Biological and Clinical Sciences Research Journal
eISSN: 2708-2261; pISSN: 2958-4728
www.bcsrj.com
DOI: https://doi.org/10.54112/bcsrj.v6i6.1821
*Biol. Clin. Sci. Res. J., Volume 6(6), **2025**: 1821*
Original Research Article

MEDEYE

Postpartum Depression and Its Public Health Implications: A Study in Urban Karachi

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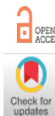

(Received, 24th February 2025, Accepted 22nd June 2025, Published 30th June 2025)

Abstract: *Postpartum depression (PPD) is a common and debilitating mental health disorder that affects women after childbirth, with serious implications for maternal and child health.* ***Objective:*** *To determine the prevalence of postpartum depression and assess its association with socio-demographic, psychological, and obstetric factors among postpartum women at a tertiary care hospital.* ***Methods:*** *This cross-sectional, observational study was conducted at the Department of Obstetrics and Gynecology, Jinnah Postgraduate Medical Centre (JPMC), Karachi, from January 2024 to December 2024. A total of 285 postpartum women were included through a non-probability consecutive sampling technique. A structured, pretested questionnaire was used to collect data. It included sections on sociodemographic profile, obstetric and medical history, psychosocial stressors, and availability of family support.* ***Results:*** *The prevalence of probable postpartum depression was found to be 29.1% (n=83). Significant associations were observed between PPD and lack of social support (p<0.001), low educational status (p=0.01), unplanned pregnancy (p=0.004), financial stress (p=0.02), and neonatal illness (p=0.02). Multivariate analysis revealed that a lack of social support (OR = 2.8, 95% CI: 1.6–4.9), low education (OR = 1.9, 95% CI: 1.1–3.4), and unplanned pregnancy (OR = 1.7, 95% CI: 1.0–2.9) were independent predictors of PPD.* ***Conclusion:*** *It is concluded that postpartum depression is highly prevalent and significantly associated with modifiable psychosocial factors. Routine screening for depression, enhanced social support systems, and integrated maternal mental health services are urgently needed to address this public health concern and improve outcomes for mothers and their children.*

Keywords: PPD, Prevalence, Depression. Health, Birth, Women

[***How to Cite:*** Murtaza H, Lal C, Kumari D, Gova MA. Postpartum depression and its public health implications: a study in urban Karachi. *Biol. Clin. Sci. Res. J.,* **2025;** 6(6): 755-758. doi: https://doi.org/10.54112/bcsrj.v6i6.1821

Introduction

Postpartum depression (PPD) is a mood disorder, or a combination of complex behavioral changes, physical, and emotional changes, which occur in women during the period after giving birth, and chemical changes (1). Perceived social support refers to the perception of support from friends and family members in the event of an emergency or when the need arises (2). The results of the empirical evidence have resulted in a finding that the Pakistani women are vulnerable to PPD due to the familial and cultural reasons of lack of knowledge about giving special care aka providing social and moral support to new mothers and the unlucky new mothers are also less inclined to take the help of such professional help to combat postpartum depression due to lack of knowledge (3). Postpartum depression (PPD) is a serious mental condition that women acquire following childbirth and is the realisation of constant sadness, anxiety, feeling a lack of energy, and the inability to care about the newborn or themselves (4). Contrary to the short-lived and transitory baby blues, lasting only two weeks, PPD is more serious and persistent and needs clinical attention. PPD is estimated to target about 10-20% of new mothers in the world, and it is more prevalent among low- and middle-income countries as a result of a lack of healthcare, social support, and mental health service provision (5). The disease is debilitating to the mother besides the long-lasting implications on the infant, unit, and community at large (6).
The burden of PPD can be considered significant in the context of public health. It may also lead to weak mother-infant interactions, low breastfeeding rates, and developmental, cognitive, and emotional difficulties in children. Maternal self-harm and possible infanticide or suicide in the severe instances are also connected with untreated PPD (7). These consequences underscore the need for prevention, culturally sensitive assessment tools, and treatments that can be easily acquired, as well as community-based interventions. The experience of stigmatization towards mental illness, discrimination based on gender, and the unawareness usually do not help women to seek help, which makes the crisis worse (8).
Past studies proved that insomnia and depressive symptoms are associated with one another both during and after the delivery. Moreover, it has also been discovered that women want to sleep less following birth than when they are pregnant, and some of them say that they sleep much less too (9). However, they reduced the efficiency in falling asleep, which was 84 percent to 75 percent post-delivery. Contrarily, the same has been studied earlier to establish whether their postpartum symptoms matched the quality of sleep of women who have delivered within the past three months. The correlation between insomnia and sleep problems was quite strong and led to the development of depression signs during and after the pregnancy (10). Besides, insomnia and depression affect the health of a mother negatively. In addition to this, postpartum depression does not manifest itself in a vacuum. It usually prevails in tandem with other psychosocial stresses like poverty, domestic violence, unwanted pregnancy, substance abuse, and unfavorable áll assistance by the family or the partner (11). All these pertinent risk factors form a vicious circle in which the untreated mental disorders contribute to the development of poor maternal health outcomes, which subsequently compound the psychosocial environment between the child and mother. It is important to consider that PPD cannot only be treated with single mental health services, but rather with a wider perspective of social determinants of health (12). Regarding the health system, the absence of uniform procedures to screen postpartum mental health and the small number of trained mental health experts constitute an enormous gap in health care. Most primary care physicians and obstetricians lack the training or time to attend to mental health issues during the postnatal visits. Most developing countries have mental health as a very low priority in their

national health agenda, and postpartum mental health services are disjointed or excluded from maternal and child health programs (13). In high-income countries, despite the overall improvement in the situation, racial, ethnic, and socioeconomic minorities continue to have disparities in access to care and quality of care, indicating systemic disparities that define access and quality of care. The PPD has far-reaching ramifications that are multidimensional in the context of public health (14).

Objective

To determine the prevalence of postpartum depression and assess its association with socio-demographic, psychological, and obstetric factors among postpartum women at a tertiary care hospital.

Methodology

This cross-sectional, observational study was conducted at the Department of Obstetrics and Gynecology, Jinnah Postgraduate Medical Centre (JPMC), Karachi, from January 2024 to December 2024. A total of 285 postpartum women were included. Women aged 18 to 45 years who had delivered a live-born infant within the last six weeks. Women attending postnatal or neonatal follow-up clinics at JPMC who provided informed written consent

Women with a known history of psychiatric illness before or during pregnancy, with stillbirths or neonatal death, and currently experiencing severe obstetric or medical complications

A structured, pretested questionnaire was used to collect data. It included sections on socio-demographic profile, obstetric and medical history, psychosocial stressors, and availability of family support. The Edinburgh Postnatal Depression Scale (EPDS) was administered to screen for postpartum depression, with a score of ≥13 considered positive for PPD. Data were collected in a private room by trained female research assistants. Each interview took approximately 15–20 minutes. Participants identified as likely experiencing PPD were provided immediate psychological support and referred to the psychiatry department for further assessment.

All data were entered and analyzed using SPSS version 26.0. Descriptive statistics were computed for all variables. The association between postpartum depression and various demographic and clinical factors was assessed using chi-square tests. A p-value of <0.05 was considered statistically significant.

Results

A total of 285 postpartum women were included in the study. The mean age of participants was 28.6 ± 5.4 years. The majority of women (61.4%, n = 175) were aged between 25 and 35 years. Most participants were multiparous (65.3%, n = 186), while 34.7% (n = 99) were primiparous. Regarding education, 39.6% (n = 113) had completed secondary school, 31.2% (n = 89) held a college degree, and 29.1% (n = 83) were either uneducated or had only primary-level education. Nearly half of the women (48.4%, n = 138) were homemakers, while 51.6% (n = 147) were employed or engaged in informal work. The prevalence of postpartum depression, indicated by an EPDS score ≥13, was 29.1%. Among those affected, over half (54.2%) reported severe sleep disturbances, 42.1% experienced persistent crying spells, and 37.3% admitted to having thoughts of self-harm (Table 1).

Postpartum depression was significantly more prevalent among women with low education (40.6%, p=0.01), lack of partner support (47.5%, p<0.001), and poor marital relationships (41.7%, p<0.001). Unemployment (35.2%, p=0.03), unplanned pregnancy (38.2%, p=0.004), and neonatal illness (33.7%, p=0.02) were also associated with higher PPD rates, highlighting the impact of psychosocial and reproductive stressors on maternal mental health (Table 2).

Multivariate logistic regression analysis revealed that lack of social support (OR: 2.8, 95% CI: 1.6–4.9, p<0.001), low educational level (OR: 1.9, 95% CI: 1.1–3.4, p=0.02), and unplanned pregnancy (OR: 1.7, 95% CI: 1.0–2.9, p=0.04) were significant independent predictors of postpartum depression (Table 3).

Psychosocial stressors showed strong associations with postpartum depression. Women with low-income family support had a PPD prevalence of 48.4% (p<0.001), while those reporting financial stress had a prevalence of 38.7% (p=0.02). A prior history of anxiety or depression was a significant predictor, with 71.1% of these women screening positive for PPD (p<0.001) (Table 4).

Obstetric factors such as mode of delivery showed no significant association with postpartum depression (C-section: 29.9% vs. vaginal birth: 28.4%, p=0.27). However, neonatal ICU admission (45.3%, p=0.003), unplanned pregnancy (38.2%, p=0.004), and complicated delivery (46.5%, p=0.001) were all significantly associated with higher rates of PPD (Table 5).

Table 1: Sociodemographic Characteristics of Participants (n = 285)

Variable	Value
Age (mean ± SD)	28.6 ± 5.4
Age 25–35 years	175 (61.4%)
Primiparous	99 (34.7%)
Multiparous	186 (65.3%)
Secondary education	113 (39.6%)
College degree	89 (31.2%)
Primary or no education	83 (29.1%)
Housewives	138 (48.4%)
Employed	147 (51.6%)
EPDS ≥13 (PPD)	83 (29.1%)
Severe sleep disturbance	45 (54.2%)
Persistent crying spells	35 (42.1%)
Self-harm thoughts	31 (37.3%)

Table 2: Factors Significantly Associated with Postpartum Depression

Factor	PPD Prevalence	p-value
Educational level (low)	40.6%	0.01
Lack of partner support	47.5%	<0.001
Unemployment	35.2%	0.03
Poor marital relationship	41.7%	<0.001
Unplanned pregnancy	38.2%	0.004
Neonatal illness	33.7%	0.02

Table 3: Multivariate Logistic Regression for Predictors of Postpartum Depression

Variable	Adjusted OR	95% CI	p-value
Lack of social support	2.8	1.6–4.9	<0.001
Low educational level	1.9	1.1–3.4	0.02
Unplanned pregnancy	1.7	1.0–2.9	0.04
Maternal age	1.1	0.7–1.8	0.63

Parity	1.0	0.6–1.7	0.98
Mode of delivery	1.1	0.7–1.9	0.55

Table 4: Social and Psychological Factors Among Participants

Factor	Total (n=285)	PPD Present (n=83)	p-value
Low-income family support	91 (31.9%)	45 (48.4%)	<0.001
Financial stress reported	106 (37.2%)	41 (38.7%)	0.02
History of anxiety or depression	38 (13.3%)	27 (71.1%)	<0.001
Domestic conflict reported	52 (18.2%)	26 (50.0%)	0.01

Table 5: Obstetric Factors and Postpartum Depression

Factor	Total (n=285)	PPD Present (n=83)	p-value
Mode of delivery: C-section	137 (48.1%)	41 (29.9%)	0.27
Mode of delivery: Vaginal birth	148 (51.9%)	42 (28.4%)	
Neonatal ICU admission	64 (22.5%)	29 (45.3%)	0.003
Pregnancy unplanned	89 (31.2%)	34 (38.2%)	0.004

Discussion

This research carried out has revealed that there was a high prevalence of postpartum depression (PPD) among women who had gone through the postpartum period at Jinnah Postgraduate Medical Centre; the figure was 29.1 per cent. The prevalence aligns with that of other scholars researching the same topic in low- and middle-income economies, with average results of 20-40 percent, indicating that social financial burdens, cultural issues of stigma, and limited healthcare infrastructure have a significant impact. By contrast, in high-income countries (United Kingdom and Canada), the prevalence rate is recorded at 1015% due to early screening measures, the incorporation of mental health, and maternity welfare services (15). Our results indicate several important predictors of PPD, of which a lack of social support was the strongest independent predictor (adjusted OR: 2.8, 95% CI: 1.649). This is a recap of the critical importance of family and partner engagement to the emotional outcomes of post-pregnancy women. The lower level of education is also closely related to PPD, which indicates that health literacy and empowerment can mediate the psychological vulnerability during postpartum (16). Unplanned pregnancies were highly associated with PPD in women with odds of about two times higher than their planned counterparts (adjusted OR: 1.7), and as such, reproductive autonomy, as well as pregnancy preparedness, are highly influential features on maternal mental well-being. Surprisingly, obstetric variables (mode of delivery (cesarean, vaginal birth)) did not find any significant relationship with PPD, and this has also been echoed in those studies which seem to suggest that there is a stronger predictive element brought about by psychosocial characteristics, as opposed to clinical delivery outcomes (17). Nonetheless, such complications as admission to the neonatal ICU and hard deliveries were found to correlate significantly with depressive symptoms. These experiences can also lead to feelings of helplessness, fear, or even guilt, thereby creating a psychological aftermath (18).

The other vital finding was that there was a close correlation between past mental health problems and PPD; 71.1 percent of women with past anxiety or depression developed postpartum depression. This is in line with the body of literature, which establishes the presence of a history of mood disorders as among the very strong predictors of the occurrence of PPD. Productively, as far as the health of the population is concerned, the keys to these results confirm the need to incorporate mental health care into regular antenatal and postnatal care (19). Therefore, the consequences of PPD, which affect bonding of the infant and breastfeeding, as well as child development, can be significantly reduced through early identification and appropriate and prompt care (20). It should make routine screening of postnatal care compulsory by use of validated instruments such as the Edinburgh postnatal depression scale, especially in high-risk groups. Besides, the prevalence of psychosocial stress, including difficulties in financing, domestic discord, and partner support, is so high that it demands community intervention measures (21). It was a work that was limited in several ways. The study is a single-center, cross-sectional study conducted at a tertiary care hospital; therefore, the results may not apply to every postpartum population, especially in rural or underrepresented areas. This study may have been subject to a selection bias due to the use of non-probability consecutive sampling. Moreover, the counts based on self-reported information, such as answering the questions of the Edinburgh Postnatal Depression Scale, may be subject to recall bias or social desirability bias, and therefore fail to reflect the actual numbers of depression occurrences accurately.

Conclusion

It is concluded that postpartum depression is a prevalent and significant mental health issue among postpartum women, affecting nearly one-third of the study population. The condition is strongly associated with modifiable psychosocial factors such as lack of social support, low educational status, unplanned pregnancies, and financial or domestic stress. While clinical obstetric factors like mode of delivery showed no significant relationship, complications such as neonatal ICU admission and difficult deliveries were notably linked to increased depressive symptoms.

Declarations

Data Availability statement
All data generated or analysed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department concerned. (IRBEC-JMPGH-33- 24)

Consent for publication
Approved

Funding
Not applicable

Conflict of interest

The authors declared the absence of a conflict of interest.

Author Contribution

HM (Manager)
Manuscript drafting, Study Design,
CL (Professor)
Review of Literature, Data entry, Data analysis, and drafting an article.
DK (Consultant Psychiatrist)
Conception of Study, Development of Research Methodology Design,

MAG (Associate Professor)
Study Design, manuscript review, and critical input.

All authors reviewed the results and approved the final version of the manuscript. They are also accountable for the integrity of the study.

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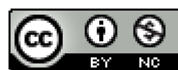

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