

RESEARCH

Psychiatric morbidities in postpartum females: a prospective follow-up during puerperium

Adya Shanker Srivastava, Bhaskar Mara, Sulekha Pandey,
Maheshwar Nath Tripathi, Balram Pandit, Jai Singh Yadav

Abstract

Aims and objectives: Postpartum psychiatric disturbances pose a significant mental health problem in community because of their impact on parent-infant and couple relationship. This study was carried out with the aim to find out psychiatric morbidities in postpartum females during puerperium so that a proper assessment of mental health and comprehensive management can be planned.

Methodology: Hundred females who had delivered in maternity ward of obstetrics and gynaecology department of Sir Sunderlal Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi were evaluated for mental status on day one (i.e. day of delivery), and followed-up till four weeks postpartum period. Psychiatric evaluation was done on the basis of structured proforma containing socio-demographic details and the text revision of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) diagnostic criteria for diagnosis. Brief Psychiatric Rating Scale (BPRS), Hamilton Anxiety Rating Scale (HARS), and Hamilton Rating Scale for Depression (HDRS) were used to assess the severity of the respective conditions.

Result: Psychiatric evaluation during postpartum puerperal stage revealed that 16 (16%) females had developed psychiatric morbidity. Twelve (12%) cases fulfilled the criteria for major depressive disorder and four (four per cent) patients had features of anxiety disorder. In 84 (84%) cases, postpartum period was uneventful and no psychiatric disturbance was found. Seventy five per cent females had joint family and good family support.

Conclusion: Major depressive disorder is the most common psychiatric morbidity observed in postpartum females during puerperium. The careful observation of females during postpartum puerperal stage may help in identification and proper management of mental state of such females, and also proper care of newborn.perspective.

Srivastava AS, Mara B, Pandey S, Tripathi MN, Pandit B, Yadav JS. Psychiatric morbidities in postpartum females: a prospective follow-up during puerperium. *Open J Psychiatry Allied Sci.* 2015;6:101-5. doi: 10.5958/2394-2061.2015.00005.1

Keywords: Mental Health. Major Depressive Disorder. Anxiety Disorders.

Correspondence: adya_shanker@yahoo.com, dr.maheshwar@gmail.com

Received on 19 December 2014. Revised on 29 January 2015. Accepted on 4 February 2015.

Pregnancy and postpartum period are widely considered to be periods of increased vulnerability to psychiatric disorders.[1] In most instances, pregnancy and childbirth evoke joy and anticipation, but in a few women, it could be a stressful event, occasionally severe enough to provoke mental illness.[2] Maternal psychiatric disorders during pregnancy and postpartum period are also associated with numerous adverse outcomes for the offspring. For these reasons, accurate information about the mental health status of women during pregnancy and postpartum period is urgently needed.

Review of literature

Puerperium is defined as the time from delivery of the placenta to the first six weeks after delivery. By six weeks

after delivery, most of the changes of pregnancy, labour, and delivery resolve and the body revert to the non-pregnant state. The word postpartum means after delivery (childbirth).

The association between the postpartum period and mood disturbance has been noted since the time of Hippocrates.[3] Studies have shown that a woman has a greatly increased risk of being admitted in a psychiatric hospital within the first month postpartum than at any other time in her life.[4,5] Up to 12.5% of all psychiatric hospital admissions of women occur during the postpartum period.[6]

There has long been controversy as to whether puerperal illnesses are separate, distinct illnesses,[7,8] or

episodes of known psychiatric disorder such as affective disorder or schizophrenic psychosis which occur coincidentally in the puerperium, or are precipitated by it.[9,10] Brockington and Cox-Roper[11] argued that childbirth should be seen as a general stressor like any other life event which can trigger an attack of illness across the whole spectrum of psychiatric disorder. This view is now generally accepted and supported by wide variety of clinical disorders and symptoms which follow childbirth.

Clinically, postpartum affective disorders are typically divided into three categories - postpartum blues, non-psychotic postpartum depression, and puerperal psychosis. Postpartum blues is the most commonly observed puerperal mood disturbance.[12] The symptoms begin within a few days of delivery, usually on day three or four, and persist for hours up to several days. The symptoms include mood lability, irritability, tearfulness, generalized anxiety, sleep and appetite disturbance. Postpartum blues is by definition time limited, mild, do not require treatment other than reassurance, and remit within days.[13,14]

Non-psychotic postpartum depression is most common complication of childbearing, occurring in ten to 15% of women after delivery.[15] It usually begins within the first six weeks postpartum; signs and symptoms are same as those associated with major depression occurring at other times. Suicidal ideation has also been reported.

Puerperal or postpartum psychosis is the most severe and uncommon form of postnatal illness with rates of one to two episodes per 1000 deliveries.[4] Clinical onset is rapid with symptoms presenting as early as the first 48-72 hours postpartum, majority of episodes developing within the first two weeks of delivery. Manic episodes are less frequent, accounting for 15% of psychotic reaction,[16] whereas schizophrenic disorder comprise about 30% of postpartum psychosis.[17]

The text revision of the fourth edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) uses postpartum specifier (i.e. onset of episode within four weeks postpartum), rest of the symptoms and signs mentioned in the diagnostic criteria for various psychiatric disorders are the same.[18] The tenth revision of the World Health Organization's International Statistical Classification of Diseases and Related Health Problems (ICD-10) describes postpartum psychiatric disturbances as 'Mental and behavioural disorders associated with the puerperium, not elsewhere classified'.[19]

Methodology

This study was conducted in Sir Sunderlal Hospital of Institute of Medical Sciences, Banaras Hindu University,

Varanasi. Females admitted for delivery in the Department of Obstetrics and Gynaecology from outpatient clinic were screened and only those who fulfilled the inclusion criteria were included in study. Serial sampling procedure was used on patients who fulfilled inclusion criteria. A written informed consent was taken from all cases explaining the nature of the study. This study is part of MD Thesis carried out in Department of Psychiatry and Department of Obstetrics and Gynaecology, Institute of Medical Sciences. Ethical Committee of the Institute had given the clearance for the study.

Females below 18 years and above 40 years of age, having any other associated physical illness, and past history of any psychiatric illness were excluded from the study. Also, cases of perinatal loss and stillbirth were not included in study.

All the females were evaluated postpartum on the day of delivery (i.e. day one) and followed till four weeks postpartum (as per DSM-IV-TR). Psychiatric evaluation was done on the basis of structured proforma containing socio-demographic details, and details of physical and mental status examination. Psychiatric diagnosis was made according to DSM-IV-TR criteria and severity of illness was assessed on the basis of the Hamilton Anxiety Rating Scale,[20] the Hamilton Rating Scale for Depression,[21] and the Brief Psychiatric Rating Scale.[22]

Analysis of data was based on statistical methods using chi-square test, t-test, p-value for significance, and correlation coefficient for correlation between different variables.

Results

Age range of the females was 18-36 years. Majority of the females (41%) was in the age range of 23-27 years, followed by 32% in 18-22 years, 19% in 28-32 years, and eight per cent in 33-36 years of age group. Most of them were Hindu (91%), followed by Muslim (eight per cent) and Christian (one per cent). Seventy eight per cent females belonged to rural, four per cent to semi-urban, and 18% to urban background. Most of the females were educated up to primary standard (44%). Seventeen per cent females had education up to secondary standard, 27% up to intermediate, and five per cent were graduates; seven per cent females were illiterate. Only seven per cent females belonged to upper socioeconomic status. Majority of the females belonged to middle class (76%), followed by lower class (17%). Most of them had joint family (75%). Twenty four per cent had nuclear family and only one (one per cent) female had extended family.

Out of the 100 females, 54 (54%) were primipara and 46 (46%) were multipara. Forty one females had delivered male and 58 females had delivered female baby. One

Table 1. Socio-demographic profile

Variable		% (N=100)	Psychiatric Morbidity (%)
Age (in years)	18-22	32	6.25
	23-27	41	24.39
	28-32	19	15.78
	33-36	8	12.78
Religion	Hindu	91	14.8
	Muslim	8	37.65
	Christian	1	0
Education	Illiterate	7	0
	Primary	44	41.17
	Secondary	17	35.29
	Intermediate	27	7.4
	Graduation	5	20
Occupation	Housewife	100	16
Economic status	Upper	7	23.03
	Middle	76	11.84
	Lower	17	23.53
Residence	Urban	18	33.33
	Semi-urban	4	0
	Rural	78	12.8
Type of family	Nuclear	24	20.83
	Extended	1	0.9
	Joint	75	14.66

female had delivered twins. Mode of delivery was normal vaginal delivery in 62 (62%) females, whereas caesarian section was performed in 38 (38%) cases. Sixty four (64%) females reported their pregnancy was planned, and 36 (36%) females said that pregnancy was unexpected and unplanned.

Follow up of postpartum females during puerperal stage revealed that out of the 100 females, 16 (16%) had developed psychiatric morbidity: 12 (12%) females had major depressive disorder and four (four per cent) had anxiety disorder. Postpartum or puerperal psychosis was not observed in any of the postpartum females. In 84 (84%) cases, postpartum period was uneventful and no psychiatric disturbance was reported.

Among 12 (12%) females who suffered major depressive disorder, five (five per cent) had mild depression, three (three per cent) had moderate depression, three (three per cent) had severe depression, and one (one per cent) had very severe depression. In anxiety disorder group, out of four (four per cent) cases, three (three per cent) cases had moderate anxiety, and one (one per cent) case had severe anxiety.

Table 2. Obstetric profile

Variable		% N=100	Psychiatric Morbidity %
Parity	Primipara	54	22.22
	Multipara	46	8.69
Mode of delivery	Normal	62	12.9
	Caesarian	38	21.05
Babies Born	Male	41	13.79
	Female	58	19.51
	Twins	1	0

Table 3. Distribution of psychiatric morbidity

Psychiatric morbidity	N=100 %	Severity, no. of cases, score*
Major depressive disorder	12	Mild, 5, 8-13 Moderate, 3, 14-18 Severe, 3, 19-22 Very severe, 1, >23
Anxiety disorder	4	Moderate, 3, 18-24 Severe, 1, >25
No psychiatric morbidity	84	-

*Score: The Hamilton Rating Scale for Depression (HRSD) for major depressive disorder, the Hamilton Anxiety Rating Scale (HARS) for anxiety disorder.

No correlation was observed between psychiatric morbidity and age group; educational standard; rural, semi-urban, or urban background; economic status; and type of family. Similarly, no correlation was observed between psychiatric morbidity and parity of female, planned or unplanned pregnancy, mode of delivery, and sex of the child delivered.

All the cases were admitted through outpatient department (OPD). Routine blood investigations were carried out during outdoor visits, and at the time of admission. No significant finding was found, blood reports were within normal limits as per inclusion criteria.

Discussion

Childbirth may indeed be a specific causal factor associated with an increased risk of mental illness.[23] Postpartum syndromes are defined as any psychiatric disorder in which childbirth is one of the interacting causal agents, a necessary but not sufficient cause.[24] Most of what is known about psychiatric problems among pregnant women comes from findings among clinical samples, often without non-pregnant control group. Many studies were limited by use of screening scales rather than diagnostic measure, e.g. DSM-IV. A set of risk factors, e.g. lack of social support, poor marital adjustment, and history of mental health problem may be associated with postpartum psychiatric disorder.[15]

The present study was carried out with the aim to find out how many postpartum females who did not have previous history of psychiatric disturbance, either before pregnancy or during pregnancy, develop psychiatric morbidity during puerperium. Absence of past history of psychiatric illness ruled out one possible vulnerability to develop postpartum psychiatric disturbance.

In our study, majority of the females (41%) were between age range 23-27 years and 44% had education up to primary standard. Muneer *et al.*[25] have also reported that majority of the patients in their study were young with mean age around 25 years and 33.1% were educated up to primary standard. A study by Wan *et al.*,[26] in a survey of Chinese women, have reported that postpartum depression was associated with lower income group. In

our study, psychiatric morbidity was observed more in females belonging to nuclear families as compared to joint families.

In the present study, among primipara females, 22.22% developed psychiatric morbidity, whereas in multipara group, only 8.69% developed psychiatric morbidity. Irfan and Badar[27] have also reported that majority of the females developing psychiatric illness were primipara (80%).

Females who underwent caesarian section suffered more (21.05%) as compared to females who had normal vaginal delivery (12.9%). Amr and Hussein Balaha[28] have also reported 22.6% psychiatric morbidity in caesarian mode of delivery.

Psychiatric morbidity was observed in 16% postpartum females during follow up in puerperal stage. Twelve per cent females were diagnosed as major depressive disorder and four per cent as anxiety disorder. Wan *et al.*[26] and Ramchandani *et al.*[29] have reported prevalence of postnatal depression as 15.5% and 16.4%, respectively. Britton[30] has reported prevalence of anxiety in 24.9% mothers, out of which only one per cent had severe anxiety. In 84% females, postpartum period was uneventful, and puerperal psychosis was not observed in any of the cases.

In the study of Gedam and Deka,[31] 12, three, and one per cent of cases had postpartum depression, panic disorder, and mixed anxiety and depressive disorder. Kalita *et al.*[32] found that the prevalence of generalized anxiety disorder was 11%, and mixed anxiety and depressive disorder was four per cent during postpartum period.

Present study found no correlation of postpartum psychiatric morbidity with socio-demographic and obstetric profiles. But, Gedam and Deka's study[31] showed significant correlation between socio-demographic variables such as age, education, socioeconomic status, religion, residence, type of family, and psychiatric morbidity. The obstetric variables such as birth order, mode of delivery, and gender of baby were also significantly correlated with psychiatric morbidity in their study.[31]

This study has shown that even if vulnerable cases with positive family history and history of previous psychiatric illness are excluded, the probability of prenatal mentally healthy females developing psychiatric morbidity during postpartum period are, though not very high, quite considerable, and must be taken care of for the proper management of mother and newborn.

Conclusion

The present study, a prospective follow up of postpartum females during puerperium, revealed that a

considerable number of females without family history or prenatal history of psychiatric illness develop psychiatric disturbance during postpartum period. Accurate information about mental health status of women during pregnancy and postpartum period may help in focused planning for development of management and intervention programmes. Early diagnosis and treatment of postnatal illness are imperative for the health and wellbeing of the mother and child.[33]

Source of support: Nil. **Declaration of interest:** None.

References

1. Cox JL, Murray D, Chapman G. A controlled study of the onset, duration and prevalence of postnatal depression. *Br J Psychiatry*. 1993;163:27-31.
2. Nonacs RM, Cohen LS. Postpartum psychiatric syndromes. In: Sadock BJ, Sadock VA, editors. *Kaplan & Sadock's comprehensive textbook of psychiatry*. 7th ed. New York: Lippincott Williams and Wilkinson; 2000. p. 1276-83.
3. Miller LJ. Postpartum depression. *JAMA*. 2002;287:762-5.
4. Kendell RE, Chalmers JC, Platz C. Epidemiology of puerperal psychoses. *Br J Psychiatry*. 1987;150:662-73.
5. Paffenbarger RS. Epidemiological aspects of mental illness associated with childbearing. In: Brockington IF, Kumar R, editors. *Motherhood and mental illness*. London: Academic Press; 1982. p. 21-36.
6. Duffy CL. Postpartum depression: identifying women at risk. *Genesis*. 1983;11:21.
7. Hays P. Taxonomic map of the schizophrenias, with special reference to puerperal psychosis. *Br Med J*. 1978;2:755-7.
8. Hamilton JA. The identity of postpartum psychosis. In: Brockington IF, Kumar R, editors. *Motherhood and mental illness*. London: Academic Press; 1982. p. 1-17.
9. Platz C, Kendell RE. A matched-control follow-up and family study of 'puerperal psychoses'. *Br J Psychiatry*. 1988;153:90-4.
10. Robling SA, Paykel ES, Dunn VJ, Abbott R, Katona C. Long-term outcome of severe puerperal psychiatric illness: a 23 year follow-up study. *Psychol Med*. 2000;30:1263-71.
11. Brockington IF, Cox-Roper A. The nosology of puerperal mental illness. In: Brockington IF, Kumar R, editors. *Motherhood and mental illness: causes and consequences*. 2nd ed. London: Wright; 1988. p. 1-16.
12. O'Hara MW, Neunaber DJ, Zekoski EM. Prospective study of postpartum depression: prevalence, course, and predictive factors. *J Abnorm Psychol*. 1984;93:158-71.
13. Pitt B. 'Maternity blues'. *Br J Psychiatry*. 1973;122:431-3.
14. Kennerley H, Gath D. Maternity blues. I. Detection and measurement by questionnaire. *Br J Psychiatry*. 1989;155:356-62.
15. O'Hara M, Swain A. Rates and risk of postpartum depression: a meta-analysis. *International Review of Psychiatry*. 1996;8:37-54.
16. Boyd DA. Mental disorders associated with childbearing. *Am J Obstet Gynecol*. 1942;43:148-63.

17. Kaij L, Nilsson A. Emotional and psychotic illness following childbirth. In: Howells J, editor. *Modern perspectives in psycho-obstetrics*. Edinburgh: Oliver and Boyd; 1972. p. 363-83.
18. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 4th ed. Text rev. Washington, DC: American Psychiatric Association; 2000.
19. World Health Organization. *The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines*. 10th rev. Geneva: World Health Organization; 1992.
20. Hamilton M. The assessment of anxiety states by rating. *Br J Med Psychol*. 1959;32:50-5.
21. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960;23:56-62.
22. Overall JE, Gorham DR. The brief psychiatric rating scale. *Psychol Rep [serial online]*. 1962;10:799-812 [cited 2015 Feb 9]. Available from: <http://www.amsciepub.com/doi/pdf/10.2466/pr0.1962.10.3.799>
23. Paffenbarger RS Jr, Steinmetz CH, Pooler BG, Hyde RT. The picture puzzle of the postpartum psychoses. *J Chronic Dis*. 1961;13:161-73.
24. Mester R, Klein H, Lowental U. Conjoint hospitalisation of mother and baby in post-partum syndromes - why and how. *Isr Ann Psychiatr Relat Discip*. 1975;13:124-36.
25. Muneer A, Minhas FA, Tamiz-ud-Din Nizami A, Mujeeb F, Usmani AT. Frequency and associated factors for postnatal depression. *J Coll Physicians Surg Pak*. 2009;19:236-9.
26. Wan EY, Moyer CA, Harlow SD, Fan Z, Jie Y, Yang H. Postpartum depression and traditional postpartum care in China: role of zuoyuezi. *Int J Gynaecol Obstet*. 2009;104:209-13.
27. Irfan N, Badar A. Determinants and pattern of postpartum psychological disorders in Hazara division of Pakistan. *J Ayub Med Coll Abbottabad*. 2003;15:19-23.
28. Amr MA, Hussein Balaha MH. Minor psychiatric morbidity in young Saudi mothers using Mini International Neuropsychiatric Interview (MINI). *J Coll Physicians Surg Pak*. 2010;20:680-4.
29. Ramchandani PG, Richter LM, Stein A, Norris SA. Predictors of postnatal depression in an urban South African cohort. *J Affect Disord*. 2009;113:279-84.
30. Britton JR. Pre-discharge anxiety among mothers of well newborns: prevalence and correlates. *Acta Paediatr*. 2005;94:1771-6.
31. Gedam SR, Deka K. Psychiatric morbidity in puerperium: incidence, associated socio-demographic and obstetric risk factors. *Dysphrenia*. 2014;5:119-26.
32. Kalita KN, Phookun HR, Das GC. Prevalence of anxiety disorders in postpartum period: a clinical study. *Eastern Journal of Psychiatry*. 2007;10(1&2):15-8.
33. Attia E, Downey J, Oberman M. Postpartum psychoses. In: Miller LJ, editor. *Postpartum mood disorders*. London, England: American Psychiatric Press; 1999. p. 99-118.

Adya Shanker Srivastava, Associate Professor, **Bhaskar Mara**, Ex-Resident, **Sulekha Pandey**, Professor, **Maheshwar Nath Tripathi**, Ex-Senior Resident, Department of Psychiatry, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh, India; **Balram Pandit**, Assistant Professor in Psychiatry, Department of Medical Sciences, College of Medicine, Nursing & Health Sciences, Fiji National University, Fiji; **Jai Singh Yadav**, Assistant Professor, National Drug De-addiction Centre, All India Institute of Medical Sciences, New Delhi, India.