

ANTENATAL DEPRESSION: PREVALENCE AND RISK FACTORS FOR DEPRESSION AMONG PREGNANT WOMEN IN PESHAWAR

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ABSTRACT

Objective: Antenatal depression (AD) is predictive of future mental distress, which has negative effects on children. We aimed to assess the prevalence of, and to identify the non hormonal risk factors associated with depression among pregnant women attending antenatal clinic in Peshawar Pakistan.

Material and Methods: In this cross-sectional study a total of 300 pregnant women were administered a private interview while waiting for their prenatal care visits in Gynae/Obs unit Hayatabad Medical Complex, (HMC) hospital Peshawar. The interview contained the Centre for Epidemiologic Studies Depression Scale (CES-D) to assess depressive symptoms followed by a structured questionnaire that was filled through personnel interview.

Result: Out of 300 antenatal women 240 (80%) women scored >15 on the CES-D scale indicating AD. Illiteracy, unemployment, low income level, extended family, adverse pregnancy outcome, and fear of childbirth were identified as significant risk factor for development of AD.

Conclusion: The high prevalence of antenatal depression supports a policy of routine screening for antenatal depression. Open discussion about AD may help reduce the stigma associated with depression and encourage women to seek help. Many of the predictors, such as fear of childbirth and adverse pregnancy outcome, are modifiable through awareness and counseling.

Key Words: Pregnancy, Depression, Risk factors.

INTRODUCTION

Recent data strongly suggest that depression during pregnancy is common and may be of greater clinical impact than postpartum depression. It has been reported that 10-20% of pregnant women suffer from antenatal depression^{1,2,3}. Rates from developing countries are far higher, approximating 50%. The world Health Organization (WHO) estimates that the depressive disorders will be the second leading cause of global disease burden by 2020⁴. Recently antenatal depression (AD) has received increased attention with regards to both its impact on infant outcomes and as a risk factor for postnatal depression⁵.

The signs and symptoms of depression in pregnancy do not differ from depression at any other time. However, AD may go undiagnosed because of a focus on maternal and fetal well-being and the attribution of complaints to the physical and hormonal changes associated with pregnancy. Everyone's

experience of pregnancy is different, however just as there are expected physical changes, there are also a lot of changes to mood, memory, eating habits and sleep is common. When these common traits become severe, and begin to alter one's day to day life, that is when it is considered to be AD.

In pregnancy, depression may be diagnosed if emotional disturbances occur in memory and concentration, the woman experiences weight loss and loss of appetite or wakes up early in the morning. Depression is likely if the woman feels a general loss of interest and energy, generalized guilt and hopelessness, and has thoughts of self-harm^{6,7}.

Antenatal depression is associated with adverse fetal, obstetric and neonatal outcomes, including intra-uterine growth retardation (IUGR), low birth weight, preterm delivery and infant behavioral problems⁸. Depression in pregnancy may diminish one's capacity for self-care, including inadequate nutrition, drug or alcohol abuse and poor antenatal clinic attendance, all of which may compromise a woman's physical and mental health and may reduce optimal fetal monitoring or restrict the growth and development of the fetus⁹. Diminished health status in depression may offer an explanation for the reported association between depressive symptom and preterm

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birth. While Nutritional deprivation and poor maternal weight gain during pregnancy are risk factors for IUGR. Depression may also amplify somatic symptoms of pregnancy¹⁰. Women with depression also have increased pain and discomfort during their pregnancies, reporting worse nausea, stomach pain, shortness of breath, gastrointestinal symptoms, heart pounding, and dizziness¹¹.

Improving maternal and child health are international and national priorities, The United Nations Millennium Development Goals¹² list child health and maternal health as two of the eight goals, so dealing with depression during pregnancy is relevant to achieving better outcomes for mothers and infants'. That's why it is particularly important to investigate the burden of depression in pregnancy and its associated risk factors.

Antenatal depression is usually caused by many factors. Usually, it is associated with the fear and stress of the pregnancy. A new review article examined 57 studies that included information on the association between antenatal depressive symptoms and risk factors¹³. The authors summarized that some of the most important risk factors, indicated by the literature, are life stress, history of depression, lack of social support, unintended pregnancy, domestic violence, lower income, lower education, smoking, and single status. The predictors of ante partum depression and anxiety in an urban community in Pakistan were husband's unemployment, low household wealth, having 10 or more years of formal education, unwanted pregnancy, and partner violence¹⁴. Partner violence, unsupportive husband and/or mother-in-law, and family preference for son were the predictors of ante partum depression among rural Bangladeshi women^{15,16}.

Depressive symptoms are commonly reported by pregnant women both with and without clinical depression¹⁷. Hence, it is critical to know what risk factors are predictive of the range of depressive symptoms in pregnancy; our study can inform providers about some of the risk factors during depression screening in pregnancy to increase diagnostic vigilance and tailor the level of prenatal care accordingly.

MATERIAL AND METHODS

A cross-sectional study was conducted in pregnant women attending antenatal clinic of HMC hospital in Peshawar, for their routine antenatal checkups over the period from May to July 2013. This hospital serves a Pakistani and Afghani population mainly of low socioeconomic status. The sample consisted of 300 subjects. Verbal consent was obtained from all subjects. Exclusion criteria were pregnant females having any obstetric complication during present pregnancy and those having co morbid

medical/surgical illness. The interview contained the Centre for Epidemiologic Studies Depression Scale (CES-D) which to assess depressive symptoms followed by a structured questionnaire that was filled through personnel interview.

The 20-item version of the CES-D scale, initially designed to measure depressive symptoms in the community, was used in our sample to identify the presence of depressive symptoms (Radloff 1977)¹⁸. It allows measurement of depressed mood and symptoms over the past seven days (e.g. sadness, hopelessness, fatigue, crying, sleep disturbances and loss of appetite). The scale has excellent internal consistency, with Cronbach's alpha ranging from 0.85 (general population) to 0.90 (psychiatric patients), and adequate test-retest reliability (0.54), for a scale designed to be sensitive to adverse changes in a respondent's environment (Radloff 1977). CES-D scores range from zero to 60 and correlate well with clinical diagnoses of depressive disorder (Radloff 1977). To identify all those with depression we used the cutoff of CES-D score >15.

The questionnaire included information about demographic and other potential risk factors for AD. These variables include age of the women, ethnicity, number of children, education status, employment status, income level, adverse pregnancy outcome, fear of child birth, marital difficulties, domestic violence and whether the pregnancy was planned or unplanned. The questionnaire was administered by means of face to face interview before consultation in the outpatient clinic. The data were entered and analyzed using SPSS, version 16. For the statistical analysis, the chi-squared test was applied and the statistical association of different factors with the presence of depression in antenatal attendees was determined.

RESULT

A total of 300 pregnant women were enrolled in the study. About eighty percent (240) of them were depressed. Mean age of the study participants was 26 years (S.deviation 6.2) with a range of 18 to 40 years. The great majority (65%) were in the age group of 20 to 35 years (Table 1). However, Depression was much more common in older women aged >35 years (85%) than among younger mothers <20 years (71%). Three-fourth of the participants were Pakistani (76%), most (62%) were uneducated. Majority of the women were housewives (72%) and living in an extended family (72%). More than half of the women (57%) stated that their income level was low. About 33% of the participant had history of previous psychiatric illness and only 20% of the pregnancies were unplanned (Table 1).

Out of 300 antenatal women 240 (80%) women scored >15 on the CES-D scale indicating AD (Table 2). In our study Illiteracy, unemployment, low income

Table 1: Women characteristics associated with antenatal depression

Risk Factors		Total		Depression Score			
		n=300		n=60		n=240	
		No	%	No	%	No	%
Age	<20	84	28	24	28.5	60	71.4
	20-35	196	65	33	16.8	163	83.1
	>35	20	20	3	15	17	85
Ethnicity	Pakistani	228	76	42	18.4	186	81.5
	Afghani	72	24	18	25	54	75
Education level	Up to intermediate	48	16	30	62.5	18	37.5
	Graduate and above	66	22	12	18.1	54	81.8
	Uneducated	186	62	18	9.6	168	90.3
Employment Status	House wife	216	72	30	13.8	186	86.1
	Employed	84	28	30	35.7	54	64.2
Income level	Low	171	57	18	10.5	153	89.4
	Middle	81	27	30	37	51	62.9
	High	48	16	12	25	36	75
Family type	Nuclear	84	28	33	39.2	51	60.7
	Extended	216	72	27	12.5	189	87.5
Parity	Nulipara	111	37	21	18.9	90	81
	Multi Para	189	63	39	20.6	150	79.3
Unplanned pregnancy	No	240	80	48	20	192	80
	Yes	60	20	12	20	48	80
Adverse pregnancy outcome	Yes	174	58	15	8.6	159	91.3
	No	126	42	45	35.7	81	64.2
Fear of child Birth	Yes	235	78.3	29	12.3	206	87.6
	No	65	21.7	31	47.6	36	55.3
Previous Psychiatric Illness	Yes	99	33%	12	12.1	87	87.8
	No	201	67%	48	23.8	153	76.1
Satisfied with Marital life	Yes	270	90%	51	18.8	219	81.1
	No	30	10%	9	30	21	70
Domestic Violence	Yes	69	23%	9	13.0	60	86.9
	No	231	77%	51	22	180	77.9
Trimester of Pregnancy	1st trimester	48	16%	24	50	24	50
	2nd trimester	54	18%	21	38.8	33	61.1
	3rd trimester	198	66%	15	7.5	183	92.4

level, extended family, adverse pregnancy outcome, and fear of childbirth were identified as significant risk factor for development of AD. 90% of women who were uneducated had depression compared to 81% of those who were educated (P value = 0.00) Table-2. 86% of women who were housewives had depression score

>15 versus 64% of women who were employed (P value = 0.00). Women with low income level 89% were more likely to be depressed than women with middle and high income level 62%, 75% respectively (P value = 0.00). 87% of women with extended family were more likely to be depressed than women with nuclear family

Table 2: Statistical analysis of risk factors for antenatal depression

Risk Factors		Total n=300 No	Depression Score				P-Value
			Women with no depression (< 15)		Women with depression (≥ 15)		
			n=60		n=240		
			No	%	No	%	
Education level	Up to intermediate	48	30	62.5	18	37.5	0.000
	Graduate and above	66	12	18.1	54	81.8	
	uneducated	186	18	9.6	168	90.3	
Employment Status	House wife	216	30	13.8	186	86.1	0.000
	Employed	84	30	35.7	54	64.2	
Income level	Low	171	18	10.5	153	89.4	0.000
	Middle	81	30	37	51	62.9	
	High	48	12	25	36	75	
Family type	Nuclear	84	33	32.9	51	60.4	0.000
	Extended	216	27	12.5	189	87.5	
Parity	Nuli Para	111	21	18.9	90	81	0.720
	Multi Para	189	39	20.6	150	79.3	
Unplanned pregnancy	No	240	48	20	192	80	1.000
	Yes	60	12	20	48	80	
Adverse pregnancy outcome	Yes	174	15	8.6	159	91.3	0.000
	No	126	45	35.7	81	64.2	
Fear of child Birth	Yes	235	29	12.3	206	87.6	0.000
	No	65	31	47.6	36	55.3	
Previous Psychiatric Illness	Yes	99	12	12.1	87	87.8	0.017
	No	201	48	23.8	153	76.1	
Satisfied with Marital life	Yes	270	51	18.8	219	81.1	0.149
	No	30	9	30	21	70	
Domestic Violence	Yes	69	9	13.0	60	86.9	0.100
	No	231	51	22	180	77.9	
Trimester of Pregnancy	1st trimester	48	24	50	24	50	0.000
	2nd trimester	54	21	38.8	33	61.1	
	3rd trimester	198	15	7.5	183	92.4	

60% (P value = 0.00). Among women with adverse pregnancy outcome (including any death of child, abortion or stillbirth) 91% percent had depression compared with 64% among those who did not have adverse pregnancy outcome (P value = 0.00). Among women who fear of child birth 87% had depression compared with 55% among those who did not fear child birth. The CES-D score was >15 in 50% of women in the 1st trimester, 61% in 2nd trimester and 92% in last trimester.

Respondent's ethnicity, unplanned pregnancy, previous psychiatric illness, marital dissatisfaction, domestic violence were not found to be a significant risk factor for AD in our study. Although in women with a history of domestic violence depression was much more common 87% (60 out of 69) than among those with no domestic violence (77%), the number of women reporting domestic violence (physical, verbal or both) were small and this did not reach statistical significant. Similarly more women with previous psychiatric illness

had depression than those without (88% versus 76%) but this was not significant.

DISCUSSION

In our study nearly 80% of the screened pregnant women were depressed, almost similar findings were observed by A. Humayun et al¹⁹ from Lahore, Niloufer et al from Karachi²⁰, Asif Bajwa²¹ Muzafarabad Pakistan. The reported frequency of AD in their studies were 75%, 70%, 65% respectively using Edinburgh post natal scale (EPD-S), Hospital Anxiety Depression Scale (HADS), General Health Questionnaire 12 (GHQ 12), as an instrument for measuring depression. The probable reasons for this difference could be due to the different type of instrument used to measure depression. The prevalence of depression may be affected by the time point in pregnancy at which symptoms are assessed³, types of instrument used i.e. use of standard clinical interviews or screening tools²², and different cut-off points on screening tools²³. The high prevalence of AD in our study may be due to the higher number of women (92%) in their last trimester of pregnancy. Higher rates of maternal depression in our study may be linked to the refugee status as most of our populations are internally displaced persons (IDPS) due to 9/11. The findings show that the prevalence of AD may vary in women with different cultural backgrounds and the importance of asking all pregnant women about their feelings so that supportive care can be given.

In our study, Illiteracy, unemployment, adverse pregnancy outcome, low income level, extended family and fear of childbirth were identified as significant risk factor for development of AD. Literate women may have good social networks and social support, which has been identified as a protective factor in previous research²⁴. In our study the CES-D score was higher for uneducated women compared with those of educated women. In contrast, a U.S.-based study highlighted education as a risk factor, explaining that highly educated individuals are more sensitive to and/or are not embarrassed about admitting depressive symptoms²⁵. Our findings show that being a housewife influenced the experience of AD. Being a housewife can restrict social relationships and economic independence. Housewives had approximately 61% greater prevalence's of major depressive symptoms (CES-D score ≥ 23) than working women²⁶.

The direct association between poverty and depression is well documented^{27,28}. A recent study in Pakistan found a positive association between lower household wealth and ante partum depression/anxiety¹⁴. This association was also observed in our data. Poverty may be a general source of anxiety for pregnant women in terms of the family's growing financial needs with the increased number of children and the need to ensure food and education for the

children. Similar to our study, some other studies have shown that adverse pregnancy outcomes like higher rates of mortality in the offspring, miscarriage, stillborn and preterm birth are associated with depression during pregnancy^{29,30,31}. In our study fear of child birth was associated with higher risk of depression. A fear of childbirth in our culture might be related to the process of delivery, the sex of the baby or poor faith in the care provider.

Domestic violence, marital dissatisfaction, unplanned pregnancy and previous psychiatric illness were not found to be a risk factor for AD in our study. Despite high prevalence of reported domestic violence only 23% of antenatal women reported domestic violence in our study, half of the women reported that they had a bad relationship with mother in law.

The reason being that women may not have reported the actual scenario due to its sensitive nature. WHO multicounty study indicated that 50-90% of the women accepted violence by their husbands under certain circumstances as normal, such circumstances being if a woman goes out without informing her husband, neglects their children, argues with him, refuses to have sex with him, or burns the food³².

CONCLUSION

Our study confirms that depression is common during pregnancy. It is unfortunate that not only the general public is unaware of, but even the health professionals ignore the psychiatric aspects of this issue. Furthermore, it is almost invariably overlooked and remains undiagnosed and untreated in most cases. Resultantly these women are ignored and they keep on suffering silently from the painful psychological symptoms. Our results can inform clinicians about some of the risk factors for depression in pregnant women early on and can help in the development of specific questionnaires to identify patients at risk and referral for mental consultation as necessary. There is a need to incorporate screening for depression in the existing antenatal programs and development of strategies to provide practical support to those identified.

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