

Prevalence of Anxiety and Depression in Pregnant Women at Tertiary Care Hospital

SHAHANA ATIQ¹, HAJIRA², ARSHAD MAHMOOD³, SYED UZAIR ALI SHAH⁴, MUHAMMAD IMRAN QAYYUM⁵, ZAFAR MOHIUDDIN⁶, ASMAT ULLAH KHAN⁷

¹Medical Officer, Department of Obstetrics and Gynaecology, Women and Children Hospital, Charsadda

²Medical Officer, Department of Obstetrics and Gynaecology, District Headquarter Hospital, Landi Kotal

³Associate Professor, Department of Biosciences, Faculty of Science, Salim Habib University, Karachi- Pakistan

⁴Department of Pharmacy, University of Swabi, Swabi, KP, Pakistan

⁵Department of Pharmacy, University of Poonch Rawalakot

⁶Specialist, Intensivist & Anesthetist, Allama Iqbal Medical College, Lahore, Pakistan

⁷Department of Eastern Medicine, Faculty of Medical and Health Sciences, University of Poonch Rawalakot, Pakistan

Corresponding author: Hajira, Email: Lailuma14@gmail.com

ABSTRACT

Background: Pregnancy is a period of strength and optimism for a woman, even though it is a period of vulnerability. As many as one in ten new mothers have clinical depression or anxiety before or throughout the first year after the delivery of a baby, regardless of financial status.

Objective: To evaluate prevalence of anxiety and depression in pregnant women at tertiary care hospital

Methodology: This cross sectional study was carried out at the department of Obstetrics and Gynaecology, Women and Children Hospital, Charsadda for a period of six months from July 2021 to December 2021. A total of 250 pregnant women were included in our study based on WHO, sample size calculator. To assess Anxiety and depression, Hamilton anxiety rating scale and Hamilton depression rating scale were employed. IBM SPSS version 24 was used for all the data analysis.

Results: Based on Hamilton depression rating score, amongst 250 participants, 47 (18.8%) participants were normal, 75 (30%) participants were observed with mild depression, moderate depression was observed in 70 (28%) participants, severe depression was observed in 33 (13.2%) participants and very severe depression was observed in 25 (10%) participants while Based on Hamilton anxiety rating score, the number of participants in normal, mild, moderate and severe anxiety range were 88 (35.2%), 45 (18%), 171 (31.2%) and 39 (15.2%) respectively.

Conclusion: Our study concludes that depression and anxiety is highly prevalent in our population. Majority of the women from rural areas were uneducated.

Keywords: Prevalence; Anxiety; Depression; Pregnancy

INTRODUCTION

Pregnancy is a period of strength and optimism for a woman, even though it is a period of vulnerability. Pregnancy is typically a way of self-realization for psychologically healthy women. Other women utilize pregnancy as a way to alleviate self-doubts about their femininity or to reaffirm themselves that they are capable of becoming a woman in the most fundamental sense. Others have a negative attitude about pregnancy and they may be afraid of delivery or feel unqualified to be a mother. As many as one in ten new mothers have clinical depression or anxiety before and throughout the first year after the delivery of a baby, regardless of financial status. The nausea, exhaustion, and emotionality that come with each trimester may provide unique difficulties and pleasures. The first and third trimesters of pregnancy may be challenging for many women¹. At some time in their life, around 21% of women will have a mood condition, and 30% will have an anxiety problem². Even though it was often thought that pregnant women had a decreased risk of anxiety and depression problems, new research contradicts this assumption³. Instead, between ten to twenty-seven percent of pregnant women have depressive symptoms, with two to eleven percent developing severe depressive disorder. According to a research, 23% of pregnant women in California getting prenatal treatment had depression and anxiety problems. The prevalence of maternal depression

in research with disadvantaged pregnant women ranged from 30 to 70%. This evidence suggests that emotional, neuro-endocrine, and immunological systems may all have a role in reproductive success and fetal development⁴. Anxiety and stress have also been linked to a change in the length of pregnancy and the health of the fetal brain, according to numerous researches⁵⁻⁷. At 32 weeks of pregnancy, one team of researchers conducted a study to investigate whether there was a link amongst anxiety and uterine blood circulation. The findings revealed that blood flow via uterine arteries was reduced in high anxiety women. Reduced uterine blood flow might be a factor in decreased birth weight, premature delivery, and babies with high cortisol levels, all of which are common in anxious mothers⁸. In cases of elevated mother anxiety, similar Swedish study found that cerebral blood flow was reduced⁹. Some of the findings show that anxiety before giving birth is very common. It is also linked to depression and makes it more likely that the person will have postnatal depression later on. The purpose of this study was to assess the frequency of depression and anxiety in pregnant women aiming to focus the concern of the healthcare system to these psychological difficulties and assist them in dealing with the stress of anxiety and depression. Based on prior data, it is possible that anxiety and depression are more common during pregnancy.

MATERIALS AND METHODS

This cross sectional study was carried out at the department of Obstetrics and Gynaecology, Women and Children Hospital, Charsadda. The study period was six months from July 2021 to December 2021. Proper approval to our study was taken from the institutional ethical and research committee. The inclusion criteria for our study were all the pregnant women (first, second and third trimesters), aged 18-45 years, attending the tertiary care hospital for their routine examination and consultation with the gynecologist and willing to participate in our study. The exclusion criteria were all the pregnant women having previous history of anxiety and depression, patients of HIV and diabetes and women not willing to participate in our study. Informed consent was signed from all the subjects included in our study. A total of 250 pregnant women were included in our study based on WHO, sample size calculator. To assess Anxiety and depression, Hamilton anxiety rating scale and Hamilton depression rating scale were employed. All the socio-demographic information and data about the participants clinical examination was collected on a predesigned Performa. IBM SPSS version 24 was used for all the data analysis. Frequency and percentage were documented for categorical variables whereas for continuous variables, means and standard deviations were documented.

RESULTS

Totally 250 pregnant women participated in our study. Mean age in our study was 27.11 years with standard deviation of ±4.92. The minimum age was 18 years and maximum age was 41 years. On the basis of education level, uneducated, primary, matric, intermediate, bachelor and master level of education was observed in 125 (50%), 38 (15.2%), 33 (13.2%), 13 (5.2%), 20 (8%) and 21 (8.4%) respectively. Based on profession, housewives were 200 (80%) and 50 (20%) were employed. On the basis of residential status, 138 (55.2%) participants were from rural area whereas 112 (44.8%) were from urban areas. The number of participants in the first, second and third trimester were 25 (10%), 63 (25.2%) and 162 (64.8%) respectively.

Table 1: Demographic information of the participants

Parameter	Sub-category	Frequency (%)
Education level	Uneducated	125 (50%)
	Primary	38 (15.2%)
	Matric	33 (13.2%)
	Intermediate	13 (5.2%)
	Bachelor	20 (8%)
	Master	21 (8.4%)
Profession	Housewives	200 (80%)
	Employed	50 (20%)
Residential status	Rural area	138 (55.2%)
	Urban areas	112 (44.8%)
Trimester	1 st trimester	25 (10%)
	2 nd trimester	63 (25.2%)
	3 rd trimester	162 (64.8%)
Pregnancy planning	Planned pregnancy	200 (80%)
	Unplanned pregnancy	50 (20%)

Based on pregnancy planning, 200 (80%) participants have planned pregnancy while 50 (20%) participants have unplanned pregnancy.(Table 1) Based on Hamilton depression rating score, amongst 250 participants, 47 (18.8%) participants were normal, 75 (30%) participants were observed with mild depression, moderate depression was observed in 70 (28%) participants, severe depression was observed in 33 (13.2%) participants and very severe depression was observed in 25 (10%) participants. (Figure 1) Based on Hamilton anxiety rating score, the number of participants in normal, mild, moderate and severe anxiety range were 88 (35.2%), 45 (18%), 171 (31.2%) and 39 (15.2%) respectively. (Figure 2)

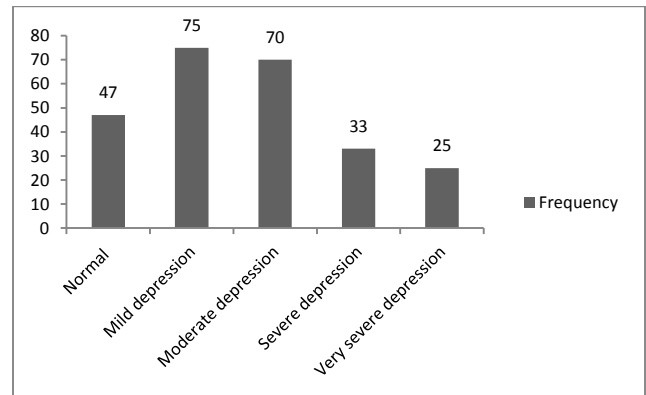


Figure 1: Frequency of different level of depression

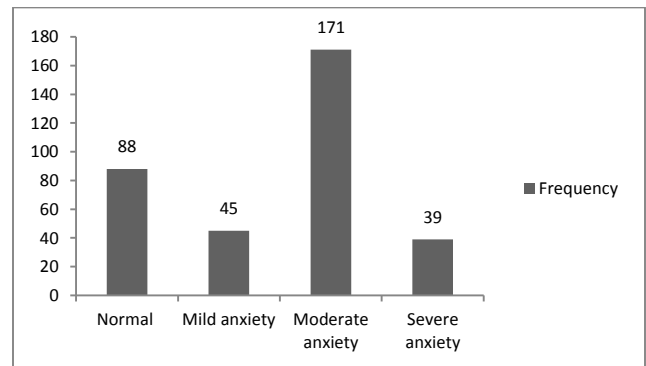


Figure 2: Frequency of different level of anxiety

DISCUSSION

The prevalence of prenatal depression has been proven to be comparable to the prevalence of postnatal depression, and meta-analyses have revealed that antenatal depression strongly predicts the incidence of postnatal depression¹⁰. The incidence of prenatal depression varies according to the results of various researches. The frequency of depression in developing nations ranged from 6.4 to 30%, according to the results of a study on the prevalence of depression. The mean rate of depression in industrialized nations was 15%, with a range of 8.1 to 56 percent¹¹.

According to findings of our study the rates of depression and anxiety are quite high among the antenatal population. Based on Hamilton depression rating score, amongst 250 participants, 47 (18.8%) participants were normal, 75 (30%) participants were observed with mild

depression, moderate depression was observed in 70 (28%) participants, severe depression was observed in 33 (13.2%) participants and very severe depression was observed in 25 (10%) participants. A previous study done in Pakistan, reported similar results. They reported significant association of anxiety and depression in pregnant women with urban residence¹². Another previous study in Pakistan also reported similar results to our findings¹³.

Another study showed that about two-third of antenatal women attending antenatal clinic were anxious and depressed (10). A Karachi based study from Pakistan reported 45.3% prevalence of depression amongst pregnant women¹⁴ while another study from Lahore reported 75.1% prevalence of depression on Edinburgh Postnatal Depression Scale¹⁵. A study done in Brazil reported 16% prevalence of depression amongst pregnant women. They reported that maternal education and high parity have strong association with depression¹⁶. Another study reported that maternal education, maternal age and family size have significant association with the depression of pregnant women¹⁷. Anxiety was also common amongst pregnant women, although it was far lower than the levels of depression found in our research. Based on Hamilton anxiety rating score, the number of participants in normal, mild, moderate and severe anxiety range were 88 (35.2%), 45 (18%), 171 (31.2%) and 39 (15.2%) respectively. A study carried out in Bangladesh reported prevalence of anxiety in 29.4% pregnant women¹⁸. A previous study from Pakistan reported 53% anxiety prevalence in pregnant women¹⁹. In a study piloted in Lahore, reported 34.5% prevalence of anxiety in pregnant women²⁰.

CONCLUSION

Our study concludes that depression and anxiety is highly prevalent in our population. Majority of the women from rural areas were uneducated. Depression and anxiety are prevalent problems that may occur during pregnancy, and they are caused by a variety of social and physical issues. There should be a method in place to test all pregnant women for the prevalence of depression and anxiety, so that it can be treated appropriately to minimize maternal and fetal difficulties.

REFERENCES

- Nazari NH, Birashk B, Ghasemzadeh A. Effects of group counseling with cognitive-behavioral approach on reducing psychological symptoms of Premenstrual syndrome (PMS). *Procedia-Social and Behavioral Sciences*. 2012;31:589-92.
- Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. *Arch Gen Psychiatry*. 1994;51(1):8-19.
- O'Hara MW, Zekoski EM, Philipps LH, Wright EJ. Controlled prospective study of postpartum mood disorders: comparison of childbearing and nonchildbearing women. *J Abnorm Psychol*. 1990;99(1):3.
- Kelly RH, Russo J, Katon W. Somatic complaints among pregnant women cared for in obstetrics: normal pregnancy or depressive and anxiety symptom amplification revisited? *Gen Hosp Psychiatry*. 2001;23(3):107-13.
- Talge NM, Neal C, Glover V, Early Stress TR, Fetal PSN, Child NEo, et al. Antenatal maternal stress and long-term effects on child neurodevelopment: how and why? *Journal of Child Psychology and Psychiatry*. 2007;48(3-4):245-61.
- Babenko O, Kovalchuk I, Metz GA. Stress-induced perinatal and transgenerational epigenetic programming of brain development and mental health. *Neurosci Biobehav Rev*. 2015;48:70-91.
- Van den Bergh BR, Mulder EJ, Mennes M, Glover V. Antenatal maternal anxiety and stress and the neurobehavioural development of the fetus and child: links and possible mechanisms. A review. *Neurosci Biobehav Rev*. 2005;29(2):237-58.
- Mulder EJ, De Medina PR, Huizink AC, Van den Bergh BR, Buitelaar JK, Visser GH. Prenatal maternal stress: effects on pregnancy and the (unborn) child. *Early Hum Dev*. 2002;70(1-2):3-14.
- Sjöström K, Valentin L, Thelin T, Maršál K. Maternal anxiety in late pregnancy and fetal hemodynamics. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 1997;74(2):149-55.
- Lancaster C, Gold KJ, Flynn HA, Yoo H, Marcus SM, Davis MM. Risk factors for depressive symptoms during pregnancy: A systematic review. *Am J Obstet Gynecol*. 2010;202:5-14.
- Pereira PK, Lovisi GM. Prevalence of gestacional depression and associated factors. *Archives of Clinical Psychiatry (São Paulo)*. 2008;35:144-53.
- Karmaliani R, Asad N, Bann CM, Moss N, McClure EM, Pasha O, et al. Prevalence of anxiety, depression and associated factors among pregnant women of Hyderabad, Pakistan. *Int J Soc Psychiatry*. 2009;55(5):414-24.
- Shah SMA, Bowen A, Afridi I, Nowshad G, Muhajarine N. Prevalence of antenatal depression: comparison between Pakistani and Canadian women. *JPMJ-Journal of the Pakistan Medical Association*. 2011;61(3):242.
- Jafri SAM, Ali M, Ali R, Shaikh S, Abid M, Aamir IS. Prevalence of depression among pregnant women attending antenatal clinics in Pakistan. *Acta Psychopathol*. 2017;3(5):54.
- Humayun A, Haider I, Imran N, Iqbal H, Humayun N. Antenatal depression and its predictors in Lahore, Pakistan. *EMHJ-Eastern Mediterranean Health Journal*, 19 (4), 327-332, 2013. 2013.
- Woody C, Ferrari A, Siskind D, Whiteford H, Harris M. A systematic review and meta-regression of the prevalence and incidence of perinatal depression. *J Affect Disord*. 2017;219:86-92.
- Thompson O, Ajayi I. Prevalence of antenatal depression and associated risk factors among pregnant women attending antenatal clinics in Abeokuta North Local Government Area, Nigeria. *Depression research and treatment*. 2016;2016.
- Nasreen HE, Kabir ZN, Forsell Y, Edhborg M. Prevalence and associated factors of depressive and anxiety symptoms during pregnancy: a population based study in rural Bangladesh. *BMC Womens Health*. 2011;11(1):1-9.
- Ali NS, Azam IS, Ali BS, Tabbusum G, Moin SS. Frequency and associated factors for anxiety and depression in pregnant women: a hospital-based cross-sectional study. *The Scientific World Journal*. 2012;2012.
- Niaz S, Izhar N, Bhatti M. Anxiety and depression in pregnant women presenting in the OPD of a teaching hospital. *Pakistan Journal of Medical Sciences*. 2004;20(2):117-9.