

# Frequency and Associated Factors for Postnatal Depression

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## ABSTRACT

**Objective:** To determine the frequency and associated sociodemographic, obstetric and medical factors for postnatal depression in an outpatient sample.

**Study Design:** A descriptive, cross-sectional study.

**Place and Duration of Study:** Department of Obstetrics and Gynaecology, Benazir Bhutto Hospital (formerly Rawalpindi General Hospital), Rawalpindi, between June 2006 and February 2007.

**Methodology:** The sample consisted of women who were in the puerperal period (6 weeks postpartum). They were screened with the help of Edinburgh Postnatal Depression Scale (Urdu version) and the severity of depression was rated with the Hamilton Rating Scale for Depression.

**Results:** A total of 51 participants, or 33.1% of a sample of 154 women suffered from postnatal depression, the majority of whom were either moderately or severely depressed. The demographic profile of depressed patients showed that they were young (mean age around 25 years), had a low level of education (below the matriculate level) and came from the lower socioeconomic class. They had small families comprising of fewer than 3 children, were married for less than 5 years and the majority were from extended families (living with in-laws).

**Conclusion:** Postnatal depression was found in almost 1/3rd of the study participants and the pre-ponderance of them suffered from moderate or severe depression. They were young and came from a background of socio-economic adversity. Since postnatal depression had adverse consequences for the mother and her newborn baby, there was an urgent need to direct more attention to this problem, in particular towards its early detection, so that morbidity could be reduced in this group of women.

**Key words:** *Postnatal depression. Edinburgh postnatal depression scale. Major depressive disorder. Puerperium. Social adversity.*

## INTRODUCTION

From the psychiatric perspective, postpartum period is a time of vulnerability to psychological disturbance.<sup>1</sup> This can be manifested as postpartum blues, a very common condition characterized by transient and minor depressive symptoms;<sup>2</sup> as postnatal depression, a much more severe disorder defined by the occurrence of a major depressive episode in the puerperium;<sup>3</sup> and as postpartum psychosis, an illness marked by delusions, hallucinations, thought disorder and accompanying behavioural disturbance.<sup>4</sup> In the Western countries, the prevalence of postnatal depression is estimated to be between 10% and 15%.<sup>5</sup> However, there is emerging evidence that this condition is much more common in the developing countries, including Pakistan.<sup>6</sup> The reasons cited being economic adversity in the form of poverty, higher number of stressful life events, and lack of proper social support.<sup>7</sup>

Patients suffering from postnatal depression can have a high degree of functional impairment and consequently

have difficulty in properly looking after themselves, as well as their neonates.<sup>8,9</sup> Researchers specifically looked at the effect of maternal depression on infant growth and nutrition and convincingly showed that children reared by depressed mothers suffered from poor sustenance and growth retardation as compared to controls.<sup>10</sup>

In the Western countries, a significant body of research has accumulated on the issue of postnatal depression but the situation is very different in Pakistan, where hardly any research of significance has been conducted on this subject. Consequently, very little is known about the epidemiology and risk factors for this serious disorder in our country. The present study was an endeavour in this direction, generating data, which could be utilized in developing treatment services for patients with postnatal depression. It was hoped that the effort would stimulate other healthcare personnel to carry out their own research in this area, leading to better standards of care.

The objective of this study was to determine the frequency and associated sociodemographic, obstetric and medical factors for postnatal depression in an outpatient sample belonging to a tertiary care hospital.

## METHODOLOGY

The study was conducted at the Postnatal Clinic of a tertiary care, teaching hospital in the city of Rawalpindi

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from June 2006 to February 2007 and the sample size consisted of 154 women. All patients attending the weekly postnatal clinic in the puerperal period (6 weeks postpartum) were eligible to participate in the study, provided they gave informed consent and were able to read Urdu, in order to self-administer the Edinburgh Postnatal Depression Scale (EPDS), Urdu version. Patients suffering from severe medical illnesses were excluded as physical symptoms (insomnia, anorexia, decreased concentration, pain, etc.) could mimic those of depression and bias the sample. For the same reason, women with personal or family history of mood disorders were also excluded. Patients with mental retardation were not included as their learning disability could interfere with the process of informed consent, as well as the conduct of the study. Patients with whom rapport could not be established due to any reason, for example, language barrier were also excluded.

Demographic data was collected with the help of a proforma, and in the first step informed consent was obtained from the participants. EPDS was administered to the subjects and the cut-off score of 12 was used to screen patients for depression. Those patients who scored 12 or above on the EPDS were administered the Hamilton Rating Scale for Depression (HRSD). HRSD scores were interpreted as follows: 0-7, no depression; 8-17, mild depression; 18-25, moderate depression; 26 and above; severe depression. Subjects with scores less than 12 on the EPDS were not followed further in the study.

Data was analyzed using the software, Statistical Package for Social Sciences (SPSS), version 10. Simple frequency and proportion was calculated for postnatal depression.

Descriptive statistics were applied to socio-demographic, medical and obstetric variables. Chi-square ( $\chi^2$ ) test with  $p$ -value  $<0.05$  was applied to the study variables.

## RESULTS

Out of the total number of 154 participants, 51 or 33.1% of the subjects were screened positive for depression on the basis of their scores on EPDS. When HRSD was applied to these subjects, 9.8% were found to be mildly depressed, 47.1% had moderate depression and 43.1% were severely depressed.

The depressed and non-depressed subjects were compared on study variables and Table I and II summarize the results for sociodemographic variables, whereas Table III shows the outcomes for obstetric and medical factors.

## DISCUSSION

This research revealed that out of a total of 154 subjects who completed the study, 51 participants or 33.1% of

the sample suffered from postnatal depression. When compared with studies conducted in the Western countries, this figure was very high, as the average prevalence of postnatal depression in the West was 12%.<sup>5</sup> Other studies conducted in Pakistan also reported a very high occurrence of postnatal depression (30-40%).<sup>11,12</sup> This was attributed to greater socio-economic adversity in the form of low education, poverty, unemployment, poor family relations, low marital age and the scarcity of medical resources. Studies conducted in other South Asian countries like Nepal and India also showed similarly high rates of psychiatric morbidity in postnatal women.<sup>13,14</sup> More evidence that psychosocial adversity was correlated to postpartum mood disorders, recently came from Turkey, another developing nation, where more than one-third of women studied suffered from postnatal depression.<sup>15</sup>

In this study, when HRSD was given to depressed women, 47.1% were found to be moderately depressed, while 43.1% were severely depressed. Increasing severity of depression caused proportionately greater functional impairment,<sup>16</sup> which interfered with women's capacity for looking after their young children. Indeed, studies done in Pakistan as well as other parts of the world clearly showed that infants of depressed mothers suffered from malnutrition, diarrhoeal illnesses, weight faltering and failure to thrive.<sup>17,18</sup>

Several important differences emerged when depressed and non-depressed subjects were compared with each other on sociodemographic, obstetric and medical variables (Table I, II and III). The mean age of patients with postnatal depression (24.86 years) was about 1 year less than subjects who did not have depressive illness (25.74 years). This showed that young women, in the prime of their reproductive lives, were afflicted with a serious mental disorder, which had a chronic course and was characterized by puerperal as well as non-puerperal recurrences.<sup>16,19</sup> This work showed that women suffering from postnatal depression belonged to families with low monthly income (mean Rs. 5862.87) versus Rs. 6635.92 for non-depressed women (Table I) and came from a background of poverty and economic stress. A community study done in a rural area of Rawalpindi and published recently in an eminent psychiatry journal highlighted the etiological role of poverty and socioeconomic adversity.<sup>12</sup> In this study,

**Table I:** Sociodemographic variables of the studied group.

Number of subjects*	Descriptive and Chi-square ( $\chi^2$ ) statistics	Age (in years)	Monthly income (in rupees)	Years married
Depressed* (n=51)	Range	18-35	2000-15000	1-14
	Mean	24.86	5862.75	4.61
	Std. deviation	4.07	3274.26	3.67
	p-value	0.450	$< 0.001$	0.001
Not depressed* (n=103)	Range	18-35	3000-30000	1-20
	Mean	25.74	6635.92	4.99
	Std. deviation	4.40	4433.16	4.47
	p-value	$< 0.001$	$< 0.001$	$< 0.001$

\* EPDS cut-off score of 12 used to screen study subjects for depression

**Table II:** Some other sociodemographic features of the studied group.

Number of subjects	Level of education (number of subjects in percent)	Occupation (number of subjects in percent)	Number of children (number of subjects in percent)	Place of residence (number of subjects in percent)	Living conditions (number of subjects in percent)
Depressed (n=51)	Uneducated 21.6 Class 8: 35.3 Matriculation: 29.4 Class 12: 11.8 Bachelors: 2 p-value: 0.001 ( $\chi^2$ statistics)	Housewives: 96.1 Employed: 3.9 p-value: < 0.001 ( $\chi^2$ statistics)	0: 13.7 1: 31.4 2: 27.5 3: 19.6 4: 7.8 p-value: 0.050 ( $\chi^2$ statistics)	Rural: 47.1 Urban: 52.9 p-value: 0.674 ( $\chi^2$ statistics)	Single family: 31.4 Extended family: 68.6 p-value: 0.008 ( $\chi^2$ statistics)
Non-depressed (n=103)	Uneducated: 17.5 Class 8: 34 Matriculation: 36.9 Class 12: 7.8 Bachelors: 2.9 Masters: 1 p-value: < 0.001 ( $\chi^2$ statistics)	Housewives: 93.2 Employed: 6.8 p-value: < 0.001 ( $\chi^2$ statistics)	0: 2.9 1: 48.5 2: 24.3 3: 12.6 4: 6.8 5: 1.0 6: 3.9 p-value: 0.001 ( $\chi^2$ statistics)	Rural: 30.1 Urban: 69.9 p-value: < 0.001 ( $\chi^2$ statistics)	Single family: 29.1 Extended family: 70.9 p-value: < 0.001 ( $\chi^2$ statistics)

**Table III:** Comparison of depressed and non-depressed subjects on obstetric and medical factors (n=154).

Study subjects	Method of delivery (number of subjects in percent)	Obstetric complications (number of subjects in percent)	Medical complications (number of subjects in percent)
Depressed (n=51)	C/S: 37.3 SVD: 62.7 p-value: 0.069 ( $\chi^2$ statistics)	Yes: 25.5 No: 74.5 p-value: < 0.001 ( $\chi^2$ statistics)	Yes: 31.4 No: 68.6 p-value: 0.008 ( $\chi^2$ statistics)
Non-depressed (n=103)	C/S: 55.3 SVD: 44.7 p-value: 0.278 ( $\chi^2$ statistics)	Yes: 20.4 No: 79.6 p-value: < 0.001 ( $\chi^2$ statistics)	Yes: 26.2 No: 73.8 p-value: < 0.001 ( $\chi^2$ statistics)

*Explanation of variables**Method of delivery – vaginal vs. caesarean**Obstetric complications (e.g. APH, PPH, pre-term delivery, etc) – present vs. absent**Medical complications (e.g. eclampsia, diabetes, jaundice, etc) – present vs. absent*

women suffering from depression while being pregnant, were followed prospectively in the postnatal period and it was found that depression persisting in the first postnatal year was significantly associated with low socioeconomic status, having 5 or more children, an uneducated husband and a lack of confidant or friend.

Women who suffered from postnatal depression were, on average, married for a shorter period of time (4.61 years versus 4.99 years, Table I). The maximum number of years married was also less (14 years for depressed women versus 20 years for non-depressed women). For the non-depressed women, the longer duration of marriage could have served as a protective factor, a finding supported by published research. A study, done in the USA, examined age-cohort differences in the interrelationship among marital processes and depressed affect;<sup>20</sup> negative marital processes were more strongly linked to depressed affect for younger married adults as compared to older married adults.

There were important differences between the depressed and non-depressed group when the level of education was compared (Table II). More depressed patients were uneducated (21.6% versus 17.5%), and the level of education was generally lower in literate depressed patients as compared to non-depressed

subjects. Over 90% of the study participants acted as housewives; however, a higher percentage of depressed women fulfilled this role. According to work published in the USA, women who took-up the role of housewives were more vulnerable to psychological distress as compared to professional women.<sup>21</sup> The present study appeared to replicate this finding. Table II also compared the number of children of the two groups of women. Significantly, when compared with the non-depressed participants, a larger percentage of depressed subjects had no living off springs (13.7% versus 2.9%). This implied that they had lost their babies during delivery or soon after birth, a severe psychological trauma, which could predispose them to postnatal depression. Although, the maximum number of living off springs was 6 in the study, the great majority of participants did not have more than 4 children. Most of the women in the depressed sample had either one or two children. This finding was in contrast to earlier studies done in Pakistan in which depressed women were found to have larger families, comprising of 5 or more children.<sup>12</sup>

In Table II, the two groups of women were compared according to the place of residence, and as can be seen, more women who were depressed came from rural areas as compared to non-depressed women (47.1% versus 30.1%). This finding was replicated in a recent study from Peshawar in which the majority of depressed patients resided in rural areas.<sup>22</sup> The preponderance of depressed women lived in extended families i.e. with in-laws (68.6% versus 31.4%, Table II). The literature on this issue is divided; one study from the USA showed that women living in extended families benefited from greater social support,<sup>23</sup> while studies conducted in South Asia revealed that living with in-laws served as a stress factor, predisposing patients to postnatal depression.<sup>7,12</sup>

The majority of women in the depressed sample (62.7%) had vaginal deliveries, whereas a greater number of non-depressed women (55.3%) gave birth by



caesarean sections (Table III). This suggested that the method of delivery did not play a role in causing postnatal depression. A higher percentage of depressed women suffered from severe obstetric complications as compared to non-depressed women (25.5 versus 20.4, Table III), which implied an etiological role for obstetrical factors in postnatal depression. This issue was investigated in a case-control study from the UK; severe obstetric complications in the subjects were associated with greater postnatal morbidity in the form of depression, psychosexual problems, decreased physical well-being and higher utilization of health services.<sup>24</sup> Thirty one point four percent of depressed women suffered from significant medical complications during pregnancy, whereas a lesser percentage (26.2%) of non-depressed women had this problem (Table III). A Swedish study with a case-control design examined this issue and found that major medical complications like hyperemesis, pre-eclampsia, uncontrolled diabetes, etc. predisposed women to depressive disorders postnatally.<sup>25</sup>

The study was cross-sectional and as such not suitable for detecting risk factors for postnatal depression. It was hospital rather than community-based and not representative of the general population. Additionally, certain variables like result of pregnancy, neonatal outcome and quality of marital relationship were not investigated.

## CONCLUSION

About one-third of the subjects suffered from postnatal depression. Most of the depressed women were either moderately or severely depressed, potentially undermining their coping abilities as new mothers. The depressed mothers were young, came from poor families, had low levels of education, mostly housewives and lived in extended families with in-laws.

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