

## ORIGINAL ARTICLE

# Frequency; of Prenatal Depression in Second and Third Trimesters of Pregnancy

MUHAMMAD MUSLIM KHAN<sup>1</sup>, FATIMA<sup>2</sup>, HEMASA GUL<sup>3</sup>, SEDRA TUL MUNTAHA<sup>4</sup>, NAILA<sup>5</sup>, MUHAMMAD KASHIF<sup>6</sup>

<sup>1</sup>Associate Professor, Psychiatry, Bacha Khan Medical College Mardan Medical Complex Mardan

<sup>2</sup>Assistant Professor, Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan

<sup>3</sup>Assistant Professor, Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan

<sup>4</sup>Junior Registrar, Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan

<sup>5</sup>Assistant Professor Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan

<sup>6</sup>Associate Professor, Psychiatry, Rawalpindi Medical College, Benazir Bhutto Hospital Rawalpindi

Correspondence to: Fatima, Email: [dr.fatimarehman@gmail.com](mailto:dr.fatimarehman@gmail.com)

## ABSTRACT

**Background:** Prenatal depression is a mental disorder that develops during pregnancy. It is critical to detect depression during pregnancy and implement appropriate treatment techniques.

**Objective:** The main objective of this study was to determine the frequency of prenatal depression in second and third trimesters of pregnancy

**Material and method:** The present study was carried out at the department of Psychiatry and Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan from January 2022 to June 2022 after taking permission the ethical committee of the hospital. A total of 85 pregnant women during their 2<sup>nd</sup> (14-26 weeks) and 3<sup>rd</sup> (27-40 weeks) trimester of pregnancy who visited the out patients department (OPD) were included in this study. The data was collected by the process of administration of a questionnaire. Prenatal depression was identified using the Edinburgh Postnatal Depression Scale (EPDS). Depression was identified using a cutoff score of 12. The association between depression & age, parity, and pregnancy trimester was evaluated using the Chi-square test.

**Results:** A total of 85 pregnant women were enrolled in the current study and interviewed out of which 61(71.7%) were in the 3<sup>rd</sup> trimester and 24(28.2%) were in the 2<sup>nd</sup> trimester. Mean age of the study participants were 25 years. 20(23.5%) were grand multipara 40(47.0%) women had more than one or less than four children and 25(29.4%) were primigravida. Majority 57(67.0%) of the individuals were in the age group 21 to 30 years. Edinburgh postnatal depression scale revealed that depression was seen in 30(35.2%) of the study participants. Among these depressed individuals, 6(25%) were in 2<sup>nd</sup> and 25(40.9%) in 3<sup>rd</sup> trimester. Depression was most prevalent in Grand Multi 10(50%). Age wise distribution of depression revealed that the most effected age was above 30 years 4(50%). Only grandmulti-parity was substantially associated with prenatal depression on univariate analysis. Additionally, depression during the prenatal period has been correlated to greater age at pregnancy.

**Conclusion:** The present study concluded that depression was most prevalent in the 2<sup>nd</sup> and 3<sup>rd</sup> trimesters of pregnancy (35%). But it was most common in the 3<sup>rd</sup> trimester.

**Keywords:** Frequency; Prenatal depression; Trimester; Pregnancy.

## INTRODUCTION

Depression is a medical condition that results in fatigue and reduced activity. It is mainly characterized by persistent low mood, loss of interest or pleasure, and decreased energy.<sup>1</sup> According to the World Health Organization, depression was the second leading cause of disability worldwide in 2020 and is expected to become the leading cause of disease burden by 2030. Up to one in six pregnant women may experience antenatal depression, which is particularly common in developing countries.<sup>2</sup> The American College of Obstetricians and Gynecologists reports that women who suffer from depression during pregnancy are at increased risk of adverse outcomes such as intrauterine growth restriction, low birth weight, and preterm delivery.<sup>3</sup> Depression during pregnancy directly affects both the mother and the fetus, often resulting in low birth weight and premature birth. Pregnant women with depression are also more likely to experience anxiety and postpartum depression.<sup>4-6</sup> Depression is a global health issue affecting more than 15% of the general population and possibly over 22% of pregnant women.<sup>7</sup> Pregnant women in Pakistan are particularly vulnerable and often belong to underprivileged groups. Studies indicate that approximately 30% of women from lower-middle socioeconomic backgrounds experience anxiety and depression.<sup>8</sup> Married women constitute the majority of affected individuals, with factors such as domestic abuse, poverty, unemployment, and chronic stress contributing significantly to depression.<sup>9</sup> Additionally, research shows that only 23% of husbands from lower socioeconomic backgrounds accompany their wives to hospital visits, compared to 70% of husbands from higher socioeconomic groups.<sup>10</sup> High stress levels, inadequate social support, and depression during pregnancy have been shown to negatively affect maternal functioning and the developmental outcomes of the child.<sup>11</sup> Although the use of psychiatric medications during pregnancy raises concerns, evidence supports the effectiveness

and relative safety of certain antidepressants, including fluoxetine and tricyclic antidepressants.<sup>12</sup> Early detection and appropriate management of depression during pregnancy are essential, as untreated depression poses risks to both the mother and the developing fetus.<sup>13</sup> Hormonal changes during pregnancy further increase women's vulnerability to depression. Studies investigating prenatal depression consider various socio-demographic, psychological, and pregnancy-related risk factors.<sup>14</sup> However, there is limited data available on the prevalence of prenatal depression during the second and third trimesters of pregnancy. Therefore, the present study was conducted to determine the frequency of prenatal depression in the second and third trimesters.

## MATERIAL AND METHOD

The present study was carried out at the department of Psychiatry and Department of Obstetrics and Gynecology, Bacha Khan Medical College Mardan Medical Complex Mardan from January 2022 to June 2022 after taking permission the ethical committee of the hospital. A total of 85 pregnant women during their 2<sup>nd</sup> (14-26 weeks) and 3<sup>rd</sup> (27-40 weeks) trimester of pregnancy who visited the out patients department (OPD) were included in this study while individuals with history of depressive episode or taking psychotropic or steroids were excluded from the study. Written consent was taken from each participant and was informed about the purpose of the study. The data was collected by the process of administration of a questionnaire. Prenatal depression was identified using the Edinburgh Postnatal Depression Scale (EPDS), a durable, reliable, and cost-effective screening instrument.<sup>13</sup> This scale has been approved as a prenatal screening method and was created in 1987 to serve as a specialized assessment tool for identifying depression in new mothers.<sup>15</sup> This self-reporting measure has ten items. A person may receive up to thirty points. Depression was identified using a cutoff score of 12. The

association between depression & age, parity, and pregnancy trimester was evaluated using the Chi-square test.

## RESULTS

A total of 85 pregnant women were enrolled in the current study and interviewed out of which 61(71.7%) were in the 3<sup>rd</sup> trimester and 24(28.2%) were in the 2<sup>nd</sup> trimester. Mean age of the study participants were 25 years. 20(23.5%) were grand multipara (having more than four children), 40(47.0%) women had more than one or less than four children and 25(29.4%) were primigravida (having first pregnancy). majority of the individuals were in the age group 21 to 30 years age group 57(67.0%). as presented in the table 1. Edinburgh postnatal depression scale revealed that depression was seen in 30(35.2%) of the study participants. Among these depressed individuals, 6(25%) were in s 2<sup>nd</sup> and 25(40.9%) in 3<sup>rd</sup> trimester. Depression was most prevalent in Grand Multi 10(50%) followed by Multigravida 14(35%) and Primigravida 7(28%) respectively. Age wise distribution of depression revealed that the most effected age was above 30 years 4(50%) followed by age below 20 years 7(35%). Only grandmulti-parity was substantially associated with prenatal depression on univariate analysis. Additionally, depression during the prenatal period has been correlated to greater age at pregnancy (> 30 years 40%). Since a total of 25 (40.9%) of the study's participants suffered prenatal depression, the third trimester was a more challenging time for them as presented in table 2.

Table 1. Demographic features of the study population

Features	Frequency / percentage.
Trimester	
2 <sup>nd</sup>	24(28.2%)
3 <sup>rd</sup>	61(71.7%)
Party	
Multigravida	40(47.0%)
Primigravida	25(29.4%)
Grand Multi	20(23.5%)
Age in years	
Below 20	20(32.5%)
21 to 30	57(67.0%)
Above 30	8(9.4%)

Table 2. Relation of depression with trimester, party and age

Features	Depression frequency / Percentage	Value of P
Trimester		
2 <sup>nd</sup>	6(25%)	> 0.05
3 <sup>rd</sup>	25(40.9%)	
Party		
Multigravida	14(35%)	>0.05
Primigravida	7(28%)	
Grand Multi	10(50%)	
Age in years		
Below 20	7(35%)	>0.05
21 to 30	8(14%)	
Above 30	4(50%)	

## DISCUSSION

Depression is defined by a numbers of symptoms that persist over time and interfere with one or more areas of daily functioning, commonly accompanied by a depressed mood or loss of pleasure.<sup>16</sup> Pregnancy is often perceived as a stressful period for women and can be challenging both physically and psychologically.<sup>17</sup> In many low-income countries, antenatal care primarily focuses on the physical health of pregnant women, with limited attention given to their emotional and mental well-being. Recently, prenatal depression has received increasing attention as an important mental health concern during pregnancy. The reported prevalence of prenatal depression, a mental health disorder that develops during pregnancy, ranges from 10% to 29.6%. It commonly presents with symptoms such as low mood, reduced interest, and other negative emotional states.<sup>18-19</sup> Prenatal

depression is reported to be equally prevalent in some resource-limited countries.<sup>20</sup> Women experiencing prenatal depression are at a higher risk of pregnancy-related suicide and postpartum depression.<sup>21</sup> Furthermore, depressive disorders during pregnancy have been associated with adverse obstetric and neonatal outcomes, impaired neurodevelopment of the fetus after birth, and an increased likelihood of mental health problems in children later in life.<sup>22</sup>

Therefore, the present study was conducted to determine the frequency of prenatal depression during the second and third trimesters of pregnancy. A total of 85 pregnant women were enrolled and interviewed. Of these, 61 (71.7%) were in their third trimester, while 24 (28.2%) were in their second trimester. Depression was identified in 30 (35.2%) participants. Among the depressed women, 6 (25%) were in the second trimester and 25 (40.9%) were in the third trimester. The highest prevalence of depression was observed among grand multigravida women 10 (50%), followed by multigravida 14 (35%) and primigravida women 7 (28%). Age-wise analysis showed that depression was most common among women aged over 30 years 4 (50%), followed by those below 20 years of age 7 (35%).

The findings of the present study are consistent with those reported by Hamirani et al.,<sup>23</sup> who observed a depression prevalence of 34.5% among pregnant women in the second and third trimesters. A local study also reported a high prevalence of depression (51.9%) and other psychological disorders among patients attending a community psychiatric clinic.<sup>24</sup> Similarly, a study conducted at the University of Michigan in the United States involving approximately 3,500 women found that one in five pregnant women experienced depressive symptoms.<sup>25</sup>

In the present study, depression was most prevalent during the third trimester (40%), a finding comparable to that reported by Cox et al.<sup>26</sup> During the third trimester, women may experience increased anxiety related to the approaching delivery date, concerns about fetal health, and changes in social responsibilities, all of which may contribute to depressive symptoms. Consequently, the high frequency of prenatal depression observed in this study highlights the need for increased awareness and appropriate clinical intervention.

The study also demonstrated an association between prenatal depression and advanced maternal age (>30 years, 40%). Since 25 (40.9%) participants experienced prenatal depression, the third trimester appeared to be the most challenging period. These findings are consistent with previous research.<sup>23</sup> Overall, a substantial proportion of pregnant women in this study suffered from depression. Further research is needed to identify associations with modifiable risk factors and to develop effective screening strategies using simple tools that can be implemented at the primary healthcare level. Additionally, further studies are required to evaluate appropriate treatment strategies during both the prenatal and postnatal periods.

The main limitation of this study was its small sample size of only 85 participants. Moreover, factors such as poverty, education level, family-related issues, and adjustment difficulties should be carefully considered when screening pregnant women for depression.

## CONCLUSION

The present study concluded that depression was most prevalent in the 2<sup>nd</sup> and 3<sup>rd</sup> trimesters of pregnancy (35%). But it was most common in the 3<sup>rd</sup> trimester. Therefore, the degree to which to treat this illness, careful assessment is advised, and the right risks and benefits should be taken into account. Treating the mother may be crucial for the child's and family's future wellbeing.

## REFERENCES

1. World Health Organization. Regional Office for the Eastern M. Perinatal depression. Cairo: World Health Organization. Regional Office for the Eastern Mediterranean; 2019. Contract No.: WHO-EM/MNH/222/E.

2. Gelaye B, Rondon MB, Araya R, Williams MA. Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *Lancet Psychiatry* 2016;3:973-82.
3. The American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 757: Screening for Perinatal Depression. *Obstet Gynecol* 2018;132:e208-12.
4. Fekadu Dadi A, Miller ER, Mwanri L. Antenatal depression and its association with adverse birth outcomes in low and middle-income countries: A systematic review and meta-analysis. *PloS One* 2020; 15:e0227323.
5. Rahman A, Iqbal Z, Harrington R. Life events, social support and depression in childbirth: Perspectives from a rural community in the developing world. *Psychol Med* 2003; 33:1161-7.
6. Accortt EE, Cheadle AC, Dunkel Schetter C. Prenatal depression and adverse birth outcomes: An updated systematic review. *Matern Child Health J* 2015; 19:1306-37.
7. Campagne DM. Screening depressive patients in pregnancy with the pregnancy mood profile. *J Repro Med.* 2003;48(10):813-7
8. Ali BS, Amanullah S. Prevalence of anxiety and depression in an urban squatter settlement of Karachi. *J Coll Physicians Surg Pak.* 2000;10:4-6
9. Naeem S, Ali BS, Iqbal A, Mubeen S, Gul A. Spontaneous recovery from depression in women: a qualitative study of vulnerabilities, strengths and resources. *J Pak Med Assoc.* 2004;54(2):49-51
10. Afridi M, Mashhood A. Anxiety, depression and stress among the husbands of obstetric cases at Karachi. *J Pak Med Assoc.* 2019;49(11):265-8.
11. Cunningham M, Zayas LH. Reducing depression in pregnancy: designing multimodal interventions. *Social Work.* 2002; 47(2): 114-23
12. Nonacs R, Cohen LS. Assessment and treatment of depression during pregnancy: an update. *Psychiatric Clin North Am.* 2003;26(3):547-62
13. Al-Sabah R, Al-Taiar A, Ziyab AH, Akhtar S, Hammoud MS. Antenatal depression and its associated factors: Findings from Kuwait Birth cohort study. *Journal of Epidemiology and Global Health* 2024;14(3):847-59.
14. Taj R, Sikander KS. Effects of maternal depression on breast-feeding. *J Pak Med Assoc.*2003;53(1):8-11
15. Lehtinen V, Joukamaa M. Epidemiology of depression: Prevalence, risk factors and treatment situation. *Acta Psychiatrica Scand.* 2019;377:7-10
16. Hodgkinson EL, Smith DM, Wittkowski A. Women's experiences of their pregnancy and postpartum body image: a systematic review and meta-synthesis. *BMC Preg Childbirth.* (2014)
17. Winter C, Van Acker F, Bonduelle M, Van Berkel K, Belva F, Liebaers I, et al. Depression, pregnancy-related anxiety and parental-antenatal attachment in couples using preimplantation genetic diagnosis. *Hum Reprod.* (2016)
18. Chen J, Cross WM, Plummer V, Lam L, Sun M, Qin C, et al. The risk factors of antenatal depression: a cross-sectional survey. *J Clin Nurs.* (2019) 28:3599–609. 10.
19. Zegeye A, Alebel A, Gebrie A, Tesfaye B, Belay YA, Adane F, et al. Prevalence and determinants of antenatal depression among pregnant women in Ethiopia: a systematic review and meta-analysis. *BMC Preg Childbirth.* (2018)
20. Castro e Couto T, Brancaglion MY, Cardoso MN, Faria GC, Garcia FD, Nicolato R, et al. Suicidality among pregnant women in Brazil: prevalence and risk factors. *Arch Women's Mental Health.* (2016)
21. Hamirani, M. Munir, et al. "Frequency of prenatal depression in second and third trimesters of pregnancy in Karachi: a hospital based study." *Journal of the Liaquat University of Medical and Health Sciences* 5.3 (2006): 106-109.
22. Gadit AA. Pattern of mental health morbidity. *J Coll Physicians Surg Pak.*20017;11(11):706-8.
23. Spinelli MG. Antepartum and postpartum depression. *J Gender Specific Medicine.* 2017;1(2): 33-6
24. Cox JL, Connor Y, Kendell RE. Prospective study of the psychiatric disorders of childbirth. *Br J Psychiatry.* 2019; 140:111-117