Original Research Article

Prevalence of depression and anxiety in antenatal women attending a tertiary care hospital in semi urban area of North coastal Andhra Pradesh – A cross sectional study

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Abstract

Introduction: The research into the psychological issues related to woman still remains in infancy. The exact incidence and prevalence of psychiatric disorders in women or those seen exclusively in them is unknown[2]. Women mental health hardly forms a component in the training of postgraduates in the departments of psychiatry or gynecology and obstetrics. There is little consultation liaison between the two departments and thus, no integrated teaching of common problems related to women mental health. **Materials and methods:** Cross sectional study in patients attending the OPD of The Department of Obstetrics and Gynecology, Maharajah"s Institute of Medical Sciences (MIMS), Vizianagaram. The sample of this study was the population that included all antenatal women registered in the Obstetrics OPD at MIMS from Feb 2020 to December 2020. They are screened for Common mental disorders across three Trimesters at a point of time during their Antenatal visits. Inclusion criteria include Antenatal cases attending in Obstetrics OPD, Maharajah"s Institute of Medical Sciences (MIMS), Vizianagaram. Age between 16-50 yrs. Exclusion criteria Patients suffering from Comorbid Systemic illnesses and Past H/o Mental Illness. The study participants were briefed about the study, and informed written consents were obtained. **Results:** 165 patients were included in the study. Patients were assessed for Anxiety and depression behavior by using Semi Structured Interview Tool, Hospital Anxiety and Depression Scale (HADS). In rural areas, moderate anxiety, normal, severe anxiety as follows 19 (14.4%), 86 (65.2%) and 27 (20.5%) respectively. In Urban areas, moderate anxiety, normal, severe anxiety as follows 0 %), 33 (100%) and 0% respectively. In first trimester, moderate Anxiety were 12 (16.2%), severe anxiety 8 (10.8%). In second trimester, moderate Anxiety were 7(13.5%), severe anxiety 19 (36.5%). In Third trimester, moderate Anxiety was 0%, severe anxiety 0%. In rural areas, moderate depression, normal, severe depression as follows 26 (19.7%), 79 (59.8%) and 27 (20.5%) respectively. In Urban areas, moderate depression, normal, severe depression as follows 0 %, 33 (100%) and 0% respectively. In first trimester, moderate depression were 6 (8.1%), severe depression 14 (18.9%). In second trimester, moderate depression were 13(25%), severe anxiety 13 (25%). In Third trimester, moderate depression were 7 (17.9%), severe Depression 39 (100%). **Conclusion:** Our results are important for practicing clinicians as they identify risk factors during routine obstetric care. The providers should consider the possibility of antenatal patients developing depression and anxiety symptoms in the presence of risk factors. This window of opportunity should be our best bet in reducing postnatal depression. The antenatal records should have remainder boxes for history of CMD and intimate partner violence. Future research should focus on capturing this data and evaluate how to use these risk factors to improve our screening accuracy and clinical assessments.

Key Words: CMD, mental health, depression, anxiety.

Introduction

Women mental health hardly forms a component in the training of postgraduates in the departments of psychiatry or gynecology and obstetrics. There is little consultation liaison between the two departments and thus, no integrated teaching of common problems related to women mental health[1].

The research into the psychological issues related to woman still remains in infancy. The exact incidence and prevalence of psychiatric disorders in women or those seen exclusively in them is unknown[2].

There is paucity of female psychiatrists and trained mental health manpower working in gynecology department. There is need to develop a consultation – liaison team including experts from psychiatry, gynecology - obstetrics for integrated teaching (at undergraduate and postgraduate level), research (writing articles, thesis, chapters in books or books), treatment (evolving treatment guidelines), training (by organizing seminars, workshops or conferences) and effective implementation[3].

Pregnancy and postpartum period has both positive and negative impact on women depending on an individual vulnerability. While it is a period of growth and hope, there is also a transformation in physiological, psychological and social perspective (financial constrains, inter personal relationships) which can in turn lead to emotional instability in women.1 Pregnancy may induce or exacerbate stress with a negative impact on pregnancy(pregnancy loss) and also postpartum period. These periods are considered to be a high risk time both for pre-existing and new psychiatric illness[4].

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A systematic review reports of prevalence rates of depression in pregnancy as 7.4%, 12.8%, and 12.0% for the first, second, and third trimesters, respectively[5].

The psychiatric illnesses occurring during this period not only affect maternal health but it also causes adverse action on fetal development. The reduced uterine blood flow in highly anxious women could be a mechanism for lower birth weight, preterm birth and elevated cortisol in infants[6].

Dysregulation of the Hypothalamic- Pituitary axis associated with depression may also have a direct effect on fetal development. Depression/anxiety during the post-partum period may also affect maternal-infant attachment and thereby affect later infant development.

Children of depressed mothers are more likely to display behavioural problems and exhibit disruptions in motor, cognitive and emotional development[2].

Psychological disturbances during pregnancy are associated with inadequate antenatal care. The prevalence rates of antenatal psychological problems are estimated to be high world over. Studies have indicated that the prevalence of antenatal depression (AD) and/or anxiety ranges from 8% to 30%[3].

Aims

1. To find the Prevalence of Anxiety and Depression in pregnant women
2. A comparison between Primiparous and Multiparous women in the prevalence of Anxiety and Depression.
3. To Identify the Risk factors for Anxiety and Depression during Pregnancy

Materials and methods

Cross sectional study in patients attending the OPD of The Dept of Obstetrics and Gynecology, Maharajah"s Institute of Medical Sciences (MIMS), Vizianagaram. The sample of this study was the population that included all antenatal women registered in the Obstetrics OPD at MIMS from Feb 2020 to December 2020. They are screened for Common mental disorders across three Trimesters at a point of time during their Antenatal visits. Inclusion criteria include Antenatal cases attending in Obstetrics OPD, Maharajah"s Institute of Medical Sciences (MIMS), Vizianagaram). Age between 16-50yrs. Exclusion criteria Patients suffering from Comorbid Systemic illnesses and Past H/o Mental Illness. The study participants were briefed about the study, and informed written consents were obtained.

Setting and Design

Cross sectional study in patients attending the OPD of The Dept of Obstetrics and Gynecology, Maharajah"s Institute of Medical Sciences (MIMS), Vizianagaram.

Materials and Methods

Semi Structured Interview Tool

Hospital Anxiety and Depression Scale (HADS)

Inclusion criteria

1. Antenatal cases attending in Obstetrics OPD at MIMS from Feb 2020 to December 2020.
2. Age between 16-50yrs

Exclusion criteria

1. Patients suffering from Comorbid Systemic illnesses
2. Past H/o Mental Illness

Data was analyzed with the aid of the software SPSS version 15.0. The association between adjustment disorder and characteristics of the pregnant women was assessed by bivariate and multivariate analyses. We used the Pearson‟s Chi-square test and the Fisher exact test (when values were less than 5) for comparison of frequencies among groups. Multivariate analysis was performed only with variables with a P value equal to or less than 0.05 obtained in the bivariate analysis. Odd ratios (OR) and 95% confidence intervals (CIs) were calculated by logistic regression using the enter method. Statistical significance was set at a P value <0.05.

Results

A total of 165 patients were included in our study who fit into our Inclusion criteria. Patients attending the Obstetrics OPD were assessed for Anxiety and Depression by using Semi Structured Interview Tool and Hospital Anxiety and Depression Scale (HADS). In rural areas, moderate anxiety, normal, severe anxiety were as follows 19 (14.4%), 86 (65.2%) and 27 (20.5%) respectively. 18.6% (n=27) in the literate population were found to have Severe Anxiety higher when compared to Illeterate segment in our study. Severe anxiety is found in 55.6% (n=15) in joint family segment whereas Moderate anxiety is seen in 22.2% (n=6) in the same. In our study, First and Second trimester samples shown significantly higher anxiety values when compared to Third trimester scores. In patients with History of LSCS in sample, Moderate Anxiety is seen in 31.6% (n=6) and severe anxiety is higher in No History of LSCS with 18.5% (n=27).

In rural areas, moderate depression, normal, severe depression as follows 26 (19.7%), 79 (59.8%) and 27 (20.5%) respectively. In first trimester, moderate depression were 6 (8.1%), severe depression 14 (18.9%). In second trimester, moderate depression were 13(25%), severe anxiety 13 (25%). In Third trimester, moderate depression were 7 (17.9%), severe Depression 39 (100%). In the illiterate, Moderate Depression is 35% (n=7) and Severe Depression is 30.0% (n=6). 65% (n=13) in the employed class has Moderate Depression when compared to unemployed class who has a Severe depression of 18.6%. Moderate Depression is seen in 20.8% (n=26) in low socio-economic class and is significantly higher (p=0.005) when compared to middle income group. 48.1% (n=13) in Joint family type have Moderate Depression when compared to Nuclear type. Sample from second trimester has high Severe and Moderate Depression when compared to First and Third trimester. History of miscarriage sample has 34.2% (n=13) with Moderate Depression which is higher than sample with no History of miscarriage. Sample with irregular antenatal check-ups has high Moderate Depression 37% (n=20). History of LSCS sample has 36.8% (n=7) Moderate depression and 31.6% (n=6) has severe depression.

Table 1: Place of Living and Anxiety Class

Cross tab						
			ANXIETY CLASS			Total
			MODERATE	NORMAL	SEVERE	
Place of Living	Rural	Count	19	86	27	132
		% within Place of Living	14.4%	65.2%	20.5%	100.0%
	Urban	Count	0	33	0	33
		% within Place of Living	0.0%	100.0%	0.0%	100.0%
Total		Count	19	119	27	165
		% within Place of Living	11.5%	72.1%	16.4%	100.0%

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.945[a]	2	.000
Likelihood Ratio	24.619	2	.000
N of Valid Cases	165		
a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.80.			

Table 2: Education and Anxiety Class

Crosstab						
			ANXIETY CLASS			Total
			MODERATE	NORMAL	SEVERE	
Education	Illiterate	Count	6	14	0	20
		% within Education	30.0%	70.0%	0.0%	100.0%
	Literate	Count	13	105	27	145
		% within Education	9.0%	72.4%	18.6%	100.0%
Total		Count	19	119	27	165
		% within Education	11.5%	72.1%	16.4%	100.0%

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.492[a]	2	.005
Likelihood Ratio	11.975	2	.003
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.30.			

Table 3: Family Type Anxiety Class

Crosstab						
			ANXIETYCLASS			Total
			MODERATE	NORMAL	SEVERE	
Family Type	Joint	Count	6	6	15	27
		% within Family Type	22.2%	22.2%	55.6%	100.0%
	Nuclear	Count	13	113	12	138
		% within Family Type	9.4%	81.9%	8.7%	100.0%
Total		Count	19	119	27	165
		% within FamilyType	11.5%	72.1%	16.4%	100.0%

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.662[a]	2	.000
Likelihood Ratio	38.729	2	.000
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.11.			

Table 4: Trimester Anxiety Class

Crosstab						
			ANXIETYCLASS			Total
			MODERATE	NORMAL	SEVERE	
Trimester	First	Count	12	54	8	74
		% within Trimester	16.2%	73.0%	10.8%	100.0%
	Second	Count	7	26	19	52
		% within Trimester	13.5%	50.0%	36.5%	100.0%
	Third	Count	0	39	0	39
		% within Trimester	0.0%	100.0%	0.0%	100.0%
Total		Count	19	119	27	165
		% within Trimester	11.5%	72.1%	16.4%	100.0%

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.531[a]	4	.000
Likelihood Ratio	42.007	4	.000
N of Valid Cases	165		
a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 4.49.			

Table 5 : H/o LSCS and Anxiety class

Crosstab						
			ANXIETYCLASS			Total
			MODERATE	NORMAL	SEVERE	
HoLSCS	No	Count	13	106	27	146
		% within HoLSCS	8.9%	72.6%	18.5%	100.0%
	YES	Count	6	13	0	19
		% within HoLSCS	31.6%	68.4%	0.0%	100.0%
Total		Count	19	119	27	165
		% within HoLSCS	11.5%	72.1%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.061[a]	2	.004
Likelihood Ratio	12.068	2	.002
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.19.			

Table 6: Place of Living and Depression Class

Crosstab						
			DEPRESSION CLASS			Total
			MODERATE	NORMAL	SEVERE	
Place of Living	Rural	Count	26	79	27	132
		% within Place of Living	19.7%	59.8%	20.5%	100.0%
	Urban	Count	0	33	0	33
		% within Place of Living	0.0%	100.0%	0.0%	100.0%
Total		Count	26	112	27	165
		% within Place of Living	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.520[a]	2	.000
Likelihood Ratio	29.331	2	.000
N of Valid Cases	165		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.20.			

Table 7: Education and Depression Class

Crosstab						
			DEPRESSIONCLASS			Total
			MODERATE	NORMAL	SEVERE	
Education	Illiterate	Count	7	7	6	20
		% within Education	35.0%	35.0%	30.0%	100.0%
	Literate	Count	19	105	21	145
		% within Education	13.1%	72.4%	14.5%	100.0%
Total		Count	26	112	27	165
		% within Education	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.558[a]	2	.003
Likelihood Ratio	10.617	2	.005
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.15.			

Table 8: Employment Status and depression class

Crosstab						
			DEPRESSIONCLASS			Total
			MODERATE	NORMAL	SEVERE	
Employment Status	Employed	Count	13	7	0	20
		% within Employment Status	65.0%	35.0%	0.0%	100.0%
	Unemployed	Count	13	105	27	145
		% within Employment Status	9.0%	72.4%	18.6%	100.0%
Total		Count	26	112	27	165
		% within Employment Status	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.370[a]	2	.000
Likelihood Ratio	33.467	2	.000
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.15.			

Table 9: Socio Eco Status and Depression Class

Crosstab						
			DEPRESSION CLASS			Total
			MODERATE	NORMAL	SEVERE	
Socio Eco Status	Low	Count	26	78	21	125
		% within Socio Eco Status	20.8%	62.4%	16.8%	100.0%
	Middle	Count	0	34	6	40
		% within Socio Eco Status	0.0%	85.0%	15.0%	100.0%
Total		Count	26	112	27	165
		% within Socio Eco Status	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.660[a]	2	.005
Likelihood Ratio	16.664	2	.000
N of Valid Cases	165		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.30.			

Table 10: Family Type and depression class

Crosstab						
			DEPRESSIONCLASS			Total
			MODERATE	NORMAL	SEVERE	
Family Type	Joint	Count	13	6	8	27
		% within Family Type	48.1%	22.2%	29.6%	100.0%
	Nuclear	Count	13	106	19	138
		% within Family Type	9.4%	76.8%	13.8%	100.0%
Total		Count	26	112	27	165
		% within Family Type	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.880[a]	2	.000
Likelihood Ratio	31.412	2	.000
N of Valid Cases	165		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.25.			

Table 11: Trimester and Depression Class

Crosstab						
			DEPRESSIONCLASS			Total
			MODERATE	NORMAL	SEVERE	
Trimester	First	Count	6	54	14	74
		% within Trimester	8.1%	73.0%	18.9%	100.0%
	Second	Count	13	26	13	52
		% within Trimester	25.0%	50.0%	25.0%	100.0%
	Third	Count	7	32	0	39
		% within Trimester	17.9%	82.1%	0.0%	100.0%
Total		Count	26	112	27	165
		% within Trimester	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.619[a]	4	.001
Likelihood Ratio	24.986	4	.000
N of Valid Cases	165		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.15.			

Crosstab						
			DEPRESSIONCLASS			Total
			MODERATE	NORMAL	SEVERE	
HoMicarriage Abortion	No	Count	13	93	21	127
		% within HoMicarriage Abortion	10.2%	73.2%	16.5%	100.0%
	Yes	Count	13	19	6	38
		% within HoMicarriage Abortion	34.2%	50.0%	15.8%	100.0%
Total		Count	26	112	27	165
		% within HoMicarriage Abortion	15.8%	67.9%	16.4%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.003[a]	2	.002
Likelihood Ratio	11.443	2	.003
N of Valid Cases	165		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.99.			

Discussion

Fadzil et al observed that gestational age of less than 20 weeks was a significant factor for antenatal anxiety. In this study, hospital anxiety and depression scale was used and assessment was not compared among the trimesters[7]. The dynamic changes in psychological states at different points in pregnancy are poorly understood. One longitudinal study on the trends of perinatal mental health in pregnancy observed that there anxiety symptoms appeared to be stable throughout pregnancy, with individual variability in the rate of change. However, depression and general stress had a declining trend, which was also variable in the individual rate of change among women during their pregnancy[8]. One of the strengths of our study was assessment for CMD at two different points in pregnancy. Considering the anticipated increase in anxiety and stress related to nausea, vomiting or hyperemesis gravidarum during the first trimester, we screened for CMD across the second and third trimesters. Our study observed that there was a small increase in CMD in the third trimester compared to second trimester, however this is not statistically significant increase ($p>0.05$). This may imply that new cases of CMD in pregnancy can occur in any trimester, and a one-time screening may not exclude a probable case of antenatal anxiety or depression. As there is no clear evidence at which point in pregnancy are the CMD are most predictive of postnatal depression, it is paramount for the clinicians to be vigilant of symptoms of CMD that can emerge at different stages of pregnancy and the need for considering on-going screening throughout[9].

Consistent with the literature, our findings suggest that women in the local context with inadequate social support were at higher risk of developing antenatal and postnatal depression. This relates particularly to support from the partner and parents especially in the postnatal period, considering the need for additional support related to fatigue and mood changes and the demands of caring for the baby[10].

Conclusion

The accuracy of the prevalence in our study was improved by follow up with clinical diagnostic interview. Importantly our study identified the need for clinical attention to perinatal anxiety disorders that have seemingly emerged as a more prevalent and potent risk factor for adverse maternal and fetal outcomes. Our results are important for practicing clinicians as they identify risk factors during routine obstetric care. The providers should consider the possibility of antenatal patients developing depression and anxiety symptoms in the presence of risk factors. This window of opportunity should be our best bet in reducing postnatal depression. The antenatal records should have remainder boxes for history of CMD and intimate partner violence. Future research should focus on capturing this data and evaluate how to use these risk factors to improve our screening accuracy and clinical assessments.

Conflict of Interest: Nil Source of support: Nil

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