

# Antenatal Depression among Pregnant Women at a Tertiary Care Hospital

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## ABSTRACT

**Background:** Depression is among the most prevalent psychiatric disorders affecting women. Depressive disorders are predicted to be the second leading cause of global disability burden by 2020. The risk of depression increased significantly during pregnancy and clinically significant depressive symptoms are common in mid and late trimesters.

The purpose of present study is to determine the frequency of antenatal depression, so that better strategies and early management was recommended in such patients to reduce frequency of depression.

**Objectives:** To determine the frequency of antenatal depression among pregnant women presenting to a tertiary care hospital.

**Study Settings:** This Cross sectional Study was conducted at the Department of obstetrics and Gynaecology unit I of Civil Hospital Karachi for the duration of six months from January, 2019 to June, 2019.

**Subject and Methods:** A total of 150 pregnant women attending the antenatal clinic were included in this study. EPDS is the most widely used screening questionnaire for postpartum depression and has been widely validated for not only this condition but also antenatal depression. We chose to regard an EPDS score  $\geq 12$  as indicating depression. All information was recorded in predesigned proforma.

**Results:** The average age of the patients was  $25.85 \pm 4.49$  years. Frequency of antenatal depression among pregnant women was 46.67% (70/150).

**Conclusion:** The prevalence of antepartum depression among pregnant women was high and the greatest contributor is the thought of harming herself. We therefore recommended that pregnant women be routinely screened for depression during antenatal care. The necessary psychological care for pregnant women, especially those with risk factors for antenatal depression, should be provided by PCH centers.

**Keywords:** Antenatal depression, psychiatric disorders, psychological care.

## INTRODUCTION

Depression is among the most prevalent psychiatric disorders affecting women [1]. Depressive disorders are predicted to be the second leading cause of global disability burden by 2020 [2]. In comparison to men, women in reproductive age group are reported to have doubled the frequency of depression [3]. The risk of depression increased significantly during pregnancy and clinically significant depressive symptoms are common in mid and late trimesters [4]. Risk factors include young age, low income, lower educational attainment, history of depression, a history of miscarriage and pregnancy termination, and a history of childhood sexual abuse, concomitant high anxiety in pregnancy, low self-esteem and low social support [5]. Depression is a state of low mood and aversion to physical activities that affects the person's thoughts, behavior, feeling and sense of wellbeing [6]. A study conducted in urban area of Pakistan reported that 18% of pregnant women were anxious and depressed during their pregnancies [6].

Unidentified and untreated depression can lead to detrimental effects on the mother and child [7]. Women with depression have increased pain and discomfort during their pregnancies, reporting worse nausea, stomach pain, and shortness of breath, gastrointestinal symptoms, heart pounding, and dizziness compared to non-depressed women [8]. The World Health Organization reported that almost one-in-three to one-in-five pregnant women experiences a significant mental health problem in the developing country. Furthermore, it was also reported that such high rates of antenatal depression were because of poor socio-economic development of the population, physical and psychological abuse and violence, and paucity of good health care delivery systems especially the mental health facilities [9].

Maternal depressive symptoms and stress during the second and third trimesters were shown to be inversely related to poorer mother-infant bonding during the postnatal period. Antenatal depression also has negative outcomes on the mother's social and personal adjustments and marital relationships [10]. Several studies have drawn attention to the adverse effects of antenatal anxiety and depression in the developing child. These effects include preterm birth, low birth weight, reduced cognitive ability and

increased fearfulness, increased incidence of respiratory and skin illnesses in early life and elevated awakening cortisol levels [11].

A 2006 study in Karachi Pakistan reported a 34.6% prevalence of antenatal depression [12]. In a comparison of antenatal depression among Pakistani and Canadian women (2011) found a higher prevalence of antenatal depression among Pakistani women (48.4%) than Canadian (31%) and Caucasian (9%). These studies used EPDS to screen for antenatal depression [13].

The reason for conducting research is as above mentioned studies show variability in results regarding antenatal depression among different populations. As we belong to a country with limited resources and large population with poor socioeconomic status and lack of awareness and education, there are chances that result was different in our population. Hence, the purpose of present study is to determine the frequency of antenatal depression, so that better strategies and early management was recommended in such patients to reduce frequency of depression.

## MATERIAL AND METHODS

This Cross sectional Study was conducted at the Department of Obstetrics and Gynaecology unit I of Civil Hospital Karachi for the duration of six months from January, 2019 to June, 2019.

By using Open Epi sample size calculator, taking prevalence of antenatal depression 48% [13], margin of error 8%, confidence interval 95%, A total of 150 pregnant women attending the antenatal clinic were included in this study. Non probability consecutive sampling technique was used.

**Inclusion criteria:** All pregnant women with gestational age  $\geq 14$  weeks, with age 18-45 yrs and irrespective of parity, attending the antenatal clinic in Gynae and Obs OPD CHK was included in this study using Edinburgh postnatal depression scale.

**Exclusion criteria:** Women having pre-existing diagnosed psychological issues, having comorbid (hypertension, diabetes mellitus, T.B or any other medical disorder), having their husbands abroad or husband died in recent past, history of substance abuse and those not giving consent for interview was excluded from this study.

**Data Collection Procedure:** All pregnant females visiting antenatal clinic at CHK OPD was interviewed after approval of synopsis from CPSP. Those women who meet the inclusion criteria were selected for study.

Women was informed about objectives of survey and ensured anonymity. Those willing to participate were interviewed with informed consent. EPDS scale, a 10 item self-reported scale, was used to determine depression status.

EPDS is the most widely used screening questionnaire for postpartum depression and has been widely validated for not only this condition but also antenatal depression. In addition, it is the only rating scale for depression that has been validated as applicable to the antenatal period. For each item, women were asked to select one of four responses. Each response has a value between 0 and 3; scores for the 10 items are summed to give a total score between 0 and 30. Score of 0 indicates the response no, not at all, occasionally or not very often, hardly ever means Once in a week, quite often or not very often, hardly ever means 2-3 times in a week, most of the time or quite a lot means more than 3 times in a week. We chose to regard an EPDS score  $\geq 12$  as indicating depression. All information was recorded in predesigned proforma.

**Data Analysis Procedure:** Data was analyzed using SPSS software version 18. Mean and standard deviation was calculated for quantitative variables (i-e age, gestational age, parity, EPDS score), frequency and percentages was calculated for qualitative variables (i-e depression, socioeconomic status, educational status of mother, residence, type of family either nuclear or joint, employment status of mother, planned or unplanned pregnancy). Effect modifiers was controlled through stratification stratification was done for antenatal depression with respect to age of mother, parity, socioeconomic status, educational status, residence, planed or unplanned pregnancy, employment of mother, type of family. P value  $< 0.05$  was considered significant. Post stratification Chi square test was used.

**RESULTS**

A total of 150 pregnant women attending the antenatal clinic were included in this study. Age distribution of the patients is shown in figure 1.

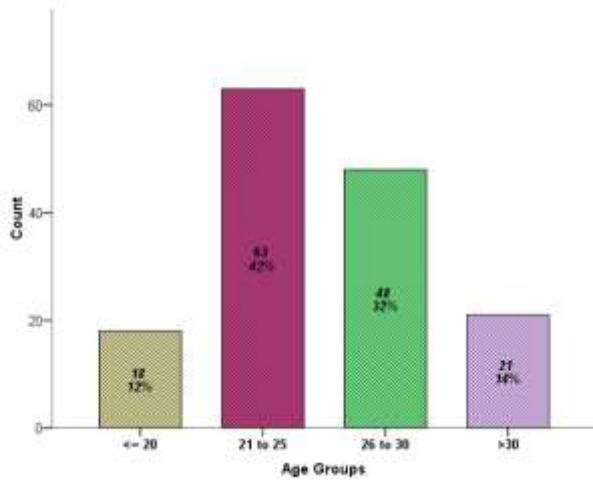


Figure 1: Age Distribution of the Patients n=150

The average age of the patients was 25.85 $\pm$ 4.49 years. Mean gestational age, parity and EPDS score is also reported in table 1.

There were most patens whose socio economic status was low. Regarding mode of delivery, 66.37% had delivered by caesarean section and 33.33% were delivered by spontaneous vaginal delivery as presented in figure 2.

Table 1: Descriptive Statistics of Characteristics of Patients

Variables	Mean	95% Confidence Interval for Mean		Std. Deviation
		Lower Bound	Upper Bound	
Age (Years)	25.85	25.12	26.57	4.49
Gestational Age (Weeks)	35.14	34.60	35.68	3.32
Parity	1.54	1.41	1.67	.83
EPDS	13.83	12.75	14.91	6.68



Figure 2: Mode of Delivery; n=150

Frequency of antenatal depression among pregnant women was 46.67% (70/150) as presented in figure 3.

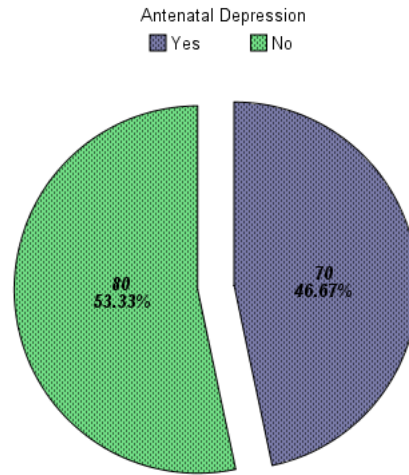


Figure 3: Frequency of Antenatal Depression among Pregnant Women; n=150

Frequency of antenatal depression among pregnant women was significantly high in below 20 years of age cases (p=0.0005) as shown in table 2.

Table 2: Frequency of Antenatal Depression among Pregnant Women by Age Groups;

Age groups (years)	Antenatal depression		Total	P-value
	Yes	No		
$\leq 20$	18(100%)	0(0%)	18	0.0005
21-25	25(39.7%)	38(60.3%)	83	
26-30	21(43.8%)	27(56.3%)	48	
$> 30$	6(28.6%)	15(71.4%)	21	

Chi-Square= 24.73

However frequency of antenatal depression among pregnant women was not statistically significant by parity, type of pregnancy, occupational status, and type of family as shown in table 3 to 5 respectively.

Table 3: Frequency of Antenatal Depression among Pregnant Women by Parity

Socio economic status	Antenatal depression		Total	P-value
	Yes	No		
<15000	21(52.5%)	19(47.5%)	40	0.670
15000 to 30,000	41(44.1%)	52(55.9%)	93	
>30,000	8(47.1%)	9(52.9%)	17	

Chi-Square= 0.797

Table 4: Frequency of Antenatal Depression among Pregnant Women by Type Of Pregnancy

Occupational status	Antenatal depression		Total	P-value
	Yes	No		
Unemployed	60(47.2%)	67(52.8%)	127	0.739
Employed	10(43.5%)	13(56.5%)	23	

Chi-Square= 0.111

Frequency of antenatal depression among pregnant women was high in those cases who had family history of psychiatric illness as shown in table 5.

Table 5: Frequency of Antenatal Depression among Pregnant Women by Family History of Psychiatric

Family history of psychiatric illness	Antenatal depression		Total	P-value
	Yes	No		
Yes	47(97.9%)	1(2.1%)	48	0.0005
No	23(22.5%)	79(77.5%)	102	

Chi-Square=74.49

## DISCUSSION

Etiology of antenatal depression is multi-factorial and deeply embedded in socio cultural factors. Antenatal depression is associated with the fear and stress of the pregnancy. A recent research examined 57 studies on the association between antenatal depression and risk factors. The investigators concluded that most important risk factors are life stress, history of depression, unsupportive family, unplanned pregnancy, domestic violence, low socio-economic status, low literacy, smoking and being single parent<sup>[14]</sup>.

A high prevalence of antenatal depression has previously been found in women in Rawalpindi, Pakistan<sup>[15]</sup>. In the current study in Lahore, the frequency of 3rd trimester antenatal attendees who screened positive for antenatal depression above the EPDS cut-off score of 10 was 75.1% and above the cut-off score of 12 was 64.6%, which is high compared with other studies in Pakistan and elsewhere<sup>[16]</sup>. In a study by Gorman et al. from 10 sites in 8 countries the overall antenatal point prevalence rate for caseness was 11.8%, the rate for depression was 6.9%, the rate for major depression was 3.5% and the rate for EPDS score 13+ was 8.7%.

An interesting finding in our study was the higher rate of depression in younger mothers aged 25.85 years than older mothers, which might be explained by the younger women's lack of experience, immaturity and emotional instability<sup>[17]</sup>. In a study in the United States (US) young maternal age was associated with greater risk of antenatal and postpartum depressive symptoms, which were attributed to financial hardship, unwanted pregnancy and lack of a partner<sup>[18]</sup>. Similar findings were reported in other studies from the United Kingdom and US<sup>[19]</sup>.

The mean age of our women was 25.85 years, which is identical to a hospital based study of postnatal depression in Pakistan that showed the average age of women was 26 years. Women with depression were mostly in their 2nd or 3rd confinements (38%). In Bawahab, et al study<sup>[10]</sup> Half the interviewed pregnant women (51.2%) were aged between 28 and 37 years; only 6 (1.9%) were aged less than 17 years.

In developed countries, about 10%–15% of women and in developing countries between 20%–40% of women experience depression during pregnancy or after childbirth<sup>8</sup>. In previous studies the prevalence of antenatal depression was found to be 14.2% in Brazil, 15.5% in Malta, 19% in Jordan, 25% in Jamaica, and 32.0% in Japan<sup>[20]</sup>. In present study frequency of antenatal depression among pregnant women was 46.67%. Moawed et al.<sup>[21]</sup> who found the prevalence was 44.2% among pregnant women in Riyadh, Saudi Arabia.

The prevalence of depression among pregnant women (n=1,368) was found to be 18% in Hyderabad using the validated Aga Khan University Anxiety Depression Scale (AKUADS) at 20-26 weeks of gestation<sup>5</sup>. According to a study carried out in Southern Kahota, prevalence of antenatal depression was 25%. Schedule for Clinical Assessment in Neuropsychiatry (SCAN) was administered to 632 pregnant women for screening<sup>[22]</sup>. In another descriptive cross sectional study conducted in District Chitral, and the prevalence of depression was estimated to be 34% among 340 pregnant women. A short translated Khovar version of the Aga Khan University Anxiety and Depression Scale (AKUADS) was used to identify depression<sup>[23]</sup>.

A study from a tertiary care hospital in Lahore showed similar prevalence of antenatal depression (42.7%) among 213 pregnant women evaluated by Edinburgh Postnatal Depression Scale (EPDS)<sup>[129]</sup>. In a comparative study between Pakistani and Canadian women, Pakistani women of Ghizar District of Gilgit Baltistan, reported higher (n=128, 48.4%) antenatal depression than Aboriginal Canadian women (n=128, 31.2%) and Caucasian Canadian women (n=128, 8.6%)<sup>[24]</sup>.

In a recently published study the prevalence of antenatal depression was found to be 43% (35/82) among middle class urban women attending a tertiary care hospital in Lahore. Antenatal women were screened with EPDS and among the depressed the prevalence of severe depression was found to be 20% (16/35)<sup>[25]</sup>.

Pregnant women with mental health problems are unable to take adequate care of them. They are unlikely to seek and receive antenatal or postnatal care or follow prescribed health regimens. Suicide is a leading cause of maternal death in developed countries. Depression in mothers can lead to increased maternal mortality, both through negatively affecting physical wellbeing as well as more directly suicide.

Improving maternal and child health is international and national priority, the United Nations Millennium Development Goals list maternal health as one of the eight goals, so dealing with depression during pregnancy is relevant to achieving better outcomes for mothers. It is high time that maternal mental health is prioritized and identification and management of antenatal depression is made a part of mother and child health care so implications for mother and health care costs could be reduced.

## CONCLUSION

The prevalence of antepartum depression among pregnant women is 46.67%, and the greatest contributor is the thought of harming herself.

We therefore recommended that pregnant women be routinely screened for depression during antenatal care. The necessary psychological care for pregnant women, especially those with risk factors for antenatal depression, should be provided by PCH centers. Moreover, pregnant women and their family members should receive health education about measures they can take to avoid antenatal depression.

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