A Study on Postnatal Depression Among Mothers Availing Health Services At Government Kasturba Gandhi Hospital, Triplicane, Chennai District, Tamilnadu: A Cross-Sectional Study

J Sri Keerthan Ram[1], Dilip Kumar[2], Bharathi priya[3], Bharath patel[4], Naveena[5]
[2, 3, 4, 5] CRMI
[1, 2, 3, 4, 5] Government Medical College Omandurar Government Estate

Abstract-

Background:

Postpartum depression (PPD) is a common mental health disorder affecting women following childbirth, with notable consequences for both mother and child. It is characterized by persistent sadness, emotional instability, fatigue, and impaired daily functioning. Unlike the transient "baby blues," PPD is more severe and long-lasting, requiring timely recognition and intervention. The condition may begin during pregnancy or within the first year after delivery, depending on varying clinical definitions. Early identification and appropriate management are essential to reduce its impact on maternal well-being, infant development, and family dynamics. The postpartum period is a critical phase marked by significant physical, hormonal, and psychological changes in a woman's life. While many women adjust well, a considerable proportion experience mental health challenges, among which postpartum depression is one of the most prevalent. Factors such as hormonal fluctuations, lack of social support, stress, and prior mental health issues contribute to its development. Despite its frequency, PPD often remains underdiagnosed due to stigma, lack of awareness, and limited screening in routine care. Addressing postpartum depression is essential for improving maternal health outcomes and ensuring healthy child development.

Objectives:

To determine the prevalence of Post-Natal Depression among Mothers in the outpatient department of Kasturba Gandhi Hospital, Triplicane, Chennai-02, Tamil Nadu

Methods:

A cross-sectional study was conducted among 370 mothers availing health services at Kasturba Gandhi Hospital. After getting consent from them, Questionnaire for collecting socio-demographic details and a validated Tamil version (CMC Vellore) of Edinburgh Postnatal Depression Scale was used to screen for postnatal depression among mothers. Data was collected using Excel and analysed using SPSS version 16.

Result*:*

Out of 372 participants, 87 were found to have depression(23.4%). It was found that PPD is significantly associated with: Stress, Mental health problems and any other comorbidities.

Conclusion:

The present study reveals a considerable prevalence of postnatal depression among the study participants, emphasizing the need for timely identification and intervention.

Keywords: Depression, Postpartum Depression, Postnatal Mothers

I. INTRODUCTION

Globally, depression is the primary cause of illness and disability. More than 300 million people are now living with depression, with an increase of more than 18% between 2005 and 2015[1]. Depression is twice as common in women as men during the childbearing years. Postnatal depression, also known as postpartum depression, is defined as depression with onset usually within 6 weeks of delivery or within one year of childbirth[2]. Globally, about 10% of pregnant women and 13% of post-natal mothers experience a mental disorder, primarily

depression. In developing countries, it is 15.6% during pregnancy and 19.8% after child birth[3].

Depression or anxiety during pregnancy, recent stressful life events, poor social support, intimate partner violence and a past history of depression are strong risk factors of postnataldepression.Lowself-esteem,maternalneuroticism,childcare stress, difficult infant temperament, poor relationship with the partner, single marital status and lower socioeconomic status are the other risk factors[4].

Postnatal depression affects the mother's routine activities and self-care, mother-infant attachment, breastfeeding, and quality of infant care, and its growth and development. In case of severe illness, it increases the risk of suicide and death and associated psychotic illnesses, increases the risk of infanticide[3].Young children of mothers with postpartum depression have greater cognitive, behavioral, and interpersonal problems. Drawn out scenes of postpartum misery or repetitive scenes of maternal sadness are most likely to have long-term impacts on the child[4].Another well- known result of postnatal depression is the degradation of partner's mental health, as well as poor marital and family ties. Early diagnosis and treatment, including counselling and psychological support, will be made easier with the inclusion of mental health into maternity and child health services [5].

Worldwide many studies have addressed the burden of postnatal depression. But there is paucity of this evidence regarding this aspect in this geographical region. So the present study is designed to assess the burden of postnatal depression and associated risk factors and counsel them with the help of psychiatry team among the postnatal mothers availing health services in Post Natal OP, Government Kasturba Gandhi Hospital,Triplicane,Chennai district, Tamil Nadu.

Methodology:

Study type: Observational - Cross Sectional Study
Study setting: Post Natal OPD, Government Kasturba Gandhi Hospital, Triplicane, Chennai district
Study participants: Post-natal Mothers attending the clinic after 6 weeks to 6 months of delivery at Post Natal OPD, Government Kasturba Gandhi Hospital will be recruited into the study

Inclusion criteria:

Post-natal mothers (6 weeks to 6 months) and able to comprehend Tamil will be included

Exclusion criteria:

1. Patients with known history of severe psychiatric illness
2. Mothers who cannot comprehend Tamil and who do not give consent

Study duration: Three months (October 2025-December 2025)

Sample size

For an expected prevalence (p) of 22% of Postpartum Depression from the previous study[(6)], keeping relative precision 20% and 95% confidence limits, sample size was calculated as 370.

Study tool:

Questionnaire for collecting socio-demographic details and validated Tamil version (CMC Vellore) of Edinburgh Postnatal Depression Scale was used to screen for postnatal depression among mothers

Study variables:

Socio-demographic characteristics of the mothers such age, education, occupation, religion socio-economic status, place of residence, type of family, marital status, type of delivery, time since delivery, Obstetric and pregnancy complications (if any), parity, or gender of child, duration of illness, other co-morbidities, and use of any medications. Data on other predisposing factors such as history of depression or anxiety during pregnancy, stressful recent life events, poor relationship with partner, poor social support and a previous history of depression, childcare stress was collected.

Brief procedure:

Mothers attending the clinic after 6 weeks to 6 months of delivery were approached for the study. The nature and purpose of the study were explained to the mothers, and a written informed consent was obtained from the mothers. Confidentiality is ensured.

A total of 372 subjects were recruited into the study based on selection criteria. Mothers were recruited by consecutive sampling technique. Socio-demographic details were collected from mothers who consented for the study, Data was gathered utilizing a structured questionnaire anchored in the validated Tamil version (CMC Vellore) of the Edinburgh Postnatal Depression Scale. This comprehensive

tool is intended to discern postnatal depression among mothers, administered through one-on-one interviews conducted within the postnatal clinic at the esteemed Kasturba Gandhi Hospital. Responses are diligently recorded. The questionnaire encompasses 10 crafted inquiries, each presenting four distinct options, with each assigned a score ranging from 0 to 3 on the depression scale. Prior to recording their responses, thorough explanations regarding both the symptoms of depression and the questionnaire itself were provided to the postnatal mothers. Subsequently, their responses were recorded.

Statistical analysis:

Data was entered in MS Excel and analyzed using SPSS V.16 software. Descriptive analysis was done. Categorical variables are expressed as proportions, and continuous variables are expressed in mean and standard deviations. The categorical variables were compared using Chi square test; p value less than 0.05 was considered statistically significant.

II. RESULTS

From table 1:

Among the 372 study participants, the majority, 187 (50.26%), belonged to the age group of 25–30 years, of whom 43 (29.89%) reported depression. In terms of educational status, most participants, 251 (67.87%), were at the intermediate level, and among them, 49 (19.52%) reported depression (Table 1). Regarding family type, the majority, 193 (51.88%), belonged to joint families, of whom 48 (24.87%) had depression (Table 1). With respect to the type of delivery, 162 (43.54%) participants had normal vaginal delivery, and among them, 35 (21.60%) reported depression.

From table 2:

Among the 372 study participants, the majority, 296 (79.56%), did not have any obstetric complications; among them, 63 (21.28%) reported depression. Similarly, 297 (79.83%) participants did not have any comorbidities, of whom 57 (19.19%) were found to have depression. With regard to mental health problems, 304 (81.72%) participants reported no prior issues, and among them, 48 (15.78%) had depression. In terms of stress, 295 (79.30%) participants reported no stress, among whom 34 (11.52%) experienced depression. Furthermore, the vast majority, 370 (99.46%), did not have a family history of mental health problems; among them, 87 (23.51%) reported depression.

TABLENO.1Socio-demographic characteristics of the study Participants(N=372)

Category	sub-category	Depression n=87(%)	No-Depression n=285(%)	Total (%)	p
Mother's Age	<25 years	44(23.78)	141(76.22)	185(49.73)	0.875
	25to30 years	43(29.86)	144(70.14)	187(50.26)	
Mother's Education status	Middle school	9(37.5)	15(62.5)	24(6.45)	0.002*
	Intermediate	49(19.52)	202(80.48)	251(67.47)	
	Graduate	22(25.58)	64(74.42)	86(23.11)	
	Professional	7(63.63)	4(36.37)	11(2.95)	
Father's education	Middle school	1(14.28)	6(85.72)	7(1.88)	0.005*
	Intermediate	44(31.42)	96(68.58)	140(37.63)	
	Graduate	37(29.90)	177(70.10)	214(57.52)	
	Professional	5(45.45)	6(54.55)	11(2.95)	
Type of family	Nuclear Joint	48(24.87)	145(75.13)	193(51.88)	0.456
	3-Generation	25(19.68)	102(80.32)	127(34.13)	
		14(26.92)	38(73.08)	52(13.97)	
Method of delivery	Assisted	34(26.35)	95(73.65)	129(34.67	0.612
	C-Section	18(22.22)	63(77.78)	81(21.77)	
	Normal-V	35(21.60)	127(78.40)	162(43.54)	

*p<0.05 is considered as significant

TABLENO.2 Comparison of risk factors among the study participants(N=372)

Category	sub-category	Depression (%)	No-Depression (%)	Total	p
Obstetrics complications	Yes	24(31.57)	52(68.43)	76(20.43)	0.059
	No	63(21.28)	233(21.28)	296(79.56)	
Comorbidities	Yes	30(40.00)	45(60.00)	75(20.16)	0.001*
	No	57(19.19)	240(80.81)	297(79.83)	
Mental health problem	Yes	39(57.35)	29(42.65)	68(18.27)	0.001*
	No	48(15.78)	256(84.22)	304(81.72)	
Stress	Yes	53(68.83)	24(31.17)	77(20.69)	0.001*
	No	34(11.52)	261(88.48)	295(79.30)	
Family H/o mental health problem	Yes	0(0)	2(100.00)	2(0.53)	0.433
	No	87(23.51)	283(76.49)	370(99.46)	

*p<0.05 is considered as significant

III. DISCUSSION

The PPD has an impact on the cognitive, emotional, and social development of the mother. Furthermore, maternal depression has an impact on the physical and psychological health of the children. Depressed mothers are unable to care

for their newborn babies, and some mothers have thoughts of hurting their infants, which may lead to poor childcare.

The present study identified a considerable proportion of mothers experiencing postnatal depression within the period of 6 weeks to 6 months postpartum, highlighting its significance as a public health concern. The prevalence observed in this study (23.5%) is consistent with estimates reported by the World Health Organization, which suggest that approximately 10–20% of postnatal women experience depressive disorders, and also falls within the range reported across India in recent literature. This reinforces the persistent and substantial burden of postnatal depression across diverse populations.

Although the anatomical and physiological recovery from delivery usually occurs within 6 weeks, PPD can be diagnosed up to 1 year after delivery. PPD is more severe there is no single cause for this type of depression, and it can persist for months or years. Cross-sectional studies help in understanding the pattern of diseases in the population. Various risk factors for depression were identified in the process of the study.

Out of 10 variables (Mother's age, Mother's educational status, Father's educational status, Type of family, Method of delivery, Obstetrics complications, Comorbidities, Mental health problems, Stress, Family H/O mental health problem) 5 were statistically significant with depression.

They are:

- Mother's educational status (p=0.002),
- Father's educational status (p=0.001),
- Comorbidities (p=0.001),
- Mental health problems (p=0.001),
- Stress (p=0.001)

Mother's educational status and father's educational status play an important role in this study and have an association with PPD. Similar results were obtained in Zakeri MA et al[7]. Mode of delivery was considered an important factor in previous studies as it showed positive correlation with depression. Such results were obtained in Hanach N[8]. However, no such association was obtained in this study (p=0.612). Comorbidities like anemia and diabetes mellitus are associated with depression. Significant results were obtained in Selvarajetal[9]. Mental health problems in mothers are associated with depression. Same results were obtained in Almuqbil M et al[10]. Stress is an important factor in PPD and is associated with depression and similar results were obtained in Lin Y et al[11].

Some studies show that depressive mothers are not interested in breastfeeding their babies properly, which will lead to underweight and stunting babies[13]. The PPD has an impact on the cognitive, emotional, and social development of the mother. Furthermore, maternal depression has an impact on the physical and psychological health of the children. Depressed mothers are unable to care for their newborn babies, and some mothers have thoughts of hurting their infants, which may lead to poor childcare. Some earlier studies suggested PPD following Caesarian delivery[14]. However, the current study suggests that mode of delivery alone cannot be a cause of PPD. It is associated with other comorbidities such as Anemia or Chronic health illness can be a major psychological factor causing Stress.

Unlike many longitudinal studies that assess the progression of depressive symptoms over time, the present study utilized a cross-sectional study design, providing immediate results of the prevalence and associated factors among postnatal mothers[15]. Cross-sectional studies are more valuable for identifying the burden of disease and key risk factors. The prevalence and risk factor patterns observed in this study are largely consistent with another review, thereby validating its findings at a local level. At the same time - there are minor differences regarding the mode of delivery - which indicate there may be regional differences.

The present study has several strengths, including the use of the Edinburgh Postnatal Depression Scale, which ensures reliable and culturally appropriate screening, along with an adequate sample size and assessment of multiple risk factors. The study provides valuable region-specific data and has important clinical implications for early identification and intervention. However, certain limitations must be acknowledged. The cross-sectional study design restricts the ability to establish causal relationships, and the hospital-based sampling limits generalizability to the wider population. Additionally, reliance on self-reported data introduces the possibility of recall and social desirability bias. The exclusion of mothers with severe psychiatric illness and the single time-point assessment may further underestimate the true burden and limit understanding of the progression of postnatal depression.

IV. RECOMMENDATION

We propose establishing a counseling session for both AN and PN mothers. To intervene at the righttime,we have to continuously follow-up and treat postnatal mothers with depression. We advised postnatal mothers who have depression to visit the Department of psychiatry at the

Government Omandurar Medical College and Hospital for further follow up.

FINANCIAL SUPPORT AND SPONSORSHIP: Nil

CONFLICT OF INTEREST:

There is no conflict of interest.

REFERENCES

[1] World Health Organization. Mental Health: Depression Let's talk [Internet]. 2016 [Updated 2016 April 13; Cited 2017 Oct 8]. http://www.who.int/mental_health/management/depression/en/

[2] Johnson AR, Edwin S, Joachim N, Mathew G, Ajay S, Joseph B. Postnatal depressionamongwomenavailingmaternalhealthservicesinaruralhospitalin South India. Pak J Med Sci 2015;31(2):408-413.

[3] World Health Organization. Maternal Mental Health [Internet]. 2016 [Updated2016 April 13; Cited 2017 Oct 8]. http://www.who.int/mental_health/maternal-child/maternal_mental_health/en/

[4] Stewart DE, Robertson E, Dennis CL, Grace SL, Wallington T. Postpartum depression: Literature review of risk factors and interventions2013:17. Available at http://www.who.int/mental_health/prevention/suicide/lit_review_postpartum_depression.pdf

[5] Burkel. The impact of maternal depression on familial relationships. Int Rev. Psychiatry. 2003;15(3):243-255

[6] Ravi Prakash Upadhyay Ranadip Chowdhury, Aslyeh Salehi, Kaushik Sarkar, BireshwarSinha,eAdityaPawar,fAaryaKrishnanRajalakshmif &AmardeepKumarg T. Postpartum depression, Bull World Health Organ 2017;95:706–717B. https://www.who.int/bulletin/volumes/95/10/17-192237.pdf

[7] Zakeri MA, Khoram S, Bazmandegan G, Ghaedi-Heidari F, Talebi B, Ramezani N, Ahmadi F,Kamiab Z, Dehghan M. Post partum depression and its correlates: across-sectional study in southeast Iran. BMC Women's Health. 2022 Sep 22;22(1):387. doi: 10.1186/s12905-022-01978-6. PMID: 36138378; PMCID: PMC9494808.

[8] Hanach N, Radwan H, Fakhry R, Dennis CL, Issa WB, Faris ME, Obaid RS, Al Marzooqi S, Tabet C, De Vries N. Prevalence and risk factors of postpartum depression among women living in the United Arab Emirates. Soc Psychiatry PsychiatrEpidemiol.2023Mar;58(3):395-407.doi:10.1007/s00127-022-02372-1. Epub 2022 Oct 14. PMID: 36239744; PMCID: PMC9971080.

[9] SelvarajR, Ramakrishnan J,Sahu SK,KarSS,LakshamKB,PremarajanKC,Roy G. High prevalence of anemia among postnatal mothers in Urban Puducherry: A community-basedstudy.J Family MedPrim Care.2019Aug28;8(8):2703-2707. doi: 10.4103/jfmpc.jfmpc_386_19. PMID: 31548960; PMCID: PMC6753800.

[10] Almuqbil M, Kraidiye N, Alshmaimri H, Ali Kaabi A, Almutiri A, Alanazi A, Hjeij A, Alamri AS, Alsanie WF, Alhomrani M, Asdaq SMB. Postpartum depression and health-related quality of life: a Saudi Arabian perspective. PeerJ. 2022 Oct 14;10:e14240.doi:10.7717/peerj.14240.PMID:36262413; PMCID:PMC9575671.

[11] Liu Y, Zhang L, Guo N, Jiang H. Postpartum depression and postpartum post-traumaticstressdisorder:prevalenceandassociatedfactors.BMCPsychiatry.2021 Oct 5;21(1):487. doi: 10.1186/s12888-021-03432-7. PMID: 34610797; PMCID: PMC8491367.

[12] https://womensmentalhealth.org/posts/using-epds-measure-postpartum-depression-severity/#:~:text=Mild%20depression%20(7%E2%80%9313),conventional%20scales%20of%20depression%20severity

[13] https://pubmed.ncbi.nlm.nih.gov/?term=%22Suryawanshi%20O%22[Author]https://pmc.ncbi.nlm.nih.gov/articles/PMC9851410/

[14] https://pubmed.ncbi.nlm.nih.gov/?term=Deneux-Tharaux+C&cauthor_id=39481774 https://pubmed.ncbi.nlm.nih.gov/39481774/

[15] https://pubmed.ncbi.nlm.nih.gov/37865410/