

Psychiatric Morbidity and Correlates in Postpartum Women in a Tertiary Care Hospital

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ABSTRACT

Background: A range of psychological disorders occur in women in the postpartum period apart from the traditional blues, postpartum depression and psychosis. These include obsession of infanticide, PTSD, morbid preoccupations regarding child birth and disorders of mother-infant relationships, though they are under emphasized. **Methods:** it is a cross-sectional study conducted in the tertiary maternity care hospital. A total of 152 study subjects were interviewed on MINI (Mini International Neuropsychiatric Inventory) and GAF (Global Assessment of Functioning) within 2 weeks after delivery. **Results:** The psychiatric morbidity was seen in 67 (44%) of the study subjects. About 26% of subjects had Depressive disorder NOS. Obsessive harm to the child, Panic disorder, Social phobia were the other disorders identified. There were no cases of Mania, Bipolar disorder, psychosis, post traumatic stress disorder or substance use disorder diagnosed across the sample. The Global Assessment of Functioning (GAF) score averaged 87.8. Statistically significant association was seen to be present between psychiatric illness and number of previous still births and dead children before this delivery ($P = 0.045$). **Conclusions:** The study reveals that psychiatric co-morbidity is very common in the postpartum period and can be detected as early as first week after delivery. Social phobia identified as a common association is a new finding and needs further replication. It needs a larger sample with a prospective assessment to generalize the findings of our study.

Key words: Anxiety disorders, correlates, depression, obsessions, postpartum

INTRODUCTION

Postpartum psychiatric disorders, described as lactational psychoses by Hippocrates in the 4th century BC, have long been of interest to the medical community. Pregnancy and postpartum period are widely considered periods of increased vulnerability to psychiatric disorders.^[1-3] After more than 50 years and four revisions, “postpartum” disorders were

incorporated into the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV-TR). Although diagnostic guidelines in DSM-IV TR have been restricted to the first 4 weeks after delivery, most clinicians and researchers regard the postpartum period as 6 months or even 1 year after childbirth. In the International Classification

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of Diseases-10th Edition (ICD-10), the postpartum disorders are grouped under behavioral syndromes associated with physiological disturbances and physical factors as mental and behavioral disorders associated with the puerperium, not elsewhere classified (F53.0–53.9). In ICD 10, the duration criteria in contrast to DSM-IV-TR is 6 weeks. Further, in DSM-5, the specifier “with postpartum onset” has been replaced by “with peripartum onset.” This specifier is used if the onset of mood symptoms occurs during pregnancy or within the 4 weeks following delivery. However, postpartum psychiatric disorders may manifest weeks beyond the 1st month or 6 weeks after delivery. Hence, the utility of DSM specifiers and ICD special code in the classification of puerperal disorders is limited. In addition, very little is known about whether the assessment or screening can be done on the days immediately after birth.

The traditional view that there are three postpartum psychiatric disorders such as postpartum blues, depression, and puerperal psychosis is an oversimplification. Childbirth presents many challenges to the mother such as trauma, sleep deprivation, breastfeeding, and adjustments in relationships and is a major life transition and developmental process. A range of psychological disorders occur in women in the postpartum period. These include “the blues,” which occur in the 1st day after birth and which is very common, 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 occurring as early as 2–3 days after childbirth. The mild to moderate depression is seen in 10–13% of newborn mothers, occurring weeks to months after birth.^[4,5] Recent studies suggest that postpartum anxiety disorders are underemphasized and are more common than depression.^[6] The case series of obsessions of infanticide are many.^[7,8] Also, posttraumatic stress disorders (PTSDs) and newer entities such as the morbid preoccupations regarding the childbirth and the disorders of the mother–infant relationship are emerging.^[9,10]

Maternal morbidity and mortality are not the only reasons why effective action is necessary to deal with postpartum illnesses, but the impact it has on the family and the child and the subsequent bonding. Maternal psychiatric disorders during pregnancy and the postpartum period are also associated with numerous adverse outcomes for the offspring, including maladaptive fetal growth and development,^[11,12] poor cognitive development and behavior during childhood and adolescence,^[13] and negative nutritional and health effects.^[14] Hence, our primary objective was to assess the proportion and types of psychiatric morbidity and correlates in postpartum women in a tertiary

care hospital as per DSM-IV TR. Our secondary objective was to study the relationship between the psychiatric morbidity and specific sociodemographic and clinical variable correlates in postpartum women (within 4 weeks) in a tertiary care hospital.

MATERIALS AND METHODS

After obtaining the approval from the Institutional Ethics Committee, the study was conducted in a Tertiary Care Hospital attached to a Medical College at Mysore, India, during June–December 2011. The informed consent process was done by authors. 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. Then, written consent was taken on the consent form before recruiting them. The study sample consisted of women getting admitted for delivery in the Department of Obstetrics and Gynecology of the study venue. The sample size of the study was 152. All consenting consecutive patients who are in the postpartum period (<4 weeks as per DSM IV TR) were considered for the study. Women with mental retardation, organic mental disorders, and severe comorbid medical disorders were excluded from the study.

The sociodemographic data were obtained on a semistructured proforma consisting of items relating to patients’ age, social, educational, cultural background, education, and occupation of the spouse. Then, clinical data were obtained on a similar semistructured proforma comprising items related to patients’ family history of psychiatric illness, history of psychiatric illness, clinical details of delivery, sex of fetus, current episode including onset, duration, and timing of illness, and parity and state of physical health of infant. Following this, the Mini International Neuropsychiatric Inventory (MINI), a short, structured diagnostic interview designed to diagnose DSM-IV and ICD-10 psychiatric disorders for multicenter clinical trials and epidemiology studies as well as the first step in outcome tracking in nonresearch clinical settings was administered. In our study, an additional question about “obsession of child harm” was included while assessing the obsessive–compulsive disorder (OCD). In the end, the patients were rated on the Global Assessment of Functioning (GAF). All assessments of each consenting patient were completed on a single day. The patients were assessed on the last day of their inpatient care. It was usually the 3rd postpartum day in case of a normal delivery and the 7th or 8th day in case of a delivery by Episiotomy or Cesarean Section. Each patient’s assessment took about 60–70 min. Those with psychiatric problems were referred to the Department of Psychiatry for further management.

The sample size was calculated at 95% confidence interval

and 20% relative precision considering the prevalence of postpartum depression as 23.7%.^[15] The sample size was calculated using “n Master software (Developed by Department of Biostatistics, Christian Medical College, Vellore).” The statistical analysis of the data has been done using the Statistical Package for Social Sciences (SPSS) Windows version 15 (IBM Corporation, New York, USA). For frequencies, cross tabulations were done accordingly. Test of significance was done using independent *t*-test and Chi-square test. Results at $P < 0.05$ were considered statistically significant.

RESULTS

The study venue provides tertiary care and is a referral center for the District of Mysore and the four neighboring districts. There were 152 patients who were enrolled in the study. The age range varied from 18 to 35 years with a mean age of 23 ± 4.8 years. Table 1 shows the sociodemographic picture of the study population.

Of the 152 patients, 146 (96.1%) had received antenatal care as against only 6 (3.9%) who did not; similar numbers followed in the number of pregnancies - planned and unplanned. Majority delivered normally - 93 (64.2%) and at term - 148 (97.4%). Only 4 (2.6%) delivered preterm. Fifty-five (36.2%) had undergone episiotomy and only 4 (2.6%) underwent cesarean section. Table 2 shows the clinical profile of study population.

The psychiatric morbidity was seen in 67 (44%) of the study subjects as shown in Graph 1. Depressive disorder not otherwise specified (NOS), obsessive harm to the child, panic disorder, and social phobia were the different disorders identified. There were no cases of mania, bipolar disorder, psychosis, PTSD, or substance use disorder diagnosed across the sample. The GAF score averaged 87.8. Graph 2 and Table 3 represent the different psychiatric disorders seen in the study population.

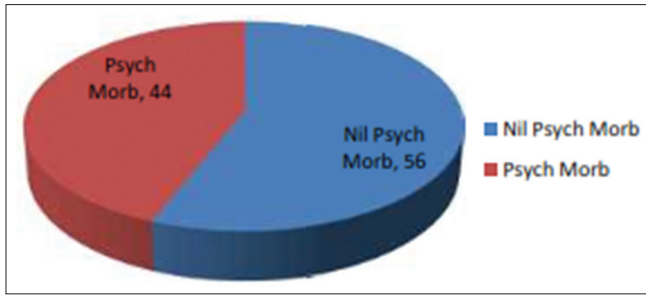
Psychiatric illness detected in the study population was studied for association with education, education of spouse, religion, type of family, occupation, occupation of spouse, antenatal care, consanguinity, order of child, number of dead children before this delivery, number of abortions before this delivery, term of delivery, mode of delivery, planning of pregnancy, and congenital anomalies. Statistically significant association was seen to be present between psychiatric illness and number of previous stillbirths and dead children before this delivery ($P = 0.045$). Details are given in the Table 4. There was no significant association found across any other sociodemographic or clinical variables.

Table 1: Socio-demographic profile

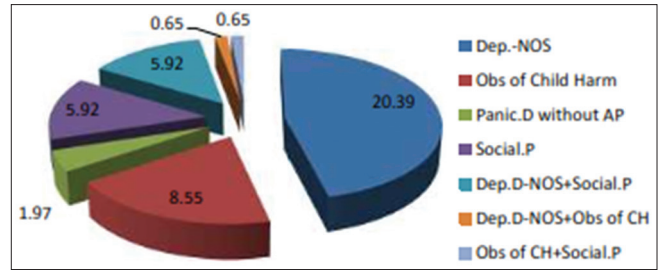
Socio-demographic variables	Variables classified	(N=152) n (%)
Education	Illiterates	25 (15.1)
	Less than 10 years	57 (37.5)
	Above 10 years	72 (47.4)
Religion	Hindu	122 (80.3)
	Muslim	30 (19.7)
	Christian	0 (0)
	Others	0 (0)
Occupation	Home maker	119 (78.3)
	Manual	29 (19.1)
	Skilled	4 (2.6)
Socio-Economic status	Low	124 (81.6)
	Middle	28 (18.4)
	High	0 (0)
Locality	Rural	51 (33.6)
	Sub-urban	41 (27.0)
	Urban	54 (35.5)
Family	Nuclear	56 (36.8)
	Joint/extended	96 (63.2)
Education of spouse	Illiterates	43 (28.28)
	Less than 10 years	49 (32.22)
	More than 10 years	60 (39.47)
Occupation of spouse	Manual	119 (78.28)
	Skilled	28 (18.42)
	Managerial	5 (3.28)

Table 2: Clinical profile of study population

Clinical data	Variables classified	n (%)
Antenatal care	Present	146 (96.1)
	Absent	6 (3.9)
Planning of pregnancy	Planned	146 (96.1)
	Unplanned	6 (3.9)
Term of delivery	Pre-term	4 (2.6)
	Term	148 (97.4)
	Post-term	0 (0)
Mode of delivery	Normal	93 (64.2)
	With episiotomy	55 (36.2)
	Caesarean section	4 (2.6)
Consanguinity	Nil	115 (75.7)
	First degree	20 (13.1)
	Second degree	15 (9.9)
	Third degree	2 (1.3)
Birth Order	First	3 (2.0)
	Second	86 (56.6)
	Third	45 (29.6)
	Fourth	17 (11.2)
	Fifth	17 (11.2)
Number of dead children before this delivery	Nil	129 (84.9)
	One	18 (11.8)
	Two	4 (2.6)
	Three	1 (0.7)
Abortions before this delivery	Nil	142 (93.4)
	One	8 (5.3)
	Two	1 (0.7)
	Three	1 (0.7)
Sex of baby	Male	82 (52.63)
	Female	70 (46.05)
Congenital anomalies	Present	7 (4.6)
	Absen	145 (95.4)



Graph 1: Pie chart showing psychiatric morbidity



Graph 2: Pie chart of different psychiatric disorders

Table 3: Psychiatric morbidity in study population

Diagnosis	Number	Percentage
Depressive disorder - NOS	31	20.39
Obsessions of child harm*	13	8.55
Panic disorder without Agoraphobia	3	1.97
Social phobia†	9	5.92
Depressive disorder - NOS with social phobia†	9	5.92
Depressive disorder - NOS with obsessions of child harm	1	0.65
Obsessions of child harm with social phobia†	1	0.65
Nil psychiatric diagnosis	85	55.92

*An additional question asked while evaluating OCD in MINI.

†Ante partum onset

Table 4: Association between psychiatric illness and number of children dead (Stillbirths and Neonatal deaths) prior to the present delivery

Number of children dead (stillbirths and neonatal deaths) prior to the present delivery	Total patients	Total number with psychiatric morbidity	Rate of occurrence (%)	"P" value
Nil	129	50	0.38	0.045*
One	18	12	0.66	
Two	04	03	0.75	
Three	01	01	1	

*P<0.05

DISCUSSION

This is a cross-sectional hospital-based study in which we assessed the proportion of psychiatric morbidity of postnatal women attending the Department of Obstetrics and Gynecology of the hospital. We found that the psychiatric morbidity was as high as 44%, found in 67 of 152 study subjects. The disorders were diagnosed using MINI, the diagnostic schedule based on DSM-IV TR. The overall psychiatric morbidity found in our study is comparable with that quoted as 33.4% in an epidemiological study. However, that study gave the prevalence rates of postnatal blues, postpartum depression, and psychosis. The presence of other psychiatric disorders was not evaluated. The tools used in the study included General Health Questionnaire, Hamilton Depression Rating Scale, and Edinburgh Depression Rating Scale. They assessed the

psychopathology on day 3 of delivery as well as after 3 weeks. Of 478 subjects, 129 (27%) had postnatal blues, 28 (5.86%) had postpartum depression and 3 (0.63%) had postpartum psychosis.^[16]

A higher rate reported in our study might be due to the different assessment tools used in our study and difference in the sample size. MINI is the diagnostic schedule that enables us to diagnose different psychiatric disorders. A majority of the studies have only looked into depression in postpartum period and report a prevalence rate ranging from 10% to 18%. Those earlier studies that have reported psychiatric morbidity in general, have followed the same traditional view of assessing the three frequently reported disorders, mentioned earlier.^[15-18] One of them has studied 100 consecutive postpartum women who are known cases of psychiatric syndromes, according to ICD-9. Interestingly, it infers that 67 patients had schizophrenic psychosis, which was the most common disorder. This was followed by postpartum blues (14), manic excitement (6), depressive psychosis (5), hysteria (4), hysterical psychosis (3), and psychogenic paranoid psychosis (1).^[18] However, the recent studies have thrown light on the other postpartum psychiatric syndromes. Different studies across Europe report a frequency of PTSD to be 0.1–8% although no Indian data are available, and it is said to be the fourth most common postpartum disorder. Further, many studies observe that other puerperium-related anxiety disorders such as “maternity neurosis,” phobia, and panic disorder are underemphasized. Even, obsession of child harm is not an uncommon phenomenon, found to be comorbid to postpartum depression in some cases.^[5,19] In our study, though we did not come across any PTSD, there were cases of panic disorder (2%) and social phobia (6%). However, all cases of social phobias were of antepartum onset. We have also reported two subjects who had obsessions of child harm and in one subject, it was comorbid to social phobia.

The most common psychiatric disorder in our study population was depression, seen in 41 subjects (27%). Among them, 9 had social phobia comorbid to depression and one had obsession of child harm. The

diagnosis of NOS category of depression was used, due to the fact that the majority of the patients seen were in the 1st week of postpartum period and had onset of mood symptoms following delivery, whereas the MINI specifies that the depressive disorder to be present for a duration of 2 weeks. Both Indian and Western literature quotes that postpartum depression is prevalent in the range of 10–15%.^[15] An Indian study done with a similar methodology as ours quotes the rate of postpartum depression to be 23%.^[15] Another Indian study has compared the rates of depression following normal and cesarean deliveries. It reports that 16% of those delivering by normal delivery had depression as compared to 20% by cesarean method, though the difference was not statistically significant.^[20] Our study reports a slightly higher rate of depression probably due to early assessment during the 1st week of delivery wherein some cases of blues might be identified that recover spontaneously after 2 weeks and are not picked up by MINI as separate entity.

Obsessions of child harm (10%), panic disorder without agoraphobia (2%), and social phobia (6%) were the other disorders identified in our study. Hysteria (conversion and dissociative reactions according to ICD-9) was seen in 7% of all psychiatric morbidity among 100 consecutive postpartum subjects in an Indian study though other anxiety disorders were not reported.^[18] In another study, 162 subjects were interviewed on scan during postpartum period. Anxiety disorders were found to be the most prevalent psychiatric comorbidity. Social phobia was seen in 10%, simple phobia in 12%, panic disorder with or without agoraphobia in 4%, and OCD in 7%. However, most of them were present antepartum.^[21] Similar disorders have been identified in our study. Further, all cases of social phobia and one case of OCD were antepartum.

The number of dead children before the present delivery was the only risk factor contributing for the development of psychiatric morbidity in our study. Among those who had one or more previous deaths, 16 of 19 had developed psychiatric problems, thus significantly differing from those who had no previous fetal deaths ($P = 0.045$). A review states that perinatal loss is a significant psychological trauma to parents both immediately as well as in the long term, and there is a tendency to focus exclusively on affective symptomatology in such cases.^[22] Another study reports findings similar to ours. In that study, 94 of 192 study subjects reported previous fetal deaths/abortions. Women with multiple losses were more likely to be diagnosed with major depression or PTSD than women with one pregnancy loss.^[23] Another study reports that a history of previous loss by miscarriage and stillbirth is associated with depression

during the current pregnancy. However, there is no significant difference in the psychopathology during current pregnancy associated with the type of loss in the past (miscarriage vs. stillbirth). It also infers that the depression persists beyond the current pregnancy even though it resulted in a healthy baby.^[24]

This is a cross-sectional, hospital-based study and we could analyze the data of all 152 subjects who participated in the study. We completed all assessments of one study patient on the same day. Some of the studies in this area are longitudinal, involving assessments during different stages of pregnancy and postpartum. Although prospective studies are ideal to study psychopathology in such disorders, there will be attrition due to patients losing for follow-ups. The aim of our study was to assess the proportion and types of psychiatric morbidity and correlates in postpartum women in a tertiary care hospital. The study was based on the thinking that there is a need for the assessment and care of psychiatric morbidity in a Tertiary Care Maternity Centre, as the Indian data in this area are not exhaustive. We have used MINI to evaluate a variety of psychiatric comorbidities unlike the earlier studies focusing on postpartum blue, depression, and psychosis based on unstructured interviews and psychopathology rating scales. Subjects were also assessed on GAF. We did not administer any psychopathology rating scales as we did not compare psychopathology prospectively.

CONCLUSION

The study reveals that psychiatric comorbidity is very common in the postpartum period and can be detected as early as 1st week after delivery. The overall psychiatric morbidity was 44% and the most common disorder was depression, seen in 26% women. Social phobia, OCD, and panic disorder were the other disorders diagnosed. The number of dead children (stillborn and neonatal death) before the present delivery is a risk factor for psychiatric morbidity during the current pregnancy. Social phobia identified as a common association, though antepartum, is a new finding and needs further replication. It needs a larger sample with a prospective assessment to generalize the findings of our study.

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Conflicts of interest

There are no conflicts of interest.

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