö G, Dekeyser L, Svedin CG. Symptoms of depression postpartum and 12 years later-associations to child mental health at 12 years of age. *Matern Child Health J*. 2013 Apr;**17**(3):405–14.

19. Matijasevich A, Munhoz TN, Tavares BF, Barbosa APPN, da Silva DM, Abitante MS, et al. Validation of the Edinburgh Postnatal Depression Scale (EPDS) for screening of major depressive episode among adults from the general population. *BMC Psychiatry*. 2014 10 8;14(1):284.
20. dmondson OJ, Psychogiou L, Vlachos H, Netsi E, Ramchandani PG. Depression in fathers in the postnatal period: assessment of the Edinburgh Postnatal Depression Scale as a screening measure. *J Affect Disord*. 2010 Sep;125(1–3):365–8.
21. Johnson TR, Apgar B. Women's Primary Health Grand Rounds at the University of Michigan Postpartum Depression.
22. Stewart DE, Robertson E, Dennis CL, Grace SL, Wallington T. Postpartum depression: Literature review of risk factors and interventions *Tornato Public Health*.
23. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh postnatal depression scale *Br J Psychiatry*. 1987;150:782–6
24. Bang RA, Bang AT, Reddy MH, Deshmukh MD, Baitule SB, Filippi V, et al Maternal morbidity during labour and the puerperium in rural homes and the need for medical attention: A prospective observational study in Gadchiroli, India *BJOG*. 2004;111:231–8
25. The World Health Report 2005. . Make Every Mother and Child Count. Chapter. 4 Attending to 136 Million Births, Every Year.:61–77