

# Review of Postpartum Depression Risk Factors and Treatment in India

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## ABSTRACT

Depression that predominates in the postpartum period is known as postpartum depression, and it is more common in research and clinical practise up to a year after birth. Other signs of postpartum depression in women include mood swings or lability and excessive worry for the newborn. In addition, anxiety disorders or severe anxiety symptoms are frequently linked to postpartum depression. Postpartum depression is more likely to affect women who have had a history of mental illness. A serious psychiatric condition called postpartum depression causes a great deal of handicap in women and is frequently linked to serious risks for children's emotional, behavioural, and cognitive development. This condition is frequently undiagnosed and undertreated. Because it affects a woman's ability to care for herself and her children, postpartum depression is an important issue that has to be addressed. It has an impact on a child's mental development as well. For these reasons, it is necessary to evaluate risk factors in order to fully understand all aspects of postpartum depression in women. In this article, postpartum depression in India is discussed along with its risk factors and treatment options. Women have traditionally been grouped in traditional studies for postpartum depression risk factors into a certain pregnancy stage that precedes postpartum depression.

Pregnancy-related risk variables are calculated during pregnancy and evaluated for their prognostic value for postpartum depression, which is determined by clinical diagnostic techniques or self-report assessment.

Psychotherapy and antidepressant drugs are available as treatments. Postpartum depression in mothers is followed by a risk for postpartum depression in fathers. Child development is negatively impacted by paternal depressive disorder. Early treatment of postpartum anxiety and depression may lessen its severity and recurrence, as well as its detrimental impact on the health and development of the infant.

**Keywords:** depression in india, postpartum depression, mental health, treatment, postpartum complications, paternal postpartum depression.

## 1. INTRODUCTION

The burden of mental illnesses has risen during the last few decades [1]. In persons of all ages, it has resulted in an increase in cases of psychiatric issues [2]. After giving birth,

postpartum depression is an issue that affects women. Mothers are susceptible to psychiatric postpartum depression soon after giving birth to a child. In the past ten years, it has emerged as a widespread psychiatric disorder. There are numerous risk factors for postpartum depression. Four to six weeks after giving birth, many women experience emotional symptoms during postpartum. Postpartum depression is characterised by mood instability, melancholy, dysphoria, emotional disorientation, and tearfulness [3]. Two weeks to six months after delivery are the optimal window for postpartum depression screening [4]. To protect the mother's mental health, postpartum depression must be properly managed and treated. Because of the postpartum changes in eating, sleeping, and fatigue patterns, it can be challenging to diagnose postpartum depression.

Since a patient's depression history determines the prevalence of postpartum depression, past psychiatric conditions like bipolar disorder, obsessive-compulsive disorder, eating disorder, and schizophrenia increase the chances of postpartum depression, and the first two months of pregnancy are crucial for diagnosis, past psychiatric history of the women should be asked about to rule out high-risk cases of women for postpartum depression.

Postpartum depression can arise as a result of numerous stressors. People who experienced depression after a prior pregnancy are more likely to experience postpartum depression. Untreated maternal depression increases the probability that later children may experience anxiety and depressive symptoms and can negatively affect a baby's growth and mother-child connection [6]. It can lead to problems with mother-child interactions, behavioural disorders in kids, marital distress in a marriage, etc. Indirectly, it may have an impact on the family's mental health [7]. The symptoms of postpartum depression start to appear within four weeks of delivery, according to the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV), but women can experience postpartum depression symptoms up to a year after giving birth. A validated tool for postpartum depression screening is the Edinburgh Postnatal Depression Scale (EPDS). With 19.8% of women having an abnormal screening test result, its widespread adoption increased the rate of postpartum depression diagnosis from 3.7% prior to screening to 10.7% following the screening [8]. Early detection can be helped by being aware of the variables impacting the risk of postpartum depression and anxiety disorders. These factors can happen before, during, or after pregnancy, giving healthcare providers the chance to lower risk factors at different periods and avoid the mother experiencing depression and anxiety. The child's conduct, in turn, has an impact on the mother's health, growth, and development [9]. Postpartum depression affects children's neurodevelopment and consequent mental health [10].

## Review

The prevalence of postpartum depression was reported to be 18.6% in a systematic evaluation of 47 research from 18 countries [11]. In subsequent pregnancies, there is a substantial chance that postpartum depression would return [12]. Even non-depressive postpartum women routinely experience a number of symptoms, such as exhaustion, eating disturbances, and sleep difficulties that frequently point to non-depressive women's depression. Exercise may result in some symptom improvement [13].

## Risk factors in India

**Stress:** There are numerous significant variables impacting postpartum depression in India, including substandard living conditions, family conflicts, crises, financial difficulties, a

greater number of children to care for, and a lack of employment prospects. A sick infant, a c-section birth, body image anxiety, baby care, and an unpleasant delivery experience are all postpartum stressors [14]. Postpartum depression is caused by significant risk factors including demographic, social, environmental, biological, hormonal, and obstetric variables. According to family research on psychiatric illness, family members who are close to someone who has depression are two to three times more likely to get depression themselves. Postpartum depression is more likely in women who have many co-morbid conditions, such as hypertension, diabetes mellitus, etc. [15]. Risk factors for postpartum depression in India included financial troubles, having a female child, marital conflict, a lack of family support, a history of psychiatric illness, high parity, pregnancy issues, and a lack of maternal education. Previous studies from low- and middle-income countries showed similar risk factors [16].

**Nutrition:** Nutrients necessary for the neurotransmission system are depleted during pregnancy and lactation [17]. Dietary quality, dietary consumption, and nutritional status all have a big impact on postpartum depression. The mother's mental health is positively impacted by having a proper nutritional state. Vitamin D is one of these dietary elements, and research suggests that it can be beneficial for people who suffer from depression. It has been proposed that the vitamin D found in diet acts as a neuroactive hormone. Numerous studies have shown that the human brain contains many vitamin D receptors and that a vitamin D deficiency affects neurotransmitters that are linked to depression symptoms [18]. Postpartum depression is significantly impacted by decreased n-3 PUFA levels. The metabolism of dopamine is changed by n-3 PUFA depletion. It might be a factor in postpartum depression. A well-balanced diet is essential for the woman's healthy mental health. Women's mental health is influenced by their physical health, which is kept in check by good nutrition. The likelihood of postpartum depression is also increased by a metabolic imbalance during pregnancy [19]. Women's bodies may become mineral deficient as a result of the transfer of minerals to the foetus and baby during pregnancy and nursing. Depression has been associated with the trace metals zinc and selenium [20].

**Hormones:** After childbirth, it is seen that reproductive hormones change quickly. It might make women more susceptible to postpartum depression. The hormone deficiency theory postulates that depression and postpartum blues might occur very early in women who are hormonally susceptible due to estradiol and progesterone deficiencies [21]. In India, all women give birth and their hormone levels alter, yet few of them have postpartum depression. Depression can also be brought on by a number of other circumstances, including preterm birth (birth at or before 34 weeks of pregnancy) and giving birth to a child who has a congenital disability [22].

Assessment of mental illness during the pre-pregnancy and pregnant phases is now the greatest indicator of postpartum depression. Postpartum depression occurred in only 5% of women who had never experienced depression before or during pregnancy, compared to 65% of those who had. Additionally increasing the incidence of postpartum depression is a history of unplanned abortions [23].

**Thyroid function:** Tests that gauge several facets of thyroid function are frequently utilised and easily accessible in India. It assays triiodothyronine (T3), thyroxine (T4), and thyroid-stimulating hormone (TSH) precisely (T3). Additionally, thyroid functions are indicated by

thyroid peroxidase (TPO) and thyroxine-binding globulin (TBG). Thyroid activity responds to ongoing changes in other hormones during pregnancy, therefore timing is crucial when examining the thyroid hormone's role in postpartum depression prediction [24].

**Multiparous women:** Women who have many children are more likely to experience postpartum depression in subsequent pregnancies. It's because the mother is carrying a heavier psychological load. Primiparous women are more accepting of themselves than multiparous women, which improves their psychosocial wellbeing [25].

**Anemia:** Iron deficiency during pregnancy is a prevalent cause of anaemia in India [26]. It has been shown to make symptoms like weariness, irritability, and lack of concentration worse. These symptoms can all have an impact on a new mom's attitude after giving birth, her menstrual cycle, and how she interacts with the kid. A high incidence of postpartum depression was linked to low haemoglobin levels in the first week of life [27].

**Age:** One of the risk factors for postpartum depression is the young age of pregnant women [28]. The majority of elderly multiparous women get postpartum depression as a result of increased stress. It can be brought on by more pregnancy difficulties. Women under the age of nineteen are more likely than older women to experience postpartum depression [29].

### Screening of postpartum depression

Postpartum depression has a number of negative implications on moms' health. Therefore, screening is essential for the same-day diagnosis. Early detection facilitates clinical intervention. A better prognosis can be achieved by screening for postpartum depression between four and twelve weeks after birth. Diagnostic assistance for late-onset postpartum depression might be provided by periodic screening for six to twelve months. The Edinburgh Postnatal Depressive Scale is used to screen for depression symptoms (EPDS). Mothers can immediately complete and evaluate this 10-item, straightforward test. The range is 0 (no symptoms) to 30 (severe anxiety and depression). A threshold level of 10 is routinely used to detect depression. The measurement is accurate and trustworthy [30]. Women with few postpartum depression symptoms frequently go undetected.

Diagnosing such situations is made easier through screening. Postpartum depression screening could enhance child care facilities. A clinician must conduct the screening and use their expert judgement regarding the patient's health. The depressed mother's level of depression and any changes to her parenting style should be assessed by the doctor [31]. In India, nurses conduct home visits to test for postpartum depression. To prevent primary postpartum depression, it is important to identify the population at risk, and to diagnose postpartum depression as soon as possible to prevent secondary postpartum depression. When performed by specialists in obstetrics/gynecology, paediatrics, or public health nurses, postpartum depression screening is effective [32].

### Management of postpartum depression

The right postpartum depression treatment depends on the woman's functional level, the severity of her symptoms, and her capacity to bond with and take care of the baby. In India, primary healthcare facilities can treat mild to severe symptoms; however, a psychiatric referral is indicated if the symptoms don't improve under first-line treatment. In cases of extreme illness, immediate referral is required, particularly when psychosis, mania, or thoughts of hurting oneself or another are present.

Postpartum depression that is not treated often has negative and lingering repercussions. Medical specialists are essential in the postpartum depression therapy process. They assist the expectant woman in conquering her worries both during and after the pregnancy by guiding and counselling her. A poor rate of prenatal depression screening, diagnosis, and treatment in the setting of medicine is documented by numerous research in India. In order to address their concerns about the pregnancy, a doctor offers the patients the appropriate counselling. A visit to the doctor gives the doctor a chance to evaluate the mother's clinical state. Counseling can help women recover from postpartum depression, even those with moderate symptoms [32,33].

**Psychotherapy:** According to a systematic evaluation of postpartum depression treatments, cognitive behavioural therapy (CBT), psychodynamic therapy, and individual interpersonal therapy may be useful treatments for postpartum depression in India [33]. Some women experience strong cravings to harm their children but are hesitant to disclose them to their loved ones. The key interpersonal changes and challenges postpartum mothers face are the focus of the therapy. It requires a variable number of sessions and emphasises conflicts between people, changes in roles, or sorrows. It is a quick therapy that is incredibly successful. Interpersonal stresses are the main emphasis of the problem-based therapy [34].

**Antidepressant therapy:** When non-pharmacological methods are ineffective for treating a person's severe depression, or when the patient prefers it, pharmacological therapy (first-line medications include selective serotonin reuptake inhibitors, or SSRIs) is recommended. The two SSRIs that are most frequently used are paroxetine and sertraline. Also safe for nursing mothers. Sertraline is typically administered as the first line of treatment for cases of newly developed postpartum depression because it is barely excreted in breast milk. The usage of drugs and telemedicine was found to be the most effective technique of treating postpartum depression [35]. General depression treatment guidelines indicate that women maintain their medication for at least 9 to 12 months after their symptoms have subsided. Supplementation with benzodiazepines, antipsychotics, and mood stabilisers may be necessary in complex or treatment-resistant conditions. Omega-3 polyunsaturated fatty acids are the only alternative pharmaceutical treatments for postpartum depression (PUFAs). The most biologically accessible sources of omega-3 PUFAs are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). An allopregnanolone solution called intravenous brexanolone (BRX) controls GABA A receptors, raises levels in the third trimester, and allows receptor adaption and symptom relief. Additional benzodiazepines may be prescribed to some postpartum depressed women for anxiety and insomnia. Low doses are advised because breastfeeding infants exposed to benzodiazepines have been documented to have sedative effects and poor feeding.

Having a negative outlook on prior pregnancies, having suffered sexual abuse, and going through major life events are additional risk factors for postpartum depression. Resistance to the baby's gender and women's low self-esteem are other variables that contribute to the development of postpartum depression. Postpartum depression is significantly impacted by risky pregnancies.

Stress in the mother might also be brought on by postpartum problems [28]. Expectations of moms and occurrences during pregnancy that don't line up are factors that affect depression development. Postpartum depression is more likely to occur in women who intend to deliver naturally vaginally during the perinatal period but give birth via caesarean section.

## Postpartum Depression in Fathers

It has been demonstrated that maternal depression is the most powerful predictor of paternal depression throughout the postnatal period. The two primary predictors of paternal depression in the postnatal period have been identified as a history of severe depression and high prenatal symptom ratings for sorrow and anxiety. Depression among dads after the birth of their children is also linked to a personal history of depression. Men with depression are also more prone than women to exhibit avoidant or overactive behaviour, social difficulties, and lower impulse control. Paternal depressive symptoms have been linked to the onset of maternal depression during pregnancy, marital discontent, perceived stress levels, and individual attributes, notably personality traits and early life experiences. Fathers' postpartum depression and a lack of father-child interaction may be related. The link between a father and child must be established within the first few months following giving birth.

Considering the potential effects on the long-term development of the child, it is essential to understand the nature of difficulties in father-infant connections in the context of postnatal depression. Therefore, doctors must be aware of both the possible risks to the developing infant and the possibility of dads suffering from depression.

## 2. CONCLUSIONS

In India, postpartum depression is the most prevalent medical problem experienced by new mothers. The healthcare provider must work for an initial diagnosis and management of postnatal depression due to the potential repercussions of untreated depression on the lady and her family. A history of psychiatric disease, stress, marital strife, pregnancy issues, and financial hardships are all risk factors for postpartum depression. The risk of postpartum depression recurrence in pregnant women with a history of depression must be evaluated. Postnatal depression that is not addressed has an impact on both the mother and her family. The medical history, symptom intensity, functional impact, patient preference, and accessibility to resources and expertise all play a role in postpartum depression management. Psychotherapy, cognitive behavioural therapy, interpersonal therapy, psychodynamic psychotherapy, or non-directive counselling are used with women who exhibit mild to moderate depression symptoms. Antidepressant drugs like SSRIs are used in the treatment of postpartum depression. Mothers with a personal history of postpartum depression should receive therapy and close supervision to prevent recurrence. Withdrawn father-infant connections are linked to paternal postpartum depression in fathers. The growth and development of youngsters may be indirectly impacted by this. In order to protect Indian mothers and their offspring, postpartum depression care is crucial.

## 3. REFERENCES

1. Reddy V: Mental health issues and challenges in India: a review . Int J Soc Sci Manag Entrep. 2019, 3:72-8.
2. Howard LM, Khalifeh H: Perinatal mental health: a review of progress and challenges . World Psychiatry. 2020, 19:313-27. 10.1002/wps.20769.

3. Norhayati MN, Hazlina NH, Asrenee AR, Emilin WM: Magnitude and risk factors for postpartum symptoms: a literature review. *J Affect Disord.* 2015, 175:34-52. 10.1016/j.jad.2014.12.041
4. Pearlstein T, Howard M, Salisbury A, Zlotnick C: Postpartum depression. *Am J Obstet Gynecol.* 2009, 200:357-64. 10.1016/j.ajog.2008.11.033
5. Johansen SL, Stenhaug BA, Robakis TK, Williams KE, Cullen MR: Past psychiatric conditions as risk factors for postpartum depression: a nationwide cohort study. *J Clin Psychiatry.* 2020, 81: 10.4088/JCP.19m12929
6. Bruce DF: An overview of postpartum depression . Accessed: August 14 2022: <https://www.webmd.com/depression/guide/postpartum-depression>
7. Slomian J, Honvo G, Emonts P, Reginster JY, Bruyère O: Consequences of maternal postpartum depression: a systematic review of maternal and infant outcomes. *Womens Health (Lond).* 2019, 15:1745506519844044. 10.1177/1745506519844044
8. Gjerdingen DK, Yawn BP: Postpartum depression screening: importance, methods, barriers, and recommendations for practice. *J Am Board Fam Med.* 2007, 20:280-8. 10.3122/jabfm.2007.03.060171
9. Bagner DM, Pettit JW, Lewinsohn PM, Seeley JR: Effect of maternal depression on child behavior: a sensitive period?. *J Am Acad Child Adolesc Psychiatry.* 2010, 49:699-707. 10.1016/j.jaac.2010.03.012
10. Tainaka H, Takahashi N, Nishimura T, et al.: Long-term effect of persistent postpartum depression on children's psychological problems in childhood. *J Affect Disord.* 2022, 305:71-6. 10.1016/j.jad.2022.02.061
11. Fisher J, Cabral de Mello M, Patel V, Rahman A, Tran T, Holton S, Holmes W: Prevalence and determinants of common perinatal mental disorders in women in low- and lower-middle-income countries: a systematic review. *Bull World Health Organ.* 2012, 90:139G-49G. 10.2471/BLT.11.091850
12. O'Hara MW, McCabe JE: Postpartum depression: current status and future directions . *Annu Rev Clin Psychol.* 2013, 9:379-407. 10.1146/annurev-clinpsy-050212-185612
13. Coll CV, Domingues MR, Stein A, et al.: Efficacy of regular exercise during pregnancy on the prevention of postpartum depression: the PAMELA randomized clinical trial. *JAMA Netw Open.* 2019, 2:e186861. 10.1001/jamanetworkopen.2018.6861
14. Leung S, Arthur DG, Martinson I: Stress in women with postpartum depression: a phenomenological study . *J Adv Nurs.* 2005, 51:353-60. 10.1111/j.1365-2648.2005.03506.x
15. Gelaye B, Rondon MB, Araya R, Williams MA: Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *Lancet Psychiatry.* 2016, 3:973-82. 10.1016/S2215- 0366(16)30284-X
16. Upadhyay RP, Chowdhury R, Salehi A, et al.: Postpartum depression in India: a systematic review and metaanalysis. *Bull World Health Organ.* 2017, 95:706-717C. 10.2471/BLT.17.192237
17. Sparling TM, Nesbitt RC, Henschke N, Gabrysch S: Nutrients and perinatal depression: a systematic review . *J Nutr Sci.* 2017, 6:e61. 10.1017/jns.2017.58
18. Aghajafari F, Letourneau N, Mahinpey N, Cosic N, Giesbrecht G: Vitamin D deficiency and antenatal and postpartum depression: a systematic review. *Nutrients.* 2018, 10:10.3390/nu10040478

19. Shapiro GD, Fraser WD, Séguin JR: Emerging risk factors for postpartum depression: serotonin transporter genotype and omega-3 fatty acid status. *Can J Psychiatry*. 2012, 57:704-12. 10.1177/070674371205701108
20. Ellsworth-Bowers ER, Corwin EJ: Nutrition and the psychoneuroimmunology of postpartum depression. *Nutr Res Rev*. 2012, 25:180-92. 10.1017/S0954422412000091
21. Schiller CE, Meltzer-Brody S, Rubinow DR: The role of reproductive hormones in postpartum depression. *CNS Spectr*. 2015, 20:48-59. 10.1017/S1092852914000480
22. Ceriani Cernadas JM: Postpartum depression: risks and early detection. *Arch Argent Pediatr*. 2020, 118:154-5. 10.5546/aap.2020.eng.154
23. Giannandrea SA, Cerulli C, Anson E, Chaudron LH: Increased risk for postpartum psychiatric disorders among women with past pregnancy loss. *J Womens Health (Larchmt)*. 2013, 22:760-8. 10.1089/jwh.2012.4011
24. Guintivano J, Manuck T, Meltzer-Brody S: Predictors of postpartum depression: a comprehensive review of the last decade of evidence. *Clin Obstet Gynecol*. 2018, 61:591-603. 10.1097/GRF.0000000000000368
25. Bassi M, Delle Fave A, Cetin I, Melchiorri E, Pozzo M, Vescovelli F, Ruini C: Psychological well-being and depression from pregnancy to postpartum among primiparous and multiparous women. *J Reprod Infant Psychol*. 2017, 35:183-95. 10.1080/02646838.2017.1290222
26. Anand T, Rahi M, Sharma P, Ingle GK: Issues in prevention of iron deficiency anemia in India. *Nutrition*. 2014, 30:764-70. 10.1016/j.nut.2013.11.022
27. Corwin EJ, Murray-Kolb LE, Beard JL: Low hemoglobin level is a risk factor for postpartum depression. *J Nutr*. 2003, 133:4139-42. 10.1093/jn/133.12.4139
28. Ghaedrahmati M, Kazemi A, Kheirabadi G, Ebrahimi A, Bahrami M: Postpartum depression risk factors: a narrative review. *J Educ Health Promot*. 2017, 6:60. 10.4103/jehp.jehp\_9\_16
29. Chaudron LH, Szilagyi PG, Campbell AT, Mounts KO, McInerney TK: Legal and ethical considerations: risks and benefits of postpartum depression screening at well-child visits. *Pediatrics*. 2007, 119:123-8. 10.1542/peds.2006-2122
30. Yawn BP, Bertram S, Kurland M, Wollan PC: Repeated depression screening during the first postpartum year. *Ann Fam Med*. 2015, 13:228-34. 10.1370/afm.1777
31. van der Zee-van den Berg AI, Boere-Boonekamp MM, IJzerman MJ, Haasnoot-Smallegange RM, Reijneveld SA: Screening for postpartum depression in well-baby care settings: a systematic review. *Matern Child Health J*. 2017, 21:9-20. 10.1007/s10995-016-2088-8
32. Friedman SH, Resnick PJ: Postpartum depression: an update. *Womens Health (Lond)*. 2009, 5:287-95. 10.2217/whe.09.3
33. Clark R, Tluczek A, Wenzel A: Psychotherapy for postpartum depression: a preliminary report. *Am J Orthopsychiatry*. 2003, 73:441-54. 10.1037/0002-9432.73.4.441
34. Grigoriadis S, Ravitz P: An approach to interpersonal psychotherapy for postpartum depression: focusing on interpersonal changes. *Can Fam Physician*. 2007, 53:1469-75.
35. Chow R, Huang E, Li A, Li S, Fu SY, Son JS, Foster WG: Appraisal of systematic reviews on interventions for postpartum depression: systematic review. *BMC Pregnancy Childbirth*. 2021, 21:18. 10.1186/s12884-020-03496-5