

# Frequency of Postnatal Depression among Patients in the Obstetrics and Gynaecology Department at a Tertiary Care Hospital

Postnatal Depression and Risk Factors Among Female Patients

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## ABSTRACT

**Objective:** To identify the percentage of postnatal depression and risk factors related to the condition among female patients.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** This study was conducted at the Department of Obstetrics & Gynaecology at Lahore Medical Dental College/Ghurki Trust & Teaching Hospital, Lahore from 28<sup>th</sup> July 2021 to 27<sup>th</sup> January 2022.

**Methods:** Three hundred and sixty-nine postpartum women within six weeks of delivery, using the Edinburgh Postnatal Depression Scale to identify depressive symptoms were enrolled. An Edinburgh Postnatal Depression Scale score of 10 or higher indicated postnatal depression.

**Results:** Mean age of patients was 30.60±4.34 years. Postnatal depression prevalence of 3.25% and mean Edinburgh Postnatal Depression Scale score was 6.78±4.33. Notably, 5.88% of mothers with male infants experienced postnatal depression compared to 1.39% with female infants ( $p = 0.017$ ). Additionally, postnatal depression was frequent in cesarean section patients (5.88% vs. 1.01%,  $p = 0.009$ ) and among those without social (6.67% vs 0.91%,  $p = 0.002$ ) and partner support (4.40% without vs. 0% with,  $p=0.037$ ). Unintended pregnancies had a higher association with postnatal depression (8.33% vs. 1.15%,  $p=0.0004$ ), and those earning above 40,000 had increased depression rates (9.41%,  $p=0.001$ ).

**Conclusion:** There is a need for mental health screening and support services to mitigate the adverse effects on maternal and child well-being.

**Key Words:** Postnatal depression, Obstetrics, Tertiary care, Edinburgh Postnatal Depression Scale (EPDS), Mental health

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## INTRODUCTION

Post-natal depression (PND) is the prevalent pathological condition associated with early motherhood. It has become a significant concern from both psychological and public health perspectives for the mother, her baby and the entire family.<sup>1</sup> In the postnatal period, there are physical and psychological

stresses which may lead to debility due to PND, which may affect the ability of the woman to be a mother, for instance, being able to care for the newborn baby. Sometimes, the woman's response may be limited or negative towards the child.<sup>2</sup> If a woman receives no diagnosis and treatment for PND, then she will possibly find it hard to engage in appropriate interaction, which can impair her family and other social relations.<sup>3</sup> These problems may interfere with maternal-infant relations, and there is a likelihood that they may result in poor child cognitive, behavioural, and social development. It has also been established that the spouses of women with PND are more likely to experience issues with their mental health.<sup>4</sup>

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This is because methods used to determine the prevalence rates of PND vary or because cultural beliefs influence women's disclosure of their symptoms.<sup>5</sup> The percentage of post-natal depression ranged between 8-50% in a local study, and post-natal depression was 17.3%.<sup>6</sup> In another study, the estimates of worldwide postpartum depression rate were 15.6%.<sup>7</sup>

The screening tool, study design, and sample size used in these investigations may be responsible for the greater number of cases reported in these investigations. The same review has indicated that the level of maternal PND was found to be ranging between 4.0% and 63.9%.<sup>8</sup>

According to Karachi-based research, the frequency of depression among working mothers was 64.4%, while among stay-at-home mothers was 19.2%.<sup>9</sup> Common contributing factors in Pakistani women are economic deprivation, poor relationship with the husband, female infant gender, increased number of children, and illiteracy.

Researcher reported that treatment update on reproductive Psychiatry, "During pregnancy, depressive symptoms like changes in sleep and appetite are rarely easy to differentiate from those occasions that are normal during pregnancy". Depression is not constant during pregnancy; most of the studies indicate that women experience the highest level of symptoms during the first trimester, reduced in the second trimester, and then exacerbated in the third trimester.<sup>10</sup>

The screening and intervention programmes for these susceptible categories of women should be carried out during the antenatal and early postpartum period to address the issue.<sup>11</sup> The purpose of this study was to analyse the frequency of postnatal depression in patients attending the Obstetrics and Gynaecology facility of a tertiary health care centre to develop a local database. Pakistani population is different socially, economically, and culturally from the Western population, so different results are expected for these contributing factors for postpartum depression.

## METHODS

This descriptive, cross-sectional study was conducted in the Department of Obstetrics & Gynaecology at LMDC/GTTH from 28<sup>th</sup> July 2021 to 27<sup>th</sup> January 2022 following the ethical review board's clearance. A total of 369 women were enrolled. Sample size was estimated using the WHO sample size calculator for a population of women of childbearing age, with a 95% confidence interval and a 2% margin of error from anticipated estimate of a 4% prevalence rate of postnatal depression.<sup>12</sup> The postpartum women attending routine checkups in the obstetrics unit, aged 18 to 40 years and both primiparous and multiparous women were included. The history of depression after previous pregnancies or otherwise, current psychotherapy for depression, a history of mood or psychotic disorders or anxiety prior to pregnancy, use of anti-psychotic medication, and any history of drug or substance addiction were excluded. Each participant was assessed for postnatal depression as a form of depression occurring within six weeks after childbirth, identified by an Edinburgh Postnatal Depression Scale (EPDS) score above 9, where the total score ranges

from 0 to 30. Statistical analysis was done utilising SPSS-25.0. To control effect modifiers like age, parity, and other demographic factors, stratification was applied. The Chi-square test was used to examine the effect on frequency of postnatal depression, with a significance level set at  $p \leq 0.05$ .

## RESULTS

The mean age of patients was  $30.60 \pm 4.34$  years. Regarding parity, 81.84% were multiparous while 18.16% were primiparous. The gender of babies born was slightly skewed, with 58.54% female and 41.46% male. Vaginal deliveries 53.93% were slightly more common than cesarean sections 46.07%. A considerable proportion of participants 68.29% were homemakers and 31.71% were employed. Monthly income levels varied, with 17.07% earning less than 20,000, 59.89% earning between 20,000 and 40,000, and 23.04% earning above 40,000. Educational levels among the participants showed that over half (52.30%) were graduates, while 28.18% had completed secondary education, 11.92% had primary-level education, and 7.59% were illiterate. Social support was available for 59.35% of participants, while 40.65% reported having no social support. Notably, 73.77% did not have partner support, whereas only 26.23% reported receiving support from their partners. Regarding pregnancy intention, 29.27% of the pregnancies were unintended, while 70.73% were planned. The mean EPDS (Edinburgh Postnatal Depression Scale) score was  $6.78 \pm 4.33$ , and postnatal depression was observed in 3.25% (12) of the women (Fig. 1).

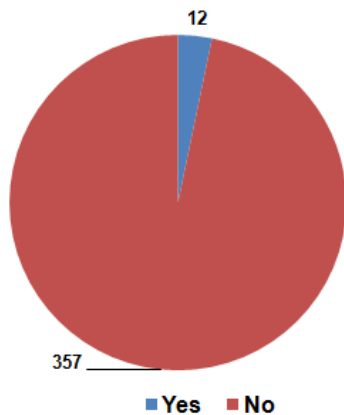
The postnatal depression was observed in 1.88% of women aged 18-30 and 4.31% of those aged 31-40. However, they had no statistically significant difference ( $p=0.192$ ). Parity did not significantly impact postnatal depression with rates of 1.49% in primiparous and 3.64% in multiparous women ( $p=0.369$ ). The gender of the baby showed an important association with postnatal depression: 5.88% of mothers with male babies experienced postnatal depression compared to 1.39% of those with female babies ( $p=0.017$ ). Mode of delivery also showed a significant association, as 5.88% of those with caesarean sections reported depression, compared to only 1.01% of those with spontaneous vaginal delivery ( $p=0.009$ ). Social support was strongly associated with postnatal depression, as only 0.91% of those with social support experienced depression, compared to 6.67% of those without social support ( $p=0.002$ ). Partner support was similarly significant, with no cases of depression among those with partner support, while 4.40% of those without it experienced depression ( $p=0.037$ ). Unintended pregnancy was a notable factor, with an 8.33% depression rate among those with unintended pregnancies, compared to only 1.15% for

those with intended pregnancies ( $p=0.0004$ ). Occupation was also significant; housewives had a depression rate of 1.19%, whereas 7.69% of working women reported depression ( $p=0.001$ ). Monthly income showed a clear association, as postnatal depression was reported in 1.59% of those earning less than 20,000, 1.36% of those in the 20,000-40,000

range, and a higher rate of 9.41% among those earning above 40,000 ( $p=0.001$ ). Education level, however, did not have a statistically significant association with postnatal depression, with rates between 2.27% and 3.63% across various education levels ( $p=0.965$ ) [Table 1].

**Table No. 1: Stratification of postnatal depression with respect to demographic and clinical profile of patients**

Variable		Postnatal Depression		P value
		Yes	No	
Age (years)	18-30	03 (1.88%)	157 (98.12%)	0192
	31-40	09 (4.31%)	200 (95.69%)	
Parity	Primiparous	1 (1.49%)	66 (98.51%)	0.369
	Multiparous	11 (3.64%)	291 (96.36%)	
Gender of baby	Male	9 (5.88%)	144 (94.12%)	0.017
	Female	3 (1.39%)	213 (98.61%)	
Mode of delivery	SVD	2 (1.01%)	197 (98.99%)	0.009
	CS	10 (5.88%)	160 (94.12%)	
Social support	Yes	2 (0.91%)	217 (99.09%)	0.002
	No	10 (6.67%)	140 (93.33%)	
Partner support	Yes	-	96 (100.0%)	0.37
	No	12 (4.40%)	261 (95.60%)	
Unintended pregnancy	Yes	9 (8.33%)	99 (91.67%)	0.0004
	No	3 (1.15%)	258 (98.85%)	
Occupation	Housewife	3 (1.19%)	249 (98.81%)	0.001
	Working	9 (7.69%)	108 (92.31%)	
Monthly income	<20000	1 (1.59%)	62 (98.41%)	0.001
	20k-40k	3 (1.36%)	218 (98.64%)	
	>40000	8 (9.41%)	77 (90.59%)	
Education	Illiterate	1 (3.57%)	27 (96.43%)	0.965
	Primary	1 (2.27%)	43 (97.73%)	
	Secondary	3 (2.88%)	101 (97.12%)	
	Graduate	7 (3.63%)	186 (96.37%)	



**Figure No. 1: Frequency of postnatal depression in patients**

## DISCUSSION

Postpartum depression (PPD) is an affective disorder affecting 10–15% of women annually during early motherhood. In 25–50% of cases, depressive symptoms

persist for more than six months. Postpartum depression is usually experienced within several months up to a year after the birth of the child. Possible causes of PPD include physiological factors, situational factors, or both.<sup>10</sup>

Predisposing factors of PPD are primarily social, in most cases, it is associated with stressful life events, childcare stress, and prenatal anxiety that may predict PPD. However, other factors can also contribute to the prediction, which includes the background of the prior episode of PPD, marital conflict, and single parenthood.<sup>13</sup> The misconception that PPD affected only women from Western societies and that postnatal mood disorders were culture-bound prevailed for a long time.<sup>11</sup> Women in Asia and South Africa are pointed out as being vulnerable to experiencing such issues. The symptoms are also usually like the symptoms of depression at other stages of life. However, alongside perinatal depression, women with PPD include guilt for not being able to care for a new baby among the symptoms they experience, and they demonstrate low mood, sleep disturbance, change in appetite, variation

in mood during the day, poor concentration, and irritability.<sup>14</sup> Around 80% of women experience mild, short-lived mood changes (postpartum blues) after childbirth, while 10–15% face a more severe and prolonged mood disturbance.<sup>12</sup>

The treatment and discovery of PPD have been a challenge due to the different criteria used regarding the time of onset in the DSM-IV and other standardised studies<sup>15</sup>. Mothers often hide their depression due to fear of discrimination and being labelled as bad mothers.<sup>16</sup>

In the present study, number of cases of PND was determined to be 3.25%. The frequency of postpartum depression in a local study conducted was 17.3%.<sup>7</sup> In another study, the overall frequency of postpartum depression was found to be 15.6%.<sup>8</sup> The review has revealed that the global incidence rate of maternal PND was from 4-63.9%.<sup>12</sup> Among the women in Andhra Pradesh resulted in a prevalence of 31.4, that the majority of women fall between the age of 21-25 years.<sup>17</sup> Other research carried out in Goa, Mangalore, and Delhi revealed that the prevalence rate was at 22%, 31.44% and 24%, respectively.<sup>13-15</sup>

Some other local research work done in Pakistan pointed high prevalence of postnatal depression (30-40%).<sup>16,17</sup> Recent studies from Turkey suggest that psychosocial adversity increases the risk of first postpartum mood disorders. Over 30% of the women in the study had postpartum depression.<sup>18</sup>

Villegas et al<sup>18</sup> discovered that among rural women in developing nations, the prevalence of postpartum depression is 31%. Yet meta-synthesis provides figures which show that in Asian countries, the rate of PPD was between 3.5% (Malaysia) and 63.3% (Pakistan).<sup>20</sup> There was a cross-sectional study in a group of women from rural South India, where the prevalence of PPD was estimated to be 11%.

Several modifiable and non-modifiable factors have been identified, as reported in the study by Gross et al<sup>19</sup>, and they include partner-related stress, physical violence during pregnancy, and failure to breastfeed. In a study carried out in Lebanon, the authors described the overall prevalence of PPD to be 21%. The results also suggested that perceived social support and prenatal depression were independently predictive of PPD. The independent variables concerning postnatal depression highlighted by Sierra Manzano et al<sup>22</sup>, included the age of the mother, the economic status of either poor or very poor, a personal history of subjected disturbed mind, if the mother had been anaesthetised in her labour and family dysfunctions.

In another study, the most definitive predictors of PPD were pregnancy-related illnesses and frequent prenatal healthcare visits. Hyperemesis, premature contractions, and psychiatric disorders were all statistically significantly higher in postpartum depressed women compared to women without such symptoms.<sup>23</sup>

In one cohort of Israeli women, immigration status emerged as the strongest predictor of PPD. The concept that stressful life experiences contribute to the emergence of PPD reveals that insufficient social support, marital conflict, depressive symptoms during pregnancy, history of prior emotional disorders, and lengthy periods of newborn illness are the major determinants of PPD.

Therefore, it is recommended that proper evaluation of postpartum depression should be done so that proper counselling and psychotherapy of these patients can be done to improve their quality of life and reduce morbidity.

## CONCLUSION

There is a need for mental health screening and support services to mitigate the adverse effects on maternal and child well-being.

### Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Simone Rehan, Shadia Shah
Drafting or Revising Critically:	Waleed Ahmad, Ayesha Saif, Nabiha Iqbal, Nabeela Shami
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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## REFERENCES

- Shenoy HT, Remash K, Shenoy ST. Prevalence and determinants of postnatal depression in a tertiary care teaching institute in Kerala, India. *Int J Reprod Contracept Obstet Gynecol* 2019;8:3757-64.
- Silverman ME, Reichenberg A, Savitz DA, Cnattingius S, Lichtenstein P, Hultman CM, et al. The risk factors for postpartum depression: a population-based study. *Depress Anxiety* 2017; 34(2):178-87.
- Roumieh M, Bashour H, Kharouf M, Chaikha S. Prevalence and risk factors for postpartum depression among women seen at Primary Health Care Centres in Damascus. *BMC Pregnancy Childbirth* 2019; 19:519.
- Shewangzaw A, Tadesse B, Ashani T, Misgana T, Shewasinad S. Prevalence of postpartum depression and associated factors among postnatal women attending at Hiwot Fana Specialized University hospital, Harar, East Ethiopia,

- 2015/2016. *J Reprod Syst Sexual Disord* 2018;1(1):4-19.
5. Shah S, Lonergan B. Frequency of postpartum depression and its association with breastfeeding: a cross-sectional survey at immunization clinics in Islamabad, Pakistan. *J Pak Med Assoc* 2017; 67:1151-56.
  6. Wubetu AB, Engidaw NA, Gizachew KD. Prevalence of postpartum depression and associated factors among postnatal care attendees in Debre Berhan, Ethiopia, 2018. *BMC Pregnancy Childbirth* 2020;20:189.
  7. Arifin SRM, Cheyne H, Maxwell M. Review of the prevalence of postnatal depression across cultures. *AIMS Public Health* 2018;5(3):260-95.
  8. Ramji RS, Noori MY, Faisal A. Postpartum depression among working and nonworking mothers/women in Karachi, Pakistan. *Manager's J Nurs* 2016;6(3):5.
  9. Aliani R, Khuwaja B. Epidemiology of postpartum depression in Pakistan: a review of literature. *Nat J Health Sci* 2017; 2:24-30.
  10. Beck CT, Records K, Rice M. Further development of the postpartum depression predictors inventory-revised. *J Obstet Gynecol Neonatal Nurs* 2006; 35(6):735-45.
  11. Bina R. The impact of cultural factors on postpartum depression: a literature review. *Health Care Women Int* 2008;29(6):568-92.
  12. Patel V, Rodrigues M, DeSouza M. Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *Ame J Psychiatr* 2002;159:43-7.
  13. Shivalli S, Gururaj N. Postnatal Depression among rural women in South India: do socio-demographic, obstetric and pregnancy outcome have a role to play? *PLoS ONE* 2015;10(4):1-11.
  14. Dhande N, Khapre M, Nayak S, Munday A. Assessment of postnatal depression among mothers following delivery in rural area of Wardha district: a cross sectional study. *Innovative J Med Health Sci* 2014; 4:53-5.
  15. Kalyani GHS, Saeed K, Ijaz-ur-Rehman C, Mubbashar MH. Incidence of depressive illness in Pakistani women during postnatal period. *J Coll Physicians Surg Pak* 2001; 11:246-8.
  16. Rahman A, Creed F. Outcome of prenatal depression and risk factors associated with persistence in the first postnatal year: prospective study from Rawalpindi, Pakistan. *J Affect Disord* 2007; 100:115-21.
  17. Aydin N, Inandi T, Karabulut N. Depression and associated risk factors among women within their first postnatal year in Erzurum province in Eastern Turkey. *Women Health* 2005; 41:1-12.
  18. Villegas L, McKay K, Dennis CL, Ross LE. Postpartum depression among rural women from developed and developing countries: a systematic review. *J Rural Health* 2011; 27:278-88.
  19. Gross KH, Wells CS, Radigan-Garcia A, Dietz PM. Correlates of self-reports of being very depressed in the months after delivery: results from the Pregnancy Risk Assessment Monitoring System. *Matern Child Health J* 2002;6(4):247-53.
  20. Sierra Manzano JM, Carro Garcia T, Ladron Moreno E. Variables associated with the risk of postpartum depression. *Edinburgh Postnatal Depression Scale. Aten Primaria* 2002;30(2): 103-11.
  21. Josefsson A, Angelsio L, Berg G, Ekstrom CM, Gunnervik C, Nordin C, Sydsjo G. Obstetric, somatic, and demographic risk factors for postpartum depressive symptoms. *Obstet Gynecol* 2002; 99(2):223-8.
  22. Patel V, Rodrigues M, DeSouza N. Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *Am J Psychiatr* 2002;159(1):43-7.
  23. Johnstone SJ, Boyce PM, Hickey AR, Morris-Yatees AD, Harris MG. Obstetric risk factors for postnatal depression in urban and rural community samples. *Aust N Z J Psychiatr* 2001;35(1):69-74.