

Prevalence of antenatal depression and associated risk factors among pregnant women attending antenatal clinics in Karachi, Pakistan

Shahina Ishtiaque, Shazia Sultana, Urooj Malik, Uzair Yaqoob, Sheeba Hussain

Department of Obstetrics and Gynecology, Ziauddin University hospital and Jinnah Postgraduate Medical Center, Karachi, Pakistan

Objective: To highlight the incidence of undiagnosed depression and evaluate its severity among pregnant Pakistani women and identify its risk factors.

Methodology: This cross-sectional study was conducted at Ziauddin University Hospital, Karachi from January 1, to July 31, 2016. All women attending the antenatal clinics for routine follow-up visits were included. Women who were already diagnosed with major depressive disorder (MDD) were excluded. All completed the standardized Patient Health Questionnaire – 9 (PHQ-9) for the screening of depression.

Results: Out of 1000 respondents, BMI was overweight for 40.4% of women and obese for 20.5%. There were 59.8% primigravida, 32.6% multigravida, 6.4% grand multigravida, and 1.2% great grand multigravida. In 24.8%, this pregnancy was unplanned. On PHQ-9, 411 had no to minimal depressive symptoms, 332 mild, 214 moderate and 43 had severe MDD. In primigravida, 32.9%

had mild depression, in multigravida, 37.1% had mild and 37.7% had moderate depression, in grand multigravida, 31.3% reported severe depression, and in great grand multigravida, 66.7% had severe depression. An increased risk of depression was found in women with a family history of psychiatric illnesses, in those with an unplanned pregnancy, and in those with the previous history of stillbirth and miscarriages. Majority of women <21 years of age were mildly depressed and some >40 years were severely depressed.

Conclusion: The prevalence of depression among pregnant women is high and is usually mild. Risk factors were extremes of age, higher gravida, previous history of miscarriage and stillbirth, and unplanned pregnancy. (Rawal Med J 202;45:434-438).

Keywords: Antenatal depression, depression, pregnancy.

INTRODUCTION

The most frequent psychiatric disorder affecting women is depression.¹ In women of reproductive age, the rate of depression has been reported twice that of men of the similar age.² Although one may regard pregnancy as a happy and blessed experience, the risk of depression has been reported to be equal or increased as compared to non-pregnant/postpartum women.^{1,3} Some women may be experiencing the first episode of depression during pregnancy while for others, it may be an exacerbation of pre-existing depression.

Depression during the antenatal period has been associated with adverse neonatal outcomes. It has been associated with preterm birth, low birth weight, and small-for-gestational age (SGA) babies. Depression hyper-activates the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic

nervous system hormones, including corticotropin-releasing hormone, cortisol, and catecholamines. These hormones affect the timing of birth and fetal growth. Depression also lead to reduced appetite, binge eating, increased cigarette smoking, and/or alcohol consumption, which are all adverse for fetal growth.⁴

In developing countries young mothers, unmarried and/or single mothers, stay-at-home mothers, mothers with low monthly income, and mothers living with domestic conflicts/violence, are more prone to developing antenatal depression. Women with adverse obstetric history including previous miscarriages, stillbirths, and abortions are at higher risk.⁵

Prevalence of antenatal depression in developed countries is as low as 7.4-12.8 %.⁶ In developing countries, higher prevalence has been reported i.e.

25% in Ethiopia⁵ and India,⁷ 29% in Bangladesh,⁸ 39% in South Africa Cape Town,⁹ 38.5 % in South Africa KwaZulu-Natal,¹⁰ and 39.5 %, in Tanzania.¹¹ In Pakistan, prevalence of antenatal depression has been reported to be 11-81% in different cultures and regions of the country.¹²⁻¹⁵ This study aimed to highlight the incidence of undiagnosed depression and evaluate its severity among pregnant Pakistani women and identify its risk factors.

METHODOLOGY

This prospective, cross-sectional study was conducted in the Department of Obstetrics and Gynecology of Ziauddin University Hospital, Karachi from January 1, to July 31, 2016. Consecutive sampling technique was adopted and all women attending the antenatal clinics for routine follow-up visits were invited to participate. The study was approved by the institutional review board and informed consent was taken from all participants. Women who were diagnosed with major depressive disorder (MDD) by any physician and/or who were taking any antidepressants were excluded from the study.

All women were interviewed for their demographics, past medical, gynecological and obstetric history. All completed the standardized Patient Health Questionnaire – 9 (PHQ-9) for the screening of depression. The PHQ-9 is a 9-item self-administered questionnaire which evaluates the presence of depressive symptoms in the past two weeks. All nine items of the PHQ-9 reflect on the nine diagnostic criteria for MDD in the Diagnostic and Statistical Manual Fourth Edition (DSM-IV). PHQ-9 not only screens for depression but can also assess its severity. Each item is scored on a three-point Likert scale with 0 indicating "not at all" to 3 indicating "nearly every day".¹⁶ The score of PHQ-9 ranges from 0 (no depressive symptoms) to 27 (most severe depressive symptoms). Summated score of 0-4 indicates no to minimal depressive symptoms; increasing score indicates increasing severity of depression. The reliability of PHQ-9 has been reported 0.84 among pregnant women.¹⁷

Statistical Analysis: Data were analyzed using SPSS version 23.0. Mean and standard deviation was calculated for continuous variables. Frequency

and percentages were calculated for categorical variables.

RESULTS

A total of 1000 responses were included. Their mean age was 29.4 ± 5.5 years. Their mean BMI was 31.8 ± 4.3 kg/m². BMI was 25.0-29.9 (overweight) for 404 (40.4%) women and 30.0 and above (obese) for 205 (20.5%) women. Most women were primigravida and in 248 (24.8%) women, this pregnancy was unplanned (Table 1).

Table. Characteristics of the study participants (N=1000).

Participant Characteristics	Frequency (%)
Age	
Less than 21 years	230 (23%)
21-30 years	400 (40%)
31-40 years	300 (30%)
More than 40 years	70 (7%)
Education status	
No or primary education	170 (17%)
Secondary education	200 (20%)
High school education	230 (23%)
College graduate or above	400 (40%)
Past Medical History	
Diabetes	
Comorbidity	86 (8.6%)
Family history	140 (14%)
Hypertension	
Comorbidity	(11.3%)
Family history	(14%)
Ischemic heart disease	
Comorbidity	70 (7%)
Family history	70 (7%)
Psychiatric illness	
Comorbidity	60 (6%)
Family history	30 (3%)
Obstetric history	
Unplanned pregnancy	248 (24.8%)
Previous history of miscarriages	198 (19.8%)
Previous history of stillbirth	28 (2.8%)

On PHQ-9, 411 (41.1%) had no to minimal depressive symptoms (score: 0-4). The remaining 589 (58.9%) women were diagnosed with MDD of varying severity. Among those diagnosed with MDD, 332 (56.3%) had mild symptoms, 214

(36.3%) had moderate symptoms, and 43 (7.3%) had severe MDD. In primigravida, 197 (32.9%) had mild depression, in multigravida, 121 (37.1%) had mild and 123 (37.7%) had moderate depression (Fig. 1).

Fig. 1. Degree of depression according to number of children.

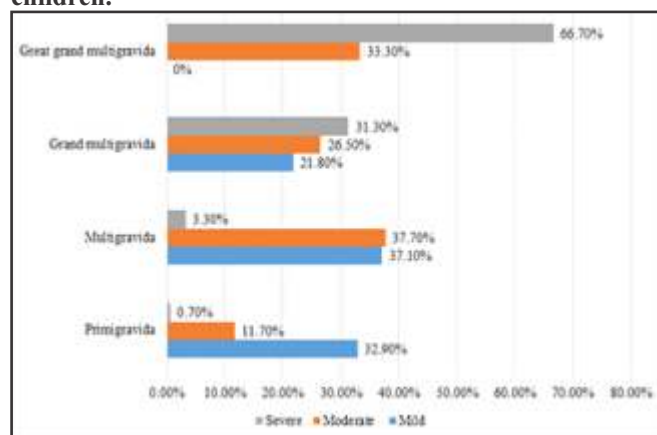
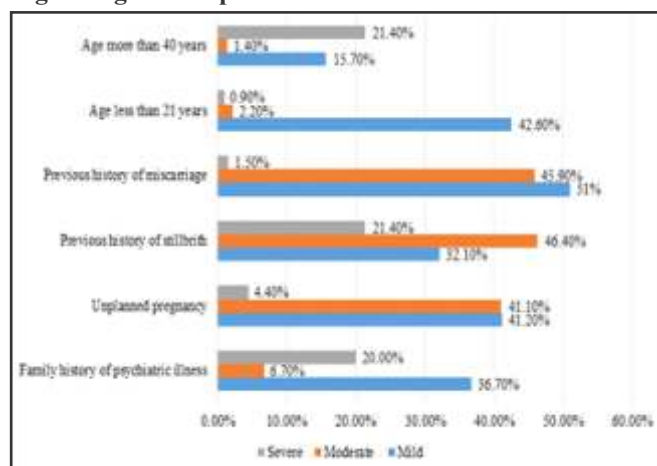


Fig. 2. Degree of depression and risk factors.



In women with a family history of psychiatric illnesses, 11 (36.7%) had mild depression, in women with unplanned pregnancy, 102 (41.1%) had mild and moderate MDD each, in women with the previous history of stillbirth 13 (46.4%) had moderate depression, in women with previous miscarriages, 101 (51%) had mild depression, most of the younger women (<21 years) were mildly depressed (n=98; 42.6%) and some of the women of older age group (>40 years) were severely depressed (n=15; 21.4%) (Fig. 2).

DISCUSSION

This was a large scale study conducted to screen the incidence of undiagnosed major depressive disorder in pregnant women and evaluate its severity. We found shocking 60% prevalence of undiagnosed depression among pregnant women of Karachi. The prevalence of depression in this study is comparable to other studies from Pakistan.¹²⁻¹⁵ However, the overall situation is worse than other developing countries in this region such as India and Bangladesh.^{5,7,8} The prevalence was lower with increasing severity of depression with mild symptoms being the most common and severe symptoms being the least common. Similar patterns have been observed in other studies.¹²

The risk factors of depression in this study were extremes of age, higher gravida, previous history of miscarriage and stillbirth, and unplanned pregnancy. In an Ethiopian study, factors such as age, marital status, income, occupation, history of the previous mental disorder, antenatal follow-up, unplanned pregnancy, complication during to pregnancy, age of the mother during pregnancy, conflict, and social support were associated with antenatal depression.⁵ In a study from Bangladesh, literacy, poor relationship with the partner, forced sex, physical violence by a spouse, and previous history of depression were reported to be the core risk factors associated with antenatal depression.⁸

In an Indian study, with a prevalence of 9.18%, significant obstetric risk factors included higher like gravidity, unplanned pregnancy, history of abortions, and history of obstetric complications.¹⁸

In a systematic review, maternal anxiety, life stress, prior depression, lack of social support, domestic violence, unplanned pregnancy were identified as independent risk factors of antenatal depression.¹⁹ In a cohort of British Pakistani mothers, the weighted mean prevalence of depression among women in their third trimester was 17%. The predisposing social factors included social isolation, poor social support, and severe and persistent social difficulties.²⁰ Risk factors of psychosocial distress in various ethnic groups across the United Kingdom include financial concerns, working status, education, and family structure.²¹

Some studies have identified the adverse impacts of

antenatal depression on the outcome of the baby. Neonates born to depressed mothers tend to have a preterm birth, intrauterine growth restriction, and low birth weight.²² There are also higher risks of miscarriage, and perinatal death.²³

The major implication of this study is the reinforcement of depression screening strategies among pregnant as well as postpartum women. Early recognition of antenatal depression is the key to timely medical and psychiatric interventions. This study has highlighted major risk factors associated with depression among pregnant women. It is, however, a single-center study conducted in a private hospital. The results cannot be generalized for the entire population with great differences in the socioeconomic status and its associated intricacies.

CONCLUSION

The prevalence of depression among pregnant women is high. Mild symptoms are more common. Risk factors including extremes of age, higher gravida, previous history of miscarriage and stillbirth, and unplanned pregnancy increase the risk of developing depression. In a collaborative approach, obstetricians and public health advocates should make a joint approach towards this alarming situation.

Author Contributions:

Conception and design: Shahina Ishtiaque, Shazia Sultana, Urooj Malik

Collection and assembly of data: Uzair Yaqoob, Sheeba Hussain

Analysis and interpretation of the data: Uzair Yaqoob, Sheeba Hussain

Drafting of the article: Shazia Sultana, Uzair Yaqoob

Critical revision of the article for important intellectual content: Shazia Sultana, Shahina Ishtiaque, Uzair Yaqoob

Statistical expertise: Shazia Sultana, Uzair Yaqoob

Final approval and guarantor of the article: Shazia Sultana

Corresponding author email: Uzair Yaqoob:

ozair_91393@hotmail.com

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