

Original Research Article

Prevalence and risk factors for psychiatric Morbidity and its Correlates among Postpartum Women in a Tertiary Care Hospital-A cross-sectional study**Pradeep Kumar Yadav^{1*}, Priyanka Yadav²**¹*Assistant Professor of Psychiatry, T.S. Misra Medical College and Hospital, Amausi, Lucknow, Uttar Pradesh, India*²*Assistant Professor of Obstetrics and Gynaecology, T.S. Misra Medical College and Hospital, Amausi, Lucknow, Uttar Pradesh, India***Received: 23-09-2021 / Revised: 10-10-2021 / Accepted: 29-11-2021****Abstract**

Background and objective: The prevalence of psychiatric disorders range from 15% to 29%. Risk factors identified in various studies included lack of a romantic partner, previous history of psychiatric disorder, and lifetime exposure to traumatic events. Many studies were limited by use of screening scales rather than diagnostic measures for DSM-5 criteria. This study was undertaken to evaluate the prevalence and risk factors for psychiatric morbidity and its correlates among postpartum women in a tertiary care hospital. **Materials and Methods:** This cross-sectional study was conducted in the Department of Psychiatry, T.S. Misra Medical College & Hospital Lucknow from June 2019 to July 2020. A total of 100 female patients who delivered in obstetrics and gynaecology department were interviewed and assessed randomly for psychiatric morbidities as per the DSM-5 criteria within the first six days of delivery and same patients were followed after 6 weeks. **Result:** The psychiatric morbidity was seen in 16% of the study subjects. 12% of females suffered from major depressive disorder at birth. Similarly, after 6 weeks follow up, 7% suffered from major depressive disorder. Psychiatric morbidities are more common in primipara as compared to multipara and who underwent caesarean section also suffered more psychiatric morbidity. Only 1% female suffered from severe anxiety both within six days of delivery and after 6 weeks of follow up and 3% of postpartum females continued with severe depression after 6 weeks of follow up. **Conclusion:** The present study makes it clear that the major depressive episode is more common in post partum period among various psychiatric morbidities. Early identification of potential risk factors may aid in recognition of and treatment for postpartum depression.

Keywords: Postpartum, depression, anxiety, prevalence

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Introduction

Postpartum psychiatric disorders, defined as lactational psychoses by Hippocrates in the 4th century BC, have long been of notice to the public health. Pregnancy and postpartum period are broadly considered periods of increased susceptibility to psychiatric disorders[1-3]. Subsequently, "postpartum" disorders were unified into the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR and DSM-5). Though diagnostic guidelines in DSM specifiers have been limited to the first 4 weeks after delivery, most practitioners and researchers regard the postpartum period as 6 months or even 1 year after childbirth. From International Classification of Diseases-10th Edition (ICD-10), the postpartum disorders are assembled under behavioural syndromes associated with physiological instabilities and physical factors as mental and behavioural disorders associated with the puerperium. Nevertheless, postpartum psychiatric disorders may evident weeks outside the 1st month or 6 weeks after delivery. Later, the helpfulness of DSM specifiers and ICD special code in the classification of puerperal disorders is restricted. Furthermore, very little is known about whether the valuation or screening can be done on the days closely after birth.

Childbirth comes with multiple challenges to the mother such as sleep deprivation, trauma, breastfeeding, and also dealing with relationships and is a major life changeover. A range of psychological disorders happen in women in the postpartum period. These include "the blues," which happen in the 1st day after birth and which is usual, ranging from 50 to 75, and self-limiting. The most severe form of mental disorder associated with postpartum period is postpartum psychosis, observed in 1–2/1000 child-bearing women happening as early as 2–3 days after childbirth. The mild to moderate depression is seen in 10–13 of newborn mothers, taking place weeks to months after birth[4,5]. Studies recommend that postpartum anxiety disorders are understated and are more frequent than depression[6]. There are so many case series of obsessions of infanticide[7,8]. Also, posttraumatic stress disorders (PTSDs), diseased concerns regarding the childbirth and the disorders of the mother–infant connection are emerging[9,10]. Maternal psychiatric disorders during pregnancy and the postpartum period are also related with multiple adverse results for the offspring, including dysfunctional fetal growth and development,[11,12] poor mental development, behaviour during childhood and adolescence,[13] negative nutritional and health effects[14]. Hence, the objective of the present study was to assess the prevalence and risk factors for psychiatric morbidity and its correlates among postpartum women in a tertiary care hospital as per DSM-5 criteria.

Materials and Methods

After obtaining the approval from the Institutional Ethics Committee, the study was conducted in the Department of Psychiatry and Department of Obstetrics and Gynaecology, T.S. Misra Medical College & Hospital Lucknow from June 2019 to July 2020. The informed consent was obtained from all patients, explaining the

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nature of the tests. The subjects were explained in their language about the purpose of the study and that their identity will not be revealed in the published material.

Selection of the Study Group

The study sample consisted of women getting admitted for delivery in the department of Obstetrics and Gynaecology of T.S. Misra Medical College & Hospital Lucknow of the study venue. A thorough physical examination was carried out in all the patients. The sample of the present study consisted of 100 patients for diagnosis of post-partum. All consenting consecutive patients who are in the postpartum period (<6 weeks as per DSM-5) included and interviewed within the first six days of delivery and same patients followed after 6 weeks. Patients below 18 years and above 45 years of age, any other associated physical illnesses and history of any psychiatric illnesses in the past were excluded.

Methods

All subjects were interviewed according to a semi structured and assessed for psychiatric morbidities as per the DSM-5 criteria. (15)The severity of psychiatric illness was assessed according Hamilton rating scale for anxiety and depression[16,17]. The sociodemographic and clinical data were obtained on a semistructured proforma consisting of items relating to patients' age and sex of the baby, educational, occupation socio economic, type of marriage, type of family, education, habits of spouse, parity, antenatal registration, plan of pregnancy and mode of delivery etc.

Statistical analysis

For frequencies, crosstabulations were done accordingly. Test of significance was done using Chi Square test for categorical data, t test for interval data, and Spearman's correlation was used to assess correlation between variables. Statistical analysis done by SPSS version 16. (SPSS Inc., Chicago, IL, USA) Results at $P < 0.05$ were considered statistically significant.

Results

Table 1: Distribution of demographic variables with respect to proportion of females having psychiatric morbidity

Variables		n=100	Number of females having psychiatric morbidity	%
Age Group (in years)	18-22	32	2	6.25
	23-27	41	10	24.39
	28-32	19	3	15.78
	32-36	8	1	12.5
Religion	Hindu	91	13	14.28
	Muslim	8	3	37.65
	Christian	1	0	0
Education	Illiterate	7	0	0
	Primary school	44	7	41.17
	Secondary school	17	6	35.29
	Intermediate	27	2	7.4
	Graduation	5	1	20
Occupation	Unemployed	100	16	16
	Employed	0	0	0
SES	Upper	7	4	23.53
	Middle	76	9	11.84
	Lower	17	4	23.53
Area of residence	Rural	78	10	12.8
	Urban	18	6	33.33
	Semi urban	4	0	0
Type of family	Nuclear	24	5	20.83
	Extended nuclear	1	0	0
	Joint	75	11	14.66

Table 1 shows the demographic characteristics of the subjects 16% females were found to have psychiatric morbidity. Out of 32 females, between the age group of 18-22 years 2 were having psychiatric morbidities, out of 41 females, between the age group of 23-27 years 10 were having psychiatric morbidities, out of 19 females between the age group of 28-32 years, 3 were having psychiatric morbidities and out of 8 females between the age group of 32-36 years 1 were having psychiatric morbidities. Although the majority of patients (24.39%) belonged to the age group 23-27 years. Out of 91 Hindu females 14.28% were having psychiatric morbidity, out of 8 Muslim females 37.65% were having psychiatric morbidity and only one of Christian female did not have any psychiatric morbidity. Out of 44 females who completed primary education 7 (13.63 %) were having psychiatric morbidity. Seven illiterates female, none were having any psychiatric

morbidity. Sixteen percent out of 100 females, who were housewives had psychiatric morbidities. Out of 76 belonging to middle class 9 (11.84%) females suffered from psychiatric morbidities Out of 7 upper class females about one forth suffered from psychiatric morbidities. About 13% females from rural background were found to have psychiatric morbidity. No psychiatric morbidity noticed in females from semi-urban background. Majority of them (75%) were from joint family as compared to nuclear family (24%). About 15% having psychiatric morbidities were from joint family. Study suggesting that majority of psychiatric morbidities were found in females from nuclear families. There were no significant differences could be found between the distribution of demographic characteristics and psychiatric morbidity.

Table 2: Distribution of psychosocial/obstetric variables with respect to proportion (%) of females having psychiatric morbidity

Variables		n=100	Number of females having psychiatric morbidity				Chi Square, P value
			Absent		Present		
			n	%	n	%	
Birth order	Primipara	54	42	77.77	12	22.22	3.382,

	Multipara	46	42	91.30	4	8.69	0.066
Gender of baby	Female	58	50	86.20	8	13.79	0.777,
	Male	41	33	80.48	8	19.51	0.648
	Twins	1	1	100	0	0	
Mode of delivery	Normal	62	54	87.09	8	12.90	1.164,
	Caesarean section	38	30	78.94	8	21.05	0.281
Planning of pregnancy	Planned	64	52	81.25	12	18.75	1.000,
	Unplanned	36	32	88.88	4	11.11	0.317
Expectation of sex of a baby	Either (male/female)	85	71	83.52	14	16.47	0.093,
	Male	15	13	86.66	2	13.33	1.000
Care takers of mother	Husband and Other family members	82	69	84.15	13	15.85	0.007,
	Other family members only	18	15	83.33	3	16.66	1.000
Complications during child birth	Present	25	21	84	4	16	0.0001,
	Absent	75	63	84	12	16	1.000

Table 2 shows that the distribution of psychosocial/obstetric variables with respect to proportion of females having psychiatric morbidity. Out of 54 primipara females 12 (i.e. 22.22%) suffered from psychiatric morbidities and out of 46 multipara only 4 (i.e. 8.69%) suffered from psychiatric morbidities. Psychiatric morbidities were more common in primipara as compared to multipara. Though psychiatric morbidities are more common in primipara than multipara. Out of 58 females who gave birth to female child, 8 (i.e. 13.79%) suffered from psychiatric morbidities and out of 41 females who gave birth to male child, 8 (i.e. 19.51%) suffered from psychiatric morbidities. Females who delivered normally, 12.90% and who delivered through caesarean section 21.05% suffered from psychiatric morbidities. This shows that females who underwent caesarean section had more psychiatric morbidity as compared to those who delivered vaginally. Out of 64 planned pregnancies, 12 (i.e. 18.75%) suffered from psychiatric morbidities and out of 36 unplanned pregnancies, 4 (i.e. 11.11%) suffered from psychiatric

morbidities. Eighty-five females who expected either of male/female baby 14 (i.e. 16.47%) and out of 15 females who expected male baby, 2 (13.33%) suffered from psychiatric morbidities. From total 82 (82%) females whose care takers were husband and other family members, 13 (i.e. 15.85%) suffered from psychiatric morbidities and out of 18 (18%) females whose care takers were only family members other than husband, 3 (i.e. 16.66%) suffered from psychiatric morbidities. It shows psychiatric morbidities were more in females whose care takers were only family members other than husband. Twenty-five females who has complications during child birth, 4 (i.e. 16%) and among 75 females who did not have complications during child birth, 12 (i.e. 16%) suffered from psychiatric morbidities, suggesting almost equal chances of psychiatric morbidities among females who met with complications and who did not during child birth. There were no significant differences could be found between the distribution of distribution of psychosocial/obstetric variables and psychiatric morbidity.

Table 3: Prevalence of psychiatric morbidities within 6 days after birth and after 6 weeks followup

DSM V Criteria	Within 6 days (%)	After 6 weeks (%)
Major depressive disorder	12	7
Panic disorder	3	0
Generalized anxiety disorder	1	1

Table 3 shows prevalence of psychiatric morbidities in post-partum females 6 days after birth and after 6 weeks follow up. As per this 12% of females were found to be suffering from major depressive disorder, 3% panic disorder and 1% generalized anxiety disorder within six days of delivery. As per this 7% were having major depressive disorder and 1% had generalized anxiety disorder.

Table 4: Distribution according to Hamilton rating scale for severity of depression & anxiety within 6 days and after 6 weeks of delivery

Hamilton rating scale	Scoring	Within 6 Days (%)	After 6 weeks (%)
HAM D	Mild	8-13	5
	Moderate	14-18	3
	Severe	19-22	3
	Very severe	≥ 23	1
HAM A	Mild	14-17	0
	Moderate	18-24	0
	Severe	>25	1

Table 4 shows that the percent distribution of severity according to Hamilton rating scale for depression & anxiety within 6 days and after 6 weeks of delivery. In severity of depression. As per this 0% of post partum females suffered from mild depression, 2% had moderate depression and 3% and 1% of post partum females had severe and very severe depression respectively after 6 weeks of follow up. In severity of anxiety, as per this 1% of post-partum females suffered from severe anxiety within 6 days of delivery. After 6 weeks of follow up. As per this 1% of post partum females suffered from severe anxiety.

Discussion

We assessed the post-partum females within 6 days and after 6 weeks of delivery. Indian study by Prabhu TR et al (2005) [18] reported the

prevalence of postpartum psychiatric morbidity as 33.4%. Kirpinar I et al (2010) [19] reported the prevalence of depressive symptoms as 17.7% at first week and 14% at sixth week postpartum. Eight percent females in our study were having psychiatric illness after 6 weeks follow-up of which had major depressive disorder and 1% had generalised anxiety disorder. This is almost in concordance with a study by Nakku JE et al (2006) [20]. Similarly another study by Muneer A et al (2009) [21] reported majority of postnatal depression were either moderately or severely depressed and were young, majority of whom belonged to lower socioeconomic class and 33.1% had a low level of education. In present study, distribution within various age groups and psychiatric morbidity, although the majority of patients (24.39%) belonged to the age group 23-27 years, 44% females had primary education and middle class had a psychiatric

illness around 11.84%. Postpartum disorders were significantly associated with urban residency [22]. This is in concordance with present study. Prabhu TR et al (2005) [18] reported the prevalence was high in women in nuclear families. Similar finding shown in present study. In present study, psychiatric morbidities are more common in primipara as compared to multipara. Alike finding reported Irfan N et al (2003) [23]. In present study, female who underwent caesarean section suffered more psychiatric morbidity as compared to those who delivered vaginally. This is in concordance with study by Amr MA et al (2010) [22]. Leahy-Warren P et al (2011) [24] who reported prevalence of 13.2% post natal depression at 6 weeks in first time mothers. This is in concordance with present study. A study by Lee DT et al (2000) [25] reported postnatal depression was more likely if the spouse was disappointed with the gender of the new born. Unlike in present study, females who has specific expectation of sex of a baby and psychiatric morbidities was not found to be statistically significant. No correlation was found between females who faced complications and who did not during child birth to the development of psychiatric morbidities. In addition, Nielsen Forman D et al (2000) [26] also reported that no association was found between pregnancy or delivery complications, and postpartum depression. In contrast, study by Wan EY et al (2009) [27] who reported that postpartum depression was associated with difficult pregnancy experience. In present study out of 16% psychiatric morbidities, 12% of females suffered from major depressive disorder at birth. Similarly, after 6 weeks follow up, 7% suffered from major depressive disorder. This is in concordance with the study by Yonkers KA et al (2001) [28] who reported rate of major depressive disorder during the postpartum period among women was between 6.5% and 8.5%. Moreover, Nielsen Forman D et al (2000) [26] reported 5.5% of the women suffered from postpartum depression. Britton JR et al (2005) [29] reported for anxiety, 24.9% of mothers had moderate and 1% severe anxiety. The incidence of anxiety during this time period was 10.28% [30]. Andersson L et al (2006) [31] studied depression and/or anxieties were prevalent in 16.5% of postpartum women versus 29.2% of pregnant women. In addition, present study, 3% and 1% of post partum females' severe and very severe depression is seen respectively within 6 days of delivery. All 5% post partum females suffered from mild depression within 6 days of delivery became normal when interviewed after 6 weeks of follow up. In 3% and 1% of post partum females continued with severe and very severe depression respectively after 6 weeks of follow up. Furthermore, Muneer A et al (2009) [21] reported 33.1% suffered from postnatal depression, the majority of who were either moderately or severely depressed. In present study only 1% female suffered from severe anxiety both within six days of delivery and after 6 weeks of follow up. This is in concordance with study by Britton JR et al (2005) [29] who reported 24.9% of mothers with moderate and 1% with severe anxiety.

Conclusion

The present study makes it clear that the major depressive episode is more common in post partum period among various psychiatric morbidities. The socio-demographic and obstetric variables have significant impact on the occurrence of psychiatric diseases in puerperium. Pregnant women should be screened to identify those at risk for psychiatric illness. Necessary prevention and treatment should be offered.

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