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"A STUDY OF PREVALENCE AND PREDICTORS OF DEPRESSION, ANXIETY AND STRESS AMONG POSTNATAL WOMEN – HOSPITAL-BASED CROSS-SECTIONAL STUDY"

Psychiatry

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ABSTRACT

Background: The physical and mental changes occur in women after childbirth. A few bodily illness are dominated by emotional components, in that the most common is postpartum depression, but that is rarely identified at the time of delivery. postpartum depression has a long-term impact on mental health, it may increase the future risk of depression[6]. Not only postpartum depression, anxiety, and stress are also common in that period, which is usually overlooked, but it may also cause significant morbidity to the mother, child, and family. **Aim:** To study the prevalence and predictors of Depression, Anxiety, and Stress among postpartum mothers. **Objective of the study:** To know the role of socio-demographic factors on Depression, Anxiety, and Stress among postpartum mothers. To know the impact of Depression, Anxiety, and Stress among postpartum mothers and associated predictors. **Methodology: Study design:** a cross-sectional study using a convenient sampling method, with a study sample consisting of 100 postpartum mothers who are attending King George Hospital and Government Victoria Hospital, Visakhapatnam. Both Outpatients and inpatients were included in the study. Bivariable and multivariable logistic regression analyses were used for the study

Study tools:

(1) Semi-structured Performa for sociodemographic data
(2) Edinburgh postnatal depression rating scale
(3) DASS – 21 items (depression, anxiety, stress scale)

Results: In post-natal women, the prevalence of depression is over 22%, depression and anxiety are around 16%, depression and stress are around 17%, and stress and anxiety are around 16%. Women who have an addicted husband experience depression 7 times higher in comparison with other women {7.4 (CI1.03-54.34)}. Women with financial troubles at home are 12 times {12.04(CI 2.77-47.82)} more affected, women with a history of obstetric issues are 10 times {10(CI 2.45-47.82)} more affected, and women with a history of low birth weight or preterm labor are 8 times {8.53(CI 1.68-43.10) } more prone to depression. Statistically, significance is found in financial difficulties, past H/O of obstetric complications, husband and marital conflicts, domestic violence, and addiction husband. **Conclusion:** Early screening and detection of depression, anxiety,and stress in postnatal women decrease the morbidity and severity. Focus on psychosocial well-being decreases the risk. Appropriate pharmacological and psychotherapies should be given after identification

KEYWORDS

Depression, anxiety, stress, Post-natal, Prevalence, Associated risk factors.

INTRODUCTION:

During the postnatal period, a woman undergoes multiple physical and mental changes. Physical changes that occur during the postnatal period are loss of weight and hair, and breast sagging[1]. mothers also experience emotional change and stress due to difficulty in managing the new born[2]. In addition to this, they are certain social factors like financial difficulties, traditional postpartum practices, and social and sexual relationships[2] with the husband also play a role[1]. These all lead to the development of depression, anxiety, and stress in postpartum women.

In developing and underdeveloped countries risk of increasing Postpartum depression is associated with a poor relationship with in-laws, an unemployed husband, multiparity and female gender[3]. incidence of Postpartum depression in developing countries is around 10-15% in 1st 3 months. Hence it acts as a major role in the mother and child relationship. using appropriate and validated tools is more efficient than a clinical interview.

Depression is most common in a postpartum period which usually occurs within 4 weeks of delivery ranging from mild to severe, according to WHO, postpartum depression is also known as postpartum blues with depressed mood, anhedonia & low energy within a few days of delivery[4]. DSM 5 categorizes it as major depression with peripartum onset. Taking care of women who suffer from mild to moderate depressive disorder may be overlooked and result in late diagnosis and increased chances of postpartum depression.

Anxiety disorder is more common in postpartum women, usually seen in 1st 6 months of postpartum, with a prevalence rate of 5-9% which include excessive worry associated with restlessness, fatigue, poor concentration, and sleep disturbances[5]. postpartum anxiety is sometimes associated with disrupted mother-infant attachment, Postpartum depression, reduced breastfeeding, risk of infant abuse associated with delayed cognitive development

Stress disorder occurs in 1st 6 weeks of postpartum which includes difficulty to wind down, overreacting to the situation, nervousness, and agitation, and the prevalence rate is around 20-30%. risk factors associated with stress are cesarean delivery, difficulty with in-laws, lack of sleep, and postpartum pain[6].

The main purpose of this study is to determine the prevalence and risk factors associated with postpartum depression, anxiety, and stress among postpartum women in tertiary care hospital

AIM:

To study the prevalence and predictors of depression, anxiety, and stress among postpartum mothers

OBJECTIVES:

To know the role of socio-demographic factors on Depression, Anxiety and Stress among postpartum mothers

To know the impact of Depression, Anxiety, and Stress among postpartum mothers and associated predictors

METHODOLOGY:

This study has been conducted after getting approval from the institutional ethics committee, at Andhra medical college. It is a hospital-based cross-sectional study done at king George hospital and general Victoria hospital, Visakhapatnam. All postnatal women who attended Obstetric and gynecology department in KGH and VGH were

taken into the study, patients were taken from outpatient and inpatient within 6 weeks of delivery irrespective of the mode of delivery.

Inclusion criteria

includes mothers who are in the postpartum period, mothers who are willing to give informed consent at the time of starting of study with a minimum educational qualification of 7th standard.

Exclusion criteria

include who are not willing to give informed consent and mothers with an organic mental disorder, head injury, intellectual disability, neurodegenerative and neurocognitive disorders were excluded from the study 100 postpartum women were taken into the study, no one was excluded , all gave written informed consent and all fulfilled inclusion criteria

study tools used in this study are :

(1) Semi structured sociodemographic proforma
(2) Depression, anxiety, stress scale (DASS 21)
(3) Edinburgh postnatal depression rating scale (EDPS)

First a sociodemographic semi structured proforma was taken from the patient, then the DASS 21 and EDPS scales were applied. EDPS was used to identify postpartum depression and was developed to assist health professionals in detecting mothers with PPD. Postpartum depression is a distress disorder more severe than the blues. A scale consists of 10 short statements. A mother has to select 1 out of 4 possible answers to describe how she has felt during the past week. Responses are scored 0,1,2,3 based on severity.> 12 are likely to be suffering with depression and have to seek medical attention[7].

DASS 21 has a set of 3 self-reported scales designed to measure the emotional states of depression, anxiety, and stress. Each of the 3 has 7 items divided into subscales with similar content. The depression scale assesses dysphoria, devaluation of life, Depreciation of self, lack of interest, anhedonia, and inertia. The Anxiety Scale assesses autonomic arousal, skeletal muscle effects. Anxiety in a situation stress scale Examine your ability to relax, nervous arousal, being easily upset/agitated, and being irritable/overreactive[8]. Using DASS21, each scale was again divided into normal, mild, moderate, severe, and extremely severe.

Statistical Analysis:

SSPS version 25 was used to analyze the data. Demographic, clinical, and psychological variables were analyzed using Descriptive analysis Univariate statistical analysis was done for sociodemographic variables with the help of the chi-square and Fischer exact test. Following that, a multivariate logistic regression analysis was performed. Adjusting for model fit and knowing the association of depression with the postpartum period, the interclass correlation was done with a 95% confidence interval with an F test done to know the extreme reliability.

RESULTS:

The majority of the 100 female participants in the study are between the ages of 25 and 29 (46%), followed by those between the ages of 25 and 29 (43%).>24 years (34%), followed by 20 years (13%), followed by 30-34 years (6%). The vast majority of participants are educated. qualification of 10th grade (40%), followed by degree (28%), in turn followed by inter (25%) and pg (7%). The majority (68%) are from the lower middle socioeconomic class, followed by the upper middle (26%) and upper lower (6%) classes.

Postpartum depression, anxiety, and stress have significant effects on PPD, anxiety, and stress. A history of depression in women carries about14% with a Significant P value of 0.001; marital conflicts account for approximately 14%; domestic violence accounts for approximately 16% with a p value of 0.001; addiction carries 15% and financial difficulties carries 12% with a significant p value, which shows a greater impact on PPD, stress & anxiety.
Pregnancy-related factors such as a history of obstetric complications showed a 12% risk with a P value of 0.001, and high parity showed a 12% risk with a P value of 0.001.With a p value of 0.013, the history of mood swings had a significant effect on 16% of females.

Preterm birth and low birth weight had a significant impact on postpartum depression and anxiety stress in approximately 16% of women. Lack of support from family showed about 18% impact with a p value of 0.020. These are all shown to be significant.

Table 1: Univariate analysis

		DEPRESSION				
		PRESENT		ABSENT		Significant^
		Count	Column N %	Count	Column N %	
Age	<20	3	13.60%	10	12.80%	N.S 0.727
	20-24	10	45.50%	24	30.80%	
	25-29	8	36.40%	38	48.70%	
	30-34	1	4.50%	5	6.40%	
	> 34	0	0.00%	1	1.30%	
Education	High school	08	36.20%	32	41.10%	N.S
	INTER	8	36.40%	17	21.80%	
	Degree	6	27.30%	22	28.20%	
	PG	0	0.00%	7	9.00%	
Background	Urban	15	68.20%	53	67.90%	N.S 0.983
	Rural	7	31.80%	25	32.10%	
Socio Economic Status	Upper	0	0.00%	0	0.00%	N.S 0.546
	Upper Middle	6	27.30%	20	25.60%	
	Lower Middle	14	63.60%	54	69.20%	
	Upper Lower	2	9.10%	4	5.10%	
	Lower	0	0.00%	0	0.00%	
Maternal Age	>30	1	4.50%	6	7.70%	N.S 0.609
	<30	21	95.50%	72	92.30%	
h/o depressIon,other psychiatric illness	Yes	14	63.60%	0	0.00%	SIG 0.001#
	No	8	36.40%	78	100.0%	
Family History of depressi	Yes	21	95.50%	0	0.00%	N.S 0.058
	No	1	4.50%	78	100.0%	
Adverse life events	Yes	22	100.00%	0	0.00%	--
	No	0	0.00%	78	100.0%	
Husband and marital Conflict	Yes	14	63.60%	1	1.30%	SIG 0.001
	No	8	36.40%	77	98.70%	
Domestic Violence	Yes	16	72.70%	1	1.30%	SIG 0.001
	No	6	27.30%	77	98.70%	
Addiction in Husband	Yes	15	68.20%	2	2.60%	SIG 0.001
	No	7	31.80%	76	97.40%	
Financial Difficulties	Yes	12	54.50%	7	9.00%	SIG 0.001
	No	10	45.50%	71	91.00%	
Pregnancy-related Unplanned Pregnancy	Yes	1	4.50%	1	1.30%	NS 0.334
	No	21	95.50%	77	98.70%	
Past h/o obstetric Complication	Yes	12	54.50%	8	10.30%	SIG 0.001
	No	10	45.50%	70	89.70%	
Primigravida	Yes	15	68.20%	46	59.00%	SIG 0.024
	No	7	31.80%	32	41.00%	
High Parity	Yes	13	59.10%	27	34.60%	SIG 0.0.38
	No	9	40.90%	51	65.40%	

Mood Swing During Pregnancy	Yes	16	72.70%	6	7.70%	SIG 0.013
	No	6	27.30%	72	92.30%	
Preterm Or Low Birth Weight	Yes	16	72.70%	5	6.40%	SIG 0.006
	No	6	27.30%	73	93.60%	
Caesarean Pregnancy	Yes	15	68.20%	9	11.50%	SIG 0.022
	No	7	31.80%	69	88.50%	
Lack of support from family	Yes	18	81.80%	3	3.80%	SIG 0.020
	No	4	18.20%	75	96.20%	
Lack Of Confident / Close Friend	Yes	0	0.00%	0	0.00%	---
	No	22	100.00%	78	100.0%	

^Chi Square test; # Fishers exact.

History of depression in women, marital conflicts, domestic violence, husband's addiction, and financial issues was revealed to be statistically significant factors linked with depression in pregnant women. When it comes to pregnancy-related factors, having single or multiple pregnancies, a history of problems, a history of mood swings, and a child born with a low birth weight/preterm delivery, as well as a lack of family support, were all shown to be statistically significant on initial univariate analysis.

Table 2: Logistic regression table with 95% CI and Exp(B) Values

	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I.for EXP(B)	
							Lower	Upper
Addiction In Husband	2.013	1.012	3.958	1	0.047	7.486	1.03	54.384
Financial Difficulties	2.488	0.748	11.053	1	0.001	12.042	2.777	52.215
Past H/O Obstetric Complication	2.383	0.757	9.904	1	0.002	10.84	2.457	47.822
Preterm (LBW)	2.144	0.826	6.73	1	0.009	8.532	1.689	43.101
Constant	3.208	0.582	30.417	1	0	0.04		

Multivariate logistic regression analysis was run after adjusting for model fit. The variables like the husband's addiction, financial difficulties at home, history of obstetrics complications, and family history of preterm or low birth weight babies were found to be highly significant and have a strong association with depression during pregnancy.

Table 3: Single and Average measures of ICC of Depression vs Anxiety vs Stress

	95% Confidence Interval	F Test with True Value 0					
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.686	0.60	0.77	7.55	99.00	198.00	0.00
Average Measures	.868	0.82	0.91	7.55	99.00	198.00	0.00

There is a significant link between depression, anxiety, and stress; the interclass correlation coefficient, which averages 0.868, indicates that the three factors are extremely reliable.

Multiple logistic regression was run after adjusting for model fit, which shows variables like husband addiction, which shows the standard error is 1.012, the df is 1, and the significance is 0.047, with a 95% confidence interval of 1.03 and 54.384. Financial difficulties, with a standard error of 0.748, a df of 1, a significance of 0.001, and a 95% CI lower limit of 2.777 and an upper limit of 52.218.

The standard error for obstetric complications is 0.757, with df of 1 and a significance of 0.002. Preterm labor has a standard error of 0.826 and a df of 1 with a lower limit of 2.457 and an upper limit of 47.822. Significance is 0.009 with 95 % CI with an upper limit of 43.101 and a lower limit of 1.689, All of these variables are strongly associated with postnatal depression.

An interclass correlation between depression, anxiety, and stress show the F test of single measure shows a value of 7.55 with a df1 of 99.00 and df 2 was 198.0, which shows that there is a significant link between depression, anxiety, and stress. The average interclass correlation is 0.868 indicating that the 3 factors are extremely reliable.The prevalence rate of depression in postnatal women is 22/100 (22%).

The prevalence rate of depression plus anxiety is 16%. Prevalence rate of depression plus stress is 17%, Prevalence rate of stress plus anxiety is 16%.

DISCUSSION:

This study was conducted on patients who were attending OP & IP in the department of obstetrics and gynecology at KGH & Victoria General Hospital. 100 of them are females as we are taking postpartum women into the study. factors that cause depression, Anxiety, and stress were studied in this study, and the impact of those factors and their significance were noted.

Psychosocial factors such as Women with a history of depression who experience significant depression in the postpartum period when compared to the normal which account for about 14%, which is similar to the study done by DT Lee ETAL in 2000[9], which also shows similar results, but contrasts to the results of a study done by Murray et al[10]. shows that previous history does not show any effect on PPD because they took the point Prevalence instead of symptoms that were taken from the past 2 weeks.

In our study, it was found that marital conflict shows significant Impact on PPD accounts for about 14%, which is similar to the study done by GAYLE ROUX ET AL in 2002 at Virginia University[11]. A considerable number of women with domestic violence show significant depression, anxiety, and stress, which accounts for about 16%. which is similar to the study done by ADAMU ET AL in 2018[12].

Addiction of the husband shows a 15% risk in our study, which is in contrast with Phyllis et al. in Ontario in 2009[13], which shows that there is little or no effect on depression. Differences in results may be due to the dependency of women on their husbands for every need, domestic violence by husbands under intoxication, and poor socioeconomic status.

Financial difficulties also play a key role in women's health in the postpartum period, which accounts for about 13%, which is similar to the study done by Shiyam Sindu et al in 2016, financial difficulties account for about 21%

Pregnancy-related factors like past history of obstetric complications account for about 12% of women during postpartum.which is similar to the study done by Ravi Prakash et al[14] in 2017 and proved the same. women with high parity in our study.These findings contradict those of Jaun Miguel et al.'s[15] study, which found Women who had primiparity had PPD than multiparity. This contrast is because of lower socioeconomic status, which creates the situation that More children cause more financial burden on the family, and it causes difficulty raring children.

A history of mood swings during pregnancy this accounts for about 16% and the results show this as a significant risk factor for mood disorder during postpartum, which is similar to the study done by Grazy na et al in 2021[16] in Poland, it was stated that giving birth to the child itself had some impact on postpartum depression. When it is associated with mood swings, it causes a further flare up.

History of giving birth to preterm children/low birth weight, Significant stress on the mother, which creates a certain degree of anxiety, accounts for about 16%, which is similar to the study done by Lucia etal[17] in 2021 in California. This study shows that women who gave birth to preterm or low birth weight had 1.5 times compared to a normal-weight baby mother,

Lack of support from family, which accounts for about 18%, shows it as a significant risk, which is similar to the study done by Hahyeen et al (2016)[18] in Korea, which shows 4.63 times higher risk than normal postpartum women.

In this study, it was stated that certain psychosocial factors like the previous history of depression, marital conflict, domestic Postpartum

depression, anxiety, and stress are all caused by violence, addiction in the husband, and financial difficulties. factors such As Postpartum crisis is also caused by a history of obstetric complications, low birth weight, and preterm labor.

Finally, the prevalence rate of depression in postnatal women is 22% which is similar to the study done by Ashwini nelakanti et al Which gave a result of about 23% which is almost equal to our study

The prevalence rate of depression plus anxiety is 16% , the Prevalence rate of depression plus stress is 17 %, Prevalence rate of stress plus anxiety is 16%

CONCLUSION:

Early screening and detection of postpartum depression, anxiety, and stress decrease the severity and morbidity. focusing on Psychosocial well-being decreases the risk. Appropriate pharmacological and psychotherapeutic interventions for patients as well as family members should be given after identification and also to patients who are prone to causing this.

Limitations:

The sampling technique used was convenient sampling. This study reflects the psychosocial and pregnancy factors that are present in tertiary care hospital was taken, so it may not be generalized to the general population.

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