Original Article

Predictors of Postpartum Depression: A Cross-Sectional Study

Tanya Kharb[1], Rashmi Prasad[2]

[1]Junior Resident III, Department of Obstetrics & Gynaecology, Rohilkhand Medical College & Hospital, Bareilly, Uttar Pradesh, India. [2]Associate Professor, Department of Obstetrics & Gynaecology, Rohilkhand Medical College & Hospital, Bareilly, Uttar Pradesh, India

Abstract

Background: Postpartum depression is a common yet under-recognized mental health condition affecting women during the early postnatal period, with significant implications for maternal well-being, infant care, and family functioning. Early identification of determinants is essential for timely intervention and prevention of adverse outcomes. The study aimed to estimate the prevalence of postpartum depression among post-partum women from day 0 to 6 weeks and to identify socio-demographic, antepartum, intrapartum, and postpartum predictors associated with its occurrence. **Material and Methods:** This hospital-based cross-sectional study included 270 post-partum women assessed using the Edinburgh Postnatal Depression Scale. Socio-demographic, obstetric, intrapartum, and postnatal variables were analyzed using SPSS version 23, with $p < 0.05$ considered statistically significant. **Results:** Postpartum depression was identified in 60 women (22.2%). Higher prevalence was observed among women with lower education, lower socio-economic status, unplanned pregnancy, antenatal complications, anemia, LSCS, labour complications, prolonged labour, breastfeeding difficulties, neonatal illness, and poor social support, all showing statistically significant associations. **Conclusion:** Postpartum depression is multifactorial, with strong links to socio-economic vulnerability, adverse pregnancy experiences, intrapartum stressors, and inadequate postnatal support. Integrating routine screening with focused obstetric and psychosocial interventions may improve early detection and maternal mental health outcomes.

Keywords: Postpartum depression, EPDS, predictors, intrapartum factors, postnatal period.

Received: 01 May 2026 **Revised: 20 May 2026** **Accepted: 09 June 2026** **Published: 15 July 2026**

Introduction

The postpartum period, which extends from childbirth to approximately six weeks after delivery, is a phase of significant physical, emotional, and psychological adjustment for women. Although this period is commonly associated with happiness and fulfillment, a substantial proportion of mothers experience psychological disturbances that may adversely affect both maternal and neonatal well-being. Among these conditions, postpartum depression (PPD) is the most frequently encountered and clinically relevant disorder, with an estimated global prevalence of nearly 13%, thereby emerging as an important public health concern.[1,2]

Postpartum depression is characterized by persistent low mood, loss of interest, fatigue, sleep disturbances, feelings of guilt, and impaired concentration, often accompanied by difficulty in bonding with the infant. Unlike postpartum blues, which are mild, transient, and self-limiting, PPD persists beyond two weeks and significantly interferes with daily functioning and caregiving abilities.[3,4] If left unrecognized and untreated, PPD may result in poor maternal quality of life, suboptimal infant care, and unfavorable emotional and developmental outcomes in children.[5]

The development of postpartum depression is multifactorial. Biological mechanisms include abrupt hormonal fluctuations following delivery, particularly the decline in estrogen and progesterone, which influence central neurotransmitter pathways involved in mood regulation.[4] Altered stress responses mediated through hypothalamic–pituitary–adrenal axis dysregulation have also been implicated.[2] Psychological factors such as a prior history of depression or anxiety, as well as social determinants including inadequate social support, marital conflict, and socioeconomic stressors, further increase vulnerability during the postnatal period.[6,7]

Indian studies have reported varying prevalence rates and predictors of postpartum depression, reflecting the influence of sociocultural factors, family dynamics, and disparities in access to mental health services.[8,9] However, region-specific data remain limited. Identification of predictors of postpartum depression during the postnatal period is therefore essential for early screening and timely intervention. This study aims to assess the predictors of postpartum depression among postnatal women, thereby contributing to improved maternal mental health outcomes.

Address for correspondence: Dr. Tanya Kharb, Junior Resident III, Department of Obstetrics & Gynaecology, Rohilkhand Medical College & Hospital, Bareilly, Uttar Pradesh, India.
E-mail: tanyakharb97@gmail.com

DOI:
10.21276/amit.2026.v13.i2.829

How to cite this article: Kharb T, Prasad R. Predictors of Postpartum Depression: A Cross-Sectional Study. Acta Med Int. 2026;13(2):1088-1091.

Materials and Methods

Study Design: Cross-Sectional Study

Study Place: This study was conducted in the Department of Obstetrics and Gynaecology, Rohilkhand Medical College and Hospital, Bareilly.

Study Duration: The study was conducted over a period of 6 months, between May 2024 and October 2024.

Sample Size: N= 4pq/ l^2

270 (anticipated proportion).[8]

Inclusion criteria:

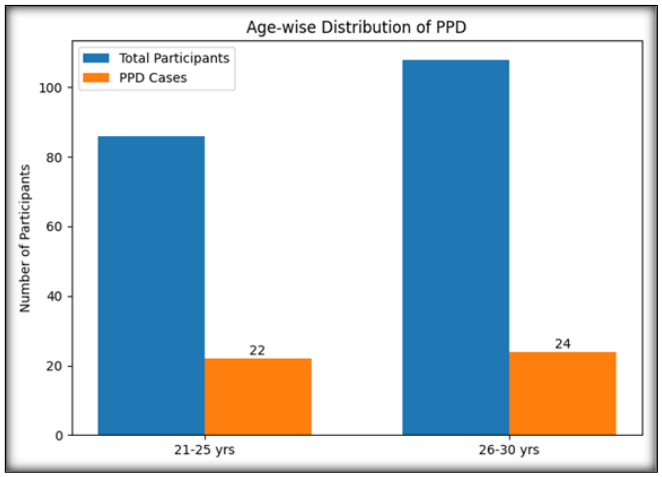
All postpartum women with live birth from post-partum day 0 to 6 weeks.

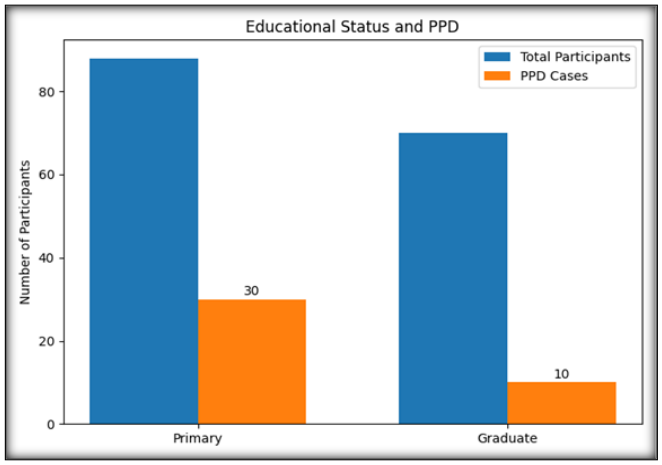
Exclusion criteria:

- Previously diagnosed to have depression
- Women on treatment for any psychiatric disorder.

Statistical analysis: All the data were compiled in a Microsoft Excel sheet. The data were imported into SPSS (Statistical Package for Social Sciences), licensed version 23.0. Descriptive analysis was performed by calculating proportions, means, and standard deviation. Appropriate statistical tests were applied depending on the type and distribution of data. A p value < 0.05 was considered statistically significant.

Results





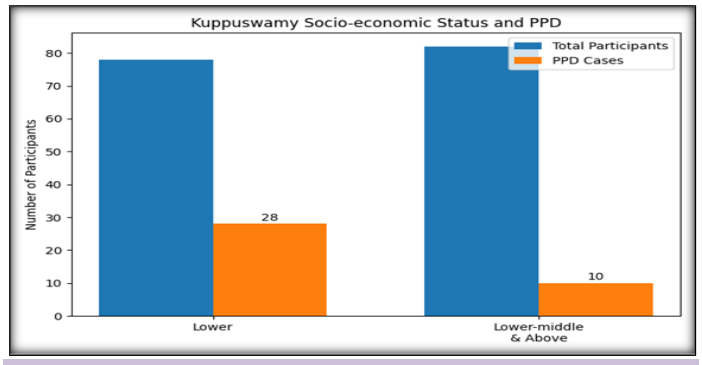


Figure 1: Socio-demographic profile of participants with Post-partum Depression

In [Figure 1], among the 270 participants aged ≥21 years, the largest proportion belonged to the 26–30-year age group (108 women), of whom 24 had PPD, followed by the 21–25-year group (86 women), with 22 PPD cases. Lower educational status showed a clear association with PPD, as 30 of the 88 women educated up to primary level had PPD, compared to 10 of 70 graduates. Socio-economic status also influenced PPD occurrence; 28 of 78 women from the lower Kuppuswamy class had PPD, whereas only 10 of 82 women from the lower-middle and above classes were affected.

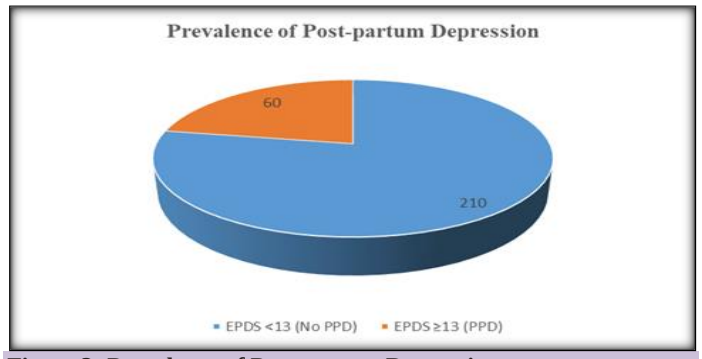


Figure 2: Prevalence of Post-partum Depression

In [Figure 2], out of 270 post-partum women assessed using EPDS, 60 women had scores ≥13 and were classified as having post-partum depression, while 210 women had EPDS scores <13, indicating absence of PPD. Thus, nearly one in five women in the study population screened positive for post-partum depression.

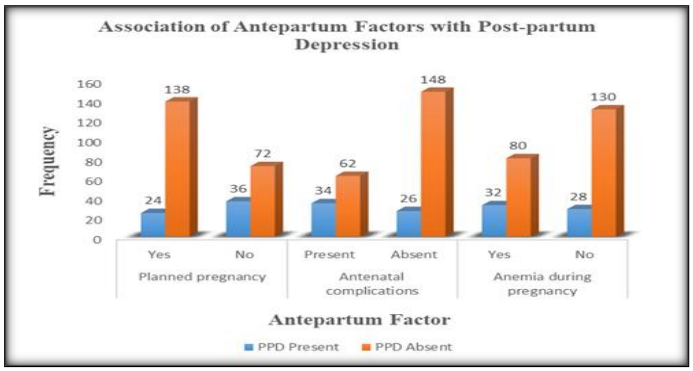


Figure 3: Association of Antepartum Factors with Post-partum

Depression

In [Figure 3], unplanned pregnancy was more common among women with PPD, with 36 of the 60 PPD cases reporting unplanned pregnancies, compared to 72 of 210 women without PPD (p=0.001). Antenatal complications were present in 34 women with PPD, while only 62 women without PPD reported such complications (p=0.001). Anemia during pregnancy was noted in 32 women with PPD compared to 80 women without PPD, showing a significant association (p=0.032).

[Figure 4], Shows among women with PPD, 34 had delivered by LSCS, whereas 26 had vaginal deliveries, indicating a higher burden of PPD following operative delivery (p=0.018). Labour complications were reported in 32 women with PPD compared to 54 women without PPD (p=0.001). Prolonged labour was documented in 16 women with PPD, while 28 women without PPD experienced prolonged labour, demonstrating a significant association (p=0.019).

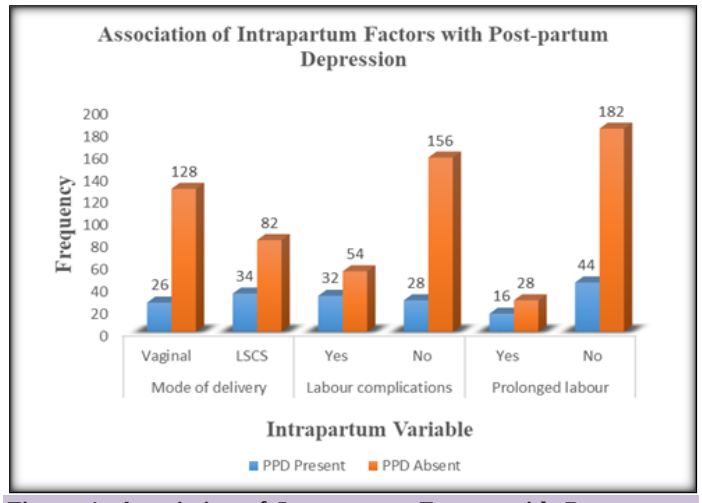


Figure 4: Association of Intrapartum Factors with Post-partum Depression.

Table 1: Association of Post-partum Factors with Post-partum Depression

Post-partum Factor	Category	PPD Present (%)	PPD Absent (%)	p-value
Breastfeeding difficulty	Yes	40 (66.7)	70 (33.3)	0.001
	No	20 (33.3)	140 (66.7)	
Neonatal illness	Yes	28 (46.7)	46 (21.9)	0.001
	No	32 (53.3)	164 (78.1)	
Social support	Poor	34 (56.7)	52 (24.8)	0.001
	Adequate	26 (43.3)	158 (75.2)	

In [Table 1], breastfeeding difficulties were observed in 40 women with PPD compared to 70 women without PPD (p=0.001). Neonatal illness was present in 28 women with PPD, whereas 46 women without PPD reported neonatal morbidity (p=0.001). Poor perceived social support was reported by 34 women with PPD compared to 52 women without PPD, showing a strong association with post-partum depression (p=0.001).

Table 2: Mean EPDS Scores According to Selected Predictors

Predictor	Category	Mean EPDS Score ± SD	p-value
Pregnancy planning	Planned	8.4 ± 3.2	0.001
	Unplanned	13.2 ± 4.1	
Mode of delivery	Vaginal	9.0 ± 3.5	0.004
	LSCS	12.5 ± 4.0	
Social support	Adequate	7.8 ± 3.0	0.001
	Poor	14.0 ± 4.2	

In [Table 2], women with unplanned pregnancies had higher mean EPDS scores (13.2 ± 4.1) compared to those with planned pregnancies (8.4 ± 3.2; p=0.001). Mean EPDS scores were higher following LSCS (12.5 ± 4.0) than vaginal delivery (9.0 ± 3.5; p=0.004). Women reporting poor social support had the highest mean EPDS score (14.0 ± 4.2), whereas those with adequate support had a substantially lower mean score (7.8 ± 3.0; p=0.001).

Discussion

In the present study, nearly one in five post-partum women screened positive for postpartum depression (PPD) using an EPDS cut-off of ≥13, a prevalence comparable to community-based Indian findings reported by Agarwala et al. (2019),[8] who documented a prevalence of 21.5%, and higher than that reported by Shriraam et al. (2019),[10] where 11% prevalence was observed using a lower EPDS cut-off of ≥10. The age distribution in the current study, with a higher number of PPD cases clustered in the 26–30-year and 21–25-year groups, aligns with the reproductive age vulnerability highlighted in Shriraam et al. (2019),[10] although age itself was not identified as an independent predictor. The association of lower educational and socio-economic status with higher PPD burden mirrors observations from Agarwala et al. (2019),[8] supporting the role of social disadvantage in postpartum mental health. The strong association of unplanned pregnancy and antenatal complications with PPD is consistent with obstetric risk patterns reported by Abdollahi and Zain (2015),[11] who demonstrated higher odds of PPD with adverse pregnancy factors, though mode of delivery was not contributory. The significant association of antenatal anemia with PPD observed in this study represents a clinically relevant finding, underscoring the role of maternal health status in postpartum psychological outcomes, a factor not uniformly emphasized in prior studies. Higher PPD prevalence following LSCS (56.7%),

labour complications (53.3%), prolonged labour (26.7%), breastfeeding difficulty (66.7%), neonatal illness (46.7%), and poor social support (56.7%) is consistent with the obstetric and psychosocial vulnerability patterns described by Agarwala et al. (2019),[8] and Shriraam et al. (2019),[10] where delivery- and postnatal-related stressors were strongly linked to depressive symptoms. Higher mean EPDS scores among women with unplanned pregnancy, LSCS, and poor social support further align with the emphasis on clinical and psychosocial predictors highlighted by Guintivano et al. (2018),[2] and Mughal et al. (2023).[1] In contrast, Abdollahi and Zain (2015),[11] reported no significant association between mode of delivery and PPD, differing from the significant LSCS association observed in this study, underscoring population-specific intrapartum influences on postpartum mental health.

Conclusion

This study establishes postpartum depression as a common and clinically significant condition among post-partum women, with nearly one-fifth of participants screening positive on EPDS, underscoring the substantial mental health burden in the early postnatal period. Socio-demographic vulnerabilities, particularly lower educational attainment and poorer socio-economic status, emerged as important determinants, highlighting the role of social disadvantage in postpartum mental health. Obstetric and medical factors such as unplanned pregnancy, antenatal complications, and anemia demonstrated strong associations with postpartum depression, emphasizing the cumulative impact of adverse pregnancy experiences. Intrapartum stressors, including LSCS, labour complications, and prolonged labour, further increased depressive risk, while post-partum factors such as breastfeeding difficulties, neonatal illness, and inadequate social support showed the strongest associations with higher EPDS scores. Collectively, these findings indicate that postpartum depression is multifactorial, driven by interacting socio-economic, obstetric, intrapartum, and postnatal determinants, supporting the need for integrated screening and targeted interventions across the continuum of maternal care.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Mughal S, Azhar Y, Siddiqui W. Postpartum depression.
2. Guintivano J, Manuck T, Meltzer-Brody S. Predictors of postpartum depression: a comprehensive review of the last decade of evidence. Clinical obstetrics and gynecology. 2018 Sep 1;61(3):591-603.
3. Balaram K, Marwaha R. Postpartum blues [Internet]. PubMed. Treasure Island (FL): StatPearls Publishing; 2023.
4. Garapati J, Jajoo S, Aradhya D, Reddy LS, Dahiphale SM, Patel DJ, Jyotsna G, Deeksha HS, srivani Reddy L, Dahiphale SM. Postpartum mood disorders: insights into diagnosis, prevention, and treatment. Cureus. 2023 Jul 19;15(7).
5. Amer SA, Zaitoun NA, Abdelsalam HA, Abbas A, Ramadan MS, Ayal HM, Ba-Gais SE, Basha NM, Allahham A, Agyenim EB, Al-Shroby WA. Exploring predictors and prevalence of postpartum depression among mothers: Multinational study. BMC Public Health. 2024 May 14;24(1):1308.
6. Sivapragasam V, Manjappa AA, Patil AB, Kalaimani M. Prevalence and risk factors of postpartum depression at a tertiary care institute. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2019 Jul 1;8(7):2773-81.
7. Vaezi A, Soojoodi F, Banihashemi AT, Nojomi M. The association between social support and postpartum depression in women: A cross sectional study. Women and Birth. 2019 Apr 1;32(2):e238-42.
8. Agarwala A, Rao PA, Narayanan P. Prevalence and predictors of postpartum depression among mothers in the rural areas of Udupi Taluk, Karnataka, India: A cross-sectional study. Clinical epidemiology and global health. 2019 Sep 1;7(3):342-5.
9. Neelakanthi A, Venkatesh S, Babu D, Nachiketha SR, Gopalakrishnan U. Prevalence and risk factors of depressive symptoms in the postpartum period: A cross-sectional study. Perinatology. 2021;21(4):166-73.
10. Shriraam V, Shah PB, Rani MA, Sathiyasekaran BW. A community-based study of postpartum depression in rural Southern India. Indian Journal of Social Psychiatry. 2019 Jan 1;35(1):64-8.
11. Abdollahi F, Zain A. The mode of delivery and some selected obstetric factors as predictors of post-partum depression. Caspian Journal of Reproductive Medicine. 2015 Jun 10;1(2):13-21.