

Original Research Article

A STUDY ON POSTPARTUM DEPRESSION AND ASSOCIATED RISK FACTORS AMONG POSTNATAL WOMEN IN GOVERNMENT TERTIARY HEALTH CENTRE IN TELANGANA

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ABSTRACT

Background: Postpartum Depression is a significant public health problem. It is a major depressive disorder with peripartum onset. It has adverse effects on the women, child, spouse and the entire family. Yet, it is under-taught, underdiagnosed and undertreated health problem. The objectives of the study were to determine the proportion and risk factors associated with postnatal depression.

Materials and Methods: An institutional based cross sectional study was conducted in a Government Tertiary Health Centre, Telangana from August to October 2021. The sample size of 200 was taken based on prevalence from literature and study subjects were selected by systematic random sampling. A pre designed semi structured questionnaire & Edinburgh Postnatal Depression Scale was used. The data was analyzed using MS excel and SPSS 25.

Results: Mean age of the study population was 26.33±4.05 years. About 16.8% of the subjects were found to be depressed.

Conclusion: Lower-socioeconomic status, lack of social support, unhealthy newborn and unplanned pregnancy were found to be significantly associated with postpartum depression.

Keywords: Postpartum depression, Edinburgh Postnatal Depression Scale, Tertiary health center.

INTRODUCTION

Depression is more common in women and is a cause of major disease burden in women of reproductive age due to confluence of a biological and social factors.^[1,2] Pregnancy is a state in which there are psychological and social changes apart from physiological changes.^[3] The antepartum and postpartum periods are considered as most vulnerable periods in a woman's life in context of psychological health with postpartum mood disorders representing the common maternal morbidity.^[4] The spectrum of postpartum psychiatric illness range from the mild postpartum blues to severe postpartum psychosis through postpartum depression.^[5] Postpartum depression [PPD] is the common complication of childbearing.^[6]

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) V, postpartum depression is a major depressive disorder with peripartum onset within 4 weeks,^[7] but in ICD 10 the duration considered is 6 weeks.^[8] It is a significant public health problem with prevalence ranging from 13 - 19% in high resource settings to 11 - 42% in low resource settings.^[9] In India the prevalence was found to be 22%.^[10]

PPD impacts woman, her child, partner and the entire family viz, immediate and long term effects on child in terms of nutrition, vaccination, cognition, social, emotional, behavior, infanticide, maternal suicide, etc.^[4,7,9,11,12] The risk factors associated with PPD are prenatal depression, marital relationship, marital status, low social support, socioeconomic status, unplanned/unwanted pregnancy, social isolation, multiparity, prepregnant psychiatric disease, female

gender of child, joint family , emergency cesarean sections, etc.^[12-14]

As maternal mortality drops in India, focus of care should be towards addressing maternal morbidity, especially psychiatric health disorders.^[15]

PPD is under-taught, under-diagnosed and under-treated.^[4,14] Timely screening can lead to early detection, thereby early initiation of treatment & prevention of adverse effects.^[12] Detection of postnatal depression is essential for postnatal mothers in need of intervention. However, limited Indian literature is available on postnatal depression. Hence the present study has been undertaken to determine the proportion & factors associated with PPD.

Objectives

1. To determine the proportion of postpartum depression among the postnatal women in Government Tertiary Health Centre in Telangana.
2. To determine the risk factors associated with postpartum depression among the study subjects.

MATERIALS AND METHODS

An institutional based cross sectional study was conducted in a Government Tertiary Health Centre, Telangana from August to October 2021. The sample size was calculated by taking the prevalence of 13.6% postpartum depression from a study by Kruthika K et al,^[4] at 5% significance and 5% absolute precision using the formula $n = \frac{4PQ}{L^2}$ ($n = 188$). However, 200 subjects were included. Systematic random sampling was done. On an average, 40 women attend Post-Natal clinic per day in the tertiary health centre. Over a period of 1 month duration of data collection, approximately 1200 postnatal women attend the health Centre, $n = \text{total no. of patients per month} / \text{sample size} = 1200/200 = 6$. Hence, every 6th patient was selected. All Postnatal women attending Post-

Natal clinic were included and those who were not willing to participate were excluded from the study.

A pre tested pre designed semi structured questionnaire (information was collected regarding demographic characteristics, associated risk factors) & Edinburgh Postnatal Depression Scale,^[16] was administered in their local language after taking informed consent. Edinburgh Postnatal Depression Scale was used to assess depression among the study population. It is an effective free to use, validated screening tool.^[9] The questionnaire has 10 items with a score of 0- 3, according to severity of symptoms. Items 3, 5-10 are reverse scored. A non-zero response to Item 10 indicates suicidal tendency. The scale has a maximum score of 30 and a score of 10 is considered possible depression. Subjects with score >13 are considered likely to be suffering from a depressive illness of varying severity and the same score cut off used to calculate the proportion of postnatal depression in the present study.^[4] Ethical approval was obtained from Institutional ethical committee. The data was compiled, tabulated & analyzed using MS excel and SPSS 25 (Trial version) software. Descriptive statistics included frequency, percentage distribution, mean and standard deviation. Inferential statistics included Chi-square test and binary logistic regression. $p < 0.05$ is considered to be statistically significant. Variables with $p < 0.05$ were included in binary logistic regression.

RESULTS

Socio - demographic Characteristics: In the present study, mean age of the study population was 26.33 ± 4.05 years. Majority of the subjects were in the age group of <26 years (55.5%), Hindus (57%), high school educated (32.5%), homemakers (60.5%), were from upper class (30.5%) and belonged to nuclear family (46%) [Table 1]

Table 1: Distribution of study population according to Socio - demographic Characteristics

Socio - demographic data	Frequency (n=200)	Percentage
Age		
< 26 years	111	55.5
>26 years	89	44.5
Religion		
Hindu	114	57
Muslim	58	29
Christian	28	14
Education		
Illiterate	28	14
Primary	02	1
Middle	10	5
High school	65	32.5
Intermediate	24	12
Graduation	44	22
Post - graduation	27	13.5
Occupation		
Homemakers	121	60.5
Employed	79	39.5
Socio-economic status		
Upper class	61	30.5
Upper middle	35	17.5
Lower middle	50	25
Upper lower	30	15

Lower	24	12
Family type		
Nuclear	92	46
Joint	20	10
Three generation	88	44

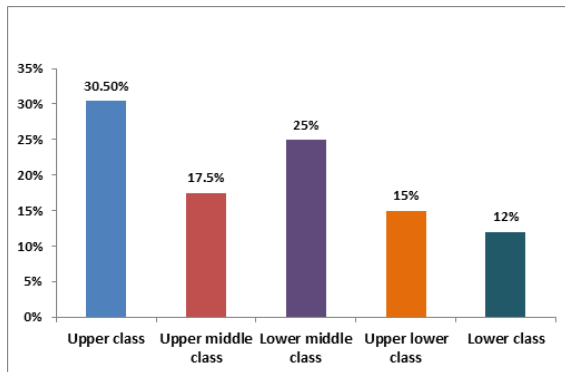


Figure 1: Distribution of study population according to socio-economic status

As shown from [Figure 2], about 16.8% of the subjects were found to be depressed according to Edinburgh Postnatal Depression Scale.

Risk Factors: Among the study subjects, majority (57%) of the postnatal women reported no history of past or present illness, about two-third (64%) of them received social support, more than three-fourth (78%) had undesirable birth outcome, majority had healthy newborn (84%), were primiparous (59%), had normal vaginal delivery (53%) and the present pregnancy was unintentional (51%) [Table 2]

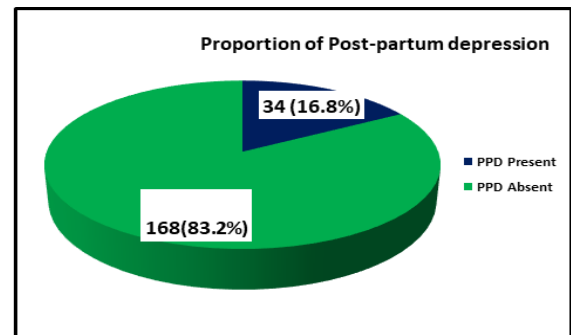


Table 2: Distribution of Risk Factor in study subjects

Risk factors	Frequency (n=200)	Percentage
High risk pregnancy		
Yes	86	43
No	114	57
Social support		
Present	128	64
Absent	72	36
Favorable gender		
Yes	44	22
No	156	78
New born health status		
Healthy	168	84
Unhealthy	32	16
Parity		
Primiparous	118	59
Multiparous	82	41
Mode of delivery		
Normal vaginal delivery	106	53
Caesarean section	94	47
Present pregnancy		
Planned	98	49
Unplanned	102	51

Factors Associated with Postnatal Depression: Upper-socioeconomic status, lack of social support, unhealthy newborn and unintentional pregnancy

were significantly associated with postpartum depression [Table 3]

Table 3: Factors Associated with Postnatal Depression

Factors	PPD present	PPD absent	Chi square and p value
Education			
Illiterate/ Less than high school educated	4 (10%)	36 (90%)	Chi square =1.53 P = 0.21
High school/ Higher educated	29 (18.1%)	131(81.9%)	
Socio-economic status			
Upper class	14 (25%)	42 (75%)	Chi square =4.07 P=0.04
Lower class	19 (13.2%)	125 (86.8%)	
Type of family			
Nuclear	16 (17.4%)	76 (82.6%)	Chi square =0.98 p=0.75
Extended	17 (15.7%)	91 (84.3%)	

High risk pregnancy			
Yes	18 (21%)	68 (79%)	Chi square =2.14 p=0.14
No	15 (13.2%)	99 (86.8%)	
Social support			
Present	11(8.6%)	117 (91.4%)	Chi square =16.13 P<0.0001
Absent	22(30.6%)	50 (69.4%)	
Favorable gender			
Yes	21(21%)	79(79%)	Chi square =2.94 P=0.08
No	12(12%)	88(12%)	
New born health status			
Healthy	21(12.5%)	147(87.5%)	Chi square =12.19 P <0.0001
Unhealthy	12(37.5%)	20(62.5%)	
Parity			
Primiparous	17 (14.4%)	101 (85.6%)	Chi square =0.91 P=0.33
Multiparous	16 (19.5%)	66 (80.5%)	
Mode of delivery			
Vaginal delivery	18 (17%)	88 (83%)	Chi square =0.03 P=0.84
Caesarean section	15(16%)	79 (84%)	
Present pregnancy			
Planned	11 (10.8%)	91 (89.2%)	Chi square = 4.93 P=0.02
Unplanned	22 (22.4%)	76 (77.6%)	

*According to Modified BG Prasad classification (2021) - upper, upper middle and lower middle class were classified as upper class and upper lower and lower were classified as lower class.

Highly Weighted Risk Factors amongst all the Risk factors through Binary Logistic Regression. Among the factors significantly associated with PPD in the study population, newborn health status was

found to be strong predictor of postpartum depression [Table 4]

Table 4: Highly Weighted Risk Factors amongst all the Risk factors through Binary Logistic Regression

Factors	β-coefficient	p- value	OR	95% CI
socioeconomic status	-0.785	0.047	0.456	0.210-0.989
social support	-1.543	<0.0001	0.214	0.096 – 0.474
New born health status	1.435	0.001	4.20	1.796-9.819
Planned pregnancy	-0.873	0.029	0.418	0.190-0.916

DISCUSSION

In the present study, it was observed that the mean age of the study population was 26.33±4.05 years and majority of the subjects were in the age group of <26 years (55.5%). Similar findings were reported by Pradhananga et al where the mean age was 26 ± 4.96 years and majority (50.6 %) of the subjects were < 25 years.^[13]

In the present study, only 10% of the subjects were from joint family. These findings contradicted a study conducted by Suguna et al, where 72.8% belonged to joint family.^[7]

In our study, 43% of the subjects belonged to high risk pregnancy. Contrast findings were reported by Suguna et al, where only 9.4% belonged to high risk pregnancy.^[7]

Among the study subjects, majority (59%) of the participants were primiparous. Similarly, in a study by Suguna et al there was primigravida preponderance (55%).^[7] The findings differed with Shenoy HT et al study, which reported multigravida preponderance (60%).^[9]

In the present study, PPD was found to be 16.8%. The findings were concurrent to the study by Pradhananga P et al,^[13] which reported 14.7% PPD.

Among the study population, it was observed that lack of social support, unhealthy new born, lower socio-economic status, unintended pregnancy were

significantly associated with post-natal depression. This indicates the importance of functional social support, desired pregnancy by women, healthy outcome of pregnancy and financial support. In our study, educational status, type of family type, high risk pregnancy, gender of newborn, parity, mode of delivery were not found to be significantly associated with postnatal depression. Comparable findings were reported by Shenoy HT et al,^[14] in which low social support, low birth weight were significantly associated with ppd, whereas parity, mode of delivery, gender of the new-born were not significantly associated with PPD.

CONCLUSION

More than half were aged >26.3 years, majority were literates, two third were unemployed, majority belonged to upper class.

Almost 20% of the study subjects were found to have PPD.

Social support deficit, morbid neonatal status, unintentional pregnancy and lower socio-economic status were found to be significantly associated and predictors of PPD.

Recommendations

- Counselling family members to provide care and support to the women.

- Encouragement of women to adopt contraceptive methods of their choice with special focus on post-partum contraception
- Training of frontline workers in standardized mental health screening tool and prompt referral.
- Performance based financial incentives for early detection and referral of high-risk women
- Provide comprehensive postpartum care with emphasis on early screening for postpartum psychiatric complications in addition to management of physical complications during routine postnatal check-ups.

REFERENCES

1. Ishtiaq Drs. Prevalence Of Depression And Associated Risk Factors Among Women Attending Gynecology & Obstetrics Clinics In Karachi, Pakistan. *World J Pharm Res.* 2017 Aug 1;256-67. Doi:10.20959/Wjpr20178-9071
2. Dai F, Cai Y, Chen M, Dai Y. Global trends of depressive disorders among women of reproductive age from 1990 to 2021: a systematic analysis of burden, sociodemographic disparities, and health workforce correlations. *BMC Psychiatry.* 2025 Mar 20;25(1):263. doi:10.1186/s12888-025-06697-4
3. Medicinski pregled 2004 Volume 57, Issue 3-4, Pages: 144-148. <https://doi.org/10.2298/MPNS0404144B>)
4. K. K, Udayar SE, Mallapur MD. An epidemiological study of postnatal depression among women availing maternal health services in rural areas of Belagavi, Karnataka, India. *Int J Community Med Public Health.* 2017 Feb 22;4(3):759. doi:10.18203/2394-6040.ijcmph20170754
5. <https://womensmentalhealth.org/specialty-clinics/postpartum-psychiatric-disorders-2/>)
6. K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression *N Engl J Med* vol. 347, No 3, July 18, 2002, 194-199
7. Suguna A, Naveen R, Surekha A. Postnatal Depression among Women Attending A Rural Maternity Hospital in South India. *Ntl J of Community Med* 2015; 6(3):297301.
8. Kumar N, Nagaraj AK, Koudike U, Majgi SM. Psychiatric Morbidity and Correlates in Postpartum Women in a Tertiary Care Hospital. *Indian J Psychol Med.* 2016 Jul-Aug;38(4):309-14. doi: 10.4103/0253-7176.185956. PMID: 27570341; PMCID: PMC4980897.
9. 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.
10. Upadhyay RP, Chowdhury R, Aslyeh Salehi, Sarkar K, Singh SK, Sinha B, Pawar A, Rajalakshmi AK, Kumar A. Postpartum depression in India: a systematic review and meta-analysis. *Bull World Health Organ.* 2017 Oct 1;95(10):706-717C. doi: 10.2471/BLT.17.192237. Epub 2017 Sep 5. PMID: 29147043; PMCID: PMC5689195.
11. Johnson AR, Edwin S, Joachim N, Mathew G, Ajay S, Joseph B. Postnatal depression among women availing maternal health services in a rural hospital in South India. *Pak J Med Sci.* 2015 Mar-Apr;31(2):408-13. doi: 10.12669/pjms.312.6702. PMID: 26101501; PMCID: PMC4476352.)
12. Nielsen, D., Videbech, P., Hedegaard, M., Dalby, J. and Secher, N.J. (2000), Postpartum depression: identification of women at risk. *BJOG: An International Journal of Obstetrics & Gynaecology*, 107: 1210-1217. <https://doi.org/10.1111/j.1471-0528.2000.tb11609.x>
13. Prevalence of Postpartum Depression in a Tertiary Health Care Priza Pradhananga,1 Prajita Mali,1 Lisasha Poudel,1 Minani Gurung2 1 Department of Public Health, Om Health Campus, Kathmandu, Nepal, 2 Nepal Institute of Development Studies, Kathmandu, Nepal
14. Braz J Med Biol Res 31 (6) • June 1998<https://doi.org/10.1590/S0100-879X1998000600012>
15. Meh C, Sharma A, Ram U, Fadel S, Correa N, Snelgrove JW, Shah P, Begum R, Shah M, Hana T, Fu SH, Raveendran L, Mishra B, Jha P. Trends in maternal mortality in India over two decades in nationally representative surveys. *BJOG.* 2022 Mar;129(4):550-561. doi: 10.1111/1471-0528.16888. Epub 2021 Sep 15. PMID: 34455679; PMCID: PMC9292773.
16. Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.validated.