

## ROLE OF SOCIODEMOGRAPHIC FACTORS IN ANTENATAL ANXIETY AND DEPRESSION

Dr. Sagar Dattatray Shinde<sup>1</sup>, Dr Shailesh Jain<sup>2\*</sup>, Dr Sandhya Vyas<sup>3</sup>, Dr Rakesh Khuteta<sup>4</sup>,

1 DNB Trainee, 2. Assistant Professor, 3.Senior specialist, 4.Head of department

, Department of Obstetrics and Gynecology , RDBP Jaipuria Hospital attached to RUHS CMS Jaipur

\*Corresponding author – Dr. Shailesh Jain

Email id – [Jainshailesh2001@gmail.com](mailto:Jainshailesh2001@gmail.com)

Received: 02/10/2020

Revised:17/10/2020

Accepted: 25/10/2020

### ABSTRACT

**Background:** Antenatal anxiety and depression are common yet underdiagnosed conditions that significantly affect maternal and fetal outcomes. Understanding the influence of sociodemographic factors is essential for early identification and targeted interventions in vulnerable populations. To estimate the prevalence of anxiety and depression among antenatal women attending the Department of Obstetrics & Gynaecology at Govt. RDBP Jaipuria Hospital. To assess the association between sociodemographic factors and antenatal anxiety and depression. **Material and Methods:** This hospital-based prospective observational study was conducted from April 2020 to September 2020 at the Department of Obstetrics & Gynaecology, Govt. RDBP Jaipuria Hospital, RUHS CMS. Participants were asked to provide sociodemographic data, and the Hospital Anxiety and Depression Scale (HADS) was used to assess mental health status. Data were statistically analyzed using Chi-square tests and Confidence Intervals. A p-value of <0.05 was considered significant. **Results:** Among participants, 26 were normal, 33 borderline, and 191 abnormal for anxiety based on HADS. Significant associations were found with age, religion (46.07% Christians), urban residence (45.03%), socioeconomic class V (37.2%), nuclear family (81.2%), and education (23.5% graduates). For depression, 23 were normal, 35 borderline, and 192 abnormal. Significant associations were observed with the 25–30 age group (30.7%), Christians (51.04%), urban (48.4%) and slum dwellers (28.1%), nuclear families (80.2%), and lower socioeconomic class (34.3%). **Conclusion:** The study highlights how sociodemographic factors influence antenatal anxiety and depression. Women from lower socioeconomic backgrounds, with limited education and support, are more vulnerable. Addressing these disparities through community-based interventions, awareness, and routine mental health screening during antenatal care is crucial.

**Keywords:** Anxiety, Prenatal, Pregnancy Complications, Psychological, Prenatal Care, Socioeconomic Factors.

### INTRODUCTION

Antenatal anxiety and depression represent critical dimensions of maternal mental health, with far-reaching implications for both mothers and their offspring. Globally, these conditions affect approximately 10% to 25% of pregnant women, depending on the region and population studied (1). The consequences are profound: untreated maternal mental health disorders are associated with adverse

pregnancy outcomes such as preterm birth, low birth weight, and complications during labor (2). Beyond birth, maternal mental health significantly influences early parenting practices, attachment, and the psychological and cognitive development of the child (3).

Despite the biological and physiological changes inherent to pregnancy being well-recognized contributors, there is a growing acknowledgment of the importance of sociodemographic factors as determinants of maternal mental health. These factors such as age, education level, income status, employment, social support, marital status, and cultural norms can either buffer or exacerbate the stressors experienced during pregnancy(4). For instance, a young pregnant woman facing financial instability and limited social support may find herself at higher risk of experiencing mental health issues than a counterpart with secure finances and strong familial support.

The intersection between socioeconomic disparity and mental health outcomes is particularly stark in low- and middle-income countries (LMICs). Here, pregnant women are often exposed to heightened levels of stress due to societal and economic pressures, magnified by limited access to healthcare resources. Research indicates that poverty, food insecurity, and gender inequalities are among the core drivers of antenatal anxiety and depression in these settings (5).

Similarly, other sociodemographic elements, such as employment status and educational attainment, have been shown to significantly influence mental health outcomes during pregnancy. Women with higher levels of education may be better equipped to recognize early signs of depression and seek medical help. Conversely, lack of education can limit awareness of mental health services and hinder the ability to access prenatal care<sup>1</sup>. Employment, on the other hand, can have a dual-edged effect; while financial security offered by a stable job is beneficial, work-related stressors may compound anxieties during pregnancy (6).

Furthermore, the role of social support systems, both formal and informal, cannot be overstated. Emotional and practical support from partners, family members, and communities is often a critical factor in reducing antenatal stress and improving psychological well-being. A lack of such support has consistently been linked with higher rates of antenatal anxiety and depression (7).

Although existing studies have shed light on individual sociodemographic factors influencing antenatal mental health, there is still a lack of comprehensive research that examines the cumulative impact of these factors across diverse cultural and geographical settings. Addressing this knowledge gap is vital for informing public health

policies and interventions designed to mitigate the burden of antenatal mental health disorders. This study aims to explore the nuanced role of sociodemographic factors in antenatal anxiety and depression, with an emphasis on identifying vulnerable subgroups and potential protective factors.

By delving into these relationships, the present research endeavors to contribute to a holistic understanding of the sociocultural and economic dimensions of antenatal mental health. It is hoped that this knowledge will empower healthcare providers, policymakers, and communities to tailor interventions that address the root causes of maternal mental health disparities and improve outcomes for mothers and children alike.

## MATERIAL AND METHODS

**Study Design:** This study was a cross-sectional, observational investigation conducted to explore the role of sociodemographic factors in antenatal anxiety and depression. The study was carried out in RDBP Jaipuriya hospital attached to RUHS CMS Jaipur, Rajasthan, over a period of six months, from April 2020 to September 2020. Ethical approval was obtained from the Ethical committee, RUHS CMS and informed consent was secured from all participants before inclusion in the study.

**Study Population :** A total of 250 pregnant women were recruited from antenatal clinics in RDBP Jaipuriya hospital attached to RUHS CMS, Jaipur. Women were included if they were in their second or third trimester of pregnancy, aged 18 years and above, and willing to participate. Exclusion criteria included women with a known history of severe mental health disorders (e.g., bipolar disorder, schizophrenia) or those receiving psychiatric treatment during pregnancy.

**Sampling Method:** Participants were selected using a convenience sampling method. Eligible women attending antenatal appointments during the study period were approached and provided with detailed information about the study.

**Data Collection Tools:**

1. **Sociodemographic Questionnaire:** A structured questionnaire was designed to collect information on participants age, educational level, marital status, occupation, monthly household income, parity, and social support systems and and clinical information like duration of pregnancy and other obstetric history.

2. **Assessment of Anxiety and Depression:** The prevalence of antenatal anxiety and depression was assessed using validated tools, such as the Hospital Anxiety and Depression Scale (HADS). These tools have been extensively validated for use in diverse populations and were administered in the local language for better comprehension.

Procedure: Participants were interviewed face-to-face by trained research staff during their routine antenatal visits. The sociodemographic questionnaire was administered first, followed by the anxiety and depression assessment tools. Interviews were conducted in a private setting to ensure confidentiality and comfort.

Data Analysis: Data were entered into SPSS for statistical analysis. Descriptive statistics were used

to summarize the sociodemographic characteristics of the study population. The prevalence of antenatal anxiety and depression was calculated as percentages. Chi-square tests and logistic regression analyses were performed to assess associations between sociodemographic factors and the presence of anxiety or depression. A p-value of <0.05 was considered statistically significant.

Ethical Considerations: The study was conducted in accordance with the Declaration of Helsinki. Participants were informed about the study's purpose, procedures, and their right to withdraw at any time without any consequences. Data confidentiality and anonymity were maintained throughout the study.

## RESULTS:

**Table 1: Distribution of study participants as per demographic characteristics**

Demographic characteristics	Frequency (N=250)	Percentage (%)
<b>Age in years (27.24±4.75)</b>		
<b>Below 20</b>	29	11.6
<b>20-25</b>	80	32
<b>25-30</b>	72	28.8
<b>30-35</b>	65	26
<b>Above 35</b>	4	1.6
<b>Religion</b>		
<b>Christian</b>	48	19.2
<b>Hindu</b>	129	51.6
<b>Muslim</b>	73	29.2
<b>Socio-economic scale (B.G. Prasad)</b>		
<b>Class I</b>	15	6
<b>Class II</b>	29	11.6
<b>Class III</b>	25	10
<b>Class IV</b>	87	34.8

<b>Class V</b>	<b>94</b>	<b>37.6</b>
Place of Residence		
<b>Rural</b>	<b>54</b>	<b>21.6</b>
<b>Slum</b>	<b>79</b>	<b>31.6</b>
<b>Urban</b>	<b>117</b>	<b>46.8</b>
Family type		
<b>Nuclear</b>	<b>194</b>	<b>77.6</b>
<b>Joint</b>	<b>56</b>	<b>22.4</b>
Education		
<b>Illiterate</b>	<b>14</b>	<b>5.6</b>
<b>Primary</b>	<b>19</b>	<b>7.6</b>
<b>Mid school</b>	<b>27</b>	<b>10.8</b>
<b>High school</b>	<b>50</b>	<b>20.0</b>
<b>High secondary</b>	<b>63</b>	<b>25.2</b>
<b>Graduate</b>	<b>49</b>	<b>19.6</b>
<b>Post Graduate</b>	<b>28</b>	<b>11.2</b>

The above table shows the Demographic distribution of the study participants. Among 250 participants around majority of the study population were belong to the 20-25 years of age which was about 32% and least number of participants were belong to the more than 35 years of the age which was only 1.6%.

As per the religion majority of the population were belong to the Hindu (51.6%) then least number of participants belong to Christians (19.2%). Among our study participants majority of the study participants were belong to lower class as per

modified B.G. Prasad classification and only about 6% were belong to upper class. Most of the study participants were belong to urban followed by slum then rural population.

Among our study participants majority of the study population were nuclear family which was 77.6% and about 22.4% were belong to joint family. Most of our study population were completed up to higher secondary level of education which was about 25.2% and around 5.6% were illiterate among our study population.

**Table 2: Relationship between demographic factors and Anxiety**

Demographic factors	Anxiety (HAD's Score) (N=250)			Chi square	P value
	Normal	Borderline Abnormal	Abnormal		

	N=26	N=33	N=191		
Age in years					
Below 20	4 (15.3%)	6 (18.1%)	19 (9.9%)	340.51	0.006
20-25	10 (38.4)	8 (24.2%)	62 (32.4%)		
25-30	8 (30.7)	11 (33.3%)	53 (27.7%)		
30-35	4 (15.3)	8 (24.2%)	91 (47.6%)		
Above 35	0	0	4 (2.09%)		
Religion					
Christian	17(65.3%)	24 (72.7%)	88 (46.07%)	60.144	0.005
Hindu	7 (26.9%)	6 (18.1%)	60 (31.4%)		
Muslim	2 (7.6%)	3 (9.09%)	43 (22.5%)		
Place of Residence					
Rural	2 (7.6%)	3 (9.09%)	49 (25.6%)	93.538	0.005
Urban	8 (30.7%)	23 (69.7%)	86 (45.03%)		
Slum	16(61.5%)	7 (21.2%)	56 (29.3%)		
Socio-economic scale (B.G. Prasad)					
Class I	0	0	15 (7.9%)	92.324	0.002
Class II	1 (3.85%)	1 (3.03%)	27 (14.1%)		
Class III	1 (3.8%)	3 (9.09%)	20 (10.5%)		
Class IV	11(42.3%)	18 (54.5%)	58 (30.4%)		
Class V	13 (50%)	11 (33.3%)	71 (37.2%)		
Family type					
Nuclear	16(61.5%)	24 (72.7%)	155 (81.2%)	33.509	0.002
Joint	10(38.4%)	9 (27.2%)	36 (18.8%)		
Education Status					
Illiterate	6(23.08%)	3 (9.09%)	5 (2.62%)	159.14	0.005

<b>Primary</b>	1 (3.8%)	4 (12.1%)	14 (7.3%)
<b>Mid school</b>	2 (7.6%)	3 (9.09%)	22 (11.5%)
<b>High school</b>	2 (7.6%)	8 (24.2%)	40 (20.94)
<b>High secondary</b>	14(53.8%)	10 (30.3%)	38 (19.9%)
<b>Graduate</b>	1 (3.8%)	3 (9.09%)	45 (23.5%)
<b>Post Graduate</b>	0	2 (6.06%)	27 (14.1%)

P value  $\leq 0.05$  is found to be statistically significant

The above table shows the relationship between demographic factors and anxiety as per the HAD's score. Among our study participants 26 were normal, 33 were borderline abnormal and 191 were abnormal as per HAD's score. As the age advances there were a greater number of study participants had anxiety disorder and it is statistically significant. Similarly, about 46.07% of study participant among Christians were abnormal anxiety disorder and around 72.7% of study participants were borderline anxiety disorder and it is statistically significant. Among our study participants majority of study participants of about 45.03% were belong to urban area among the abnormal anxiety disorder. Similarly, majority of the study population were belonging to urban area than other areas among borderline anxiety disorder and it is statistically significant. Similarly, among out study participants majority of population as per B.G. Prasad scale of

about 37.2% were belong to class V among abnormal anxiety disorder and about 54.5% of borderline anxiety were belong to class IV and it was statistically significant. Among the 191 study participants who were abnormal anxiety around 81.2% were belong to nuclear family and remaining 18.8% were belong to joint family, similarly around 72.7% were to belong to nuclear family and remaining 27.2% were belong to joint family among 33 of borderline anxiety and it is statistically significant. In our study among the abnormal anxiety study participants majority of about 23.5% were graduate and least of about 2.6% were illiterate. Similarly, among the borderline anxiety study participant majority of about 30.3% were higher secondary education and least of about 9.09% were illiterate among them and it was statistically significant.

**Table 3: Relationship between demographic factors and Depression**

Demographic factors	Depression (HAD's Score) (N=250)			Chi square	P value
	Normal N=23	Borderline Abnormal N=35	Abnormal N=192		
Age in years					
Below 20	5 (21.7%)	4 (11.4%)	20 (10.4%)	364.985	0.006
20-25	11 (47.8%)	10 (28.5%)	59 (30.7%)		
25-30	7 (30.4%)	13 (37.14%)	54 (28.1%)		
30-35	0	7 (20%)	56 (29.1%)		

Demographic factors	Depression (HAD's Score) (N=250)			Chi square	P value
	Normal N=23	Borderline Abnormal N=35	Abnormal N=192		
Above 35	0	1 (2.86%)	3 (1.5%)		
Religion					
Christian	13(56.5%)	18 (51.4%)	98 (51.04%)	76	0.005
Hindu	8 (34.7%)	12 (34.2%)	53 (27.6%)		
Muslim	2 (8.6%)	5 (14.2%)	41 (21.3%)		
Place of Residence					
Rural	4 (1.7%)	5 (14.2%)	45 (23.4%)	44	0.074
Urban	12 (52.1%)	12 (34.2%)	93 (48.4%)		
Slum	7 (30.4%)	18 (51.4%)	54 (28.1%)		
Socio-economic scale (B.G. Prasad)					
Class I	0	1 (2.8%)	14 (7.2%)	86.534	0.034
Class II	2 (8.6%)	2 (5.7%)	25 (13.02%)		
Class III	2 (8.6%)	0	22 (11.4%)		
Class IV	8 (34.7%)	14 (40%)	65 (33.8%)		
Class V	11 (47.8%)	18 (51.4%)	66 (34.3%)		
Family type					
Nuclear	13 (56.5%)	22 (62.9%)	154 (80.2%)	29	0.044
Joint	10 (43.5%)	13 (37.1%)	38 (19.8%)		
Education Status					
Illiterate	6 (26.1%)	0	8(4.2%)	68.911	0.000
Primary	2 (8.7%)	1 (2.9%)	16 (8.3%)		
Mid school	3 (13.0%)	5 (14.3%)	19 (9.9%)		
High school	2 (8.7%)	6 (17.1%)	42 (21.9%)		
High secondary	7 (30.4%)	13 (37.1%)	42 (21.9%)		



Demographic factors	Depression (HAD's Score) (N=250)			Chi square	P value
	Normal N=23	Borderline Abnormal N=35	Abnormal N=192		
Graduate	2 (8.7%)	7 (20.0%)	40 (20.8%)		
Post Graduate	1 (4.3%)	3 (8.6%)	25 (13.0%)		

P value  $\leq 0.05$  is found to be statistically significant

The above table shows the relationship between demographic factors and depression as per the HAD's score. Among our study participants around 23 were normal, around 35 of study participants were borderline abnormal and around 192 were abnormal as per HAD's score. Among the abnormal depression patients most of the participants belong to 20-25 age group and among the borderline depressive group mostly belong to 25-30 age group and their association is highly statistically significant. Most of the Christians participants were having abnormal depression and borderline depression symptoms and it is statistically significant. As per the area of residency most of the urban participants were having abnormal depression and most of the slum participants were having borderline depression symptoms and it is statistically proven. Most of lower-class population were having the depressive symptoms where compared to other group and it is statistically significant. Similarly, as per the type of family, mostly participants belong to nuclear family were having depressive symptoms than other group and it was statistically significant. Also as per education status those who studied upto higher secondary having depressive symptoms and it was statistically significant.

## DISCUSSION

This study is planned to evaluate the impact of antenatal anxiety and depression on birth outcome. The study was carried out among third trimester antenatal women attending the Obstetrics department OPD of Govt. RDBP Jaipuria Hospital attached to RUHS CMS as a cross sectional study. We used Hospital anxiety and depression scale (HADS) had applied on all subjects and recorded to identify depression and anxiety. We also assessed the birth outcomes influenced due to depression and anxiety. The study reveals that around 76.4% had abnormal anxiety, 13.2% had borderline abnormal anxiety disorders. Similarly, around 76.8% had abnormal depression and 14% had borderline

abnormal depression disorder. This is concordance with the findings of the study done by Ali. N.S. et al (7) where 70% of their study participants had anxiety and depression disorder.

In our study majority of the study population were belong to the 20-25 years of age and least number of participants were belong to the more than 35 years. Similarly, in the study done by the study done by Heyningen TV et al (8) majority of the population of about 40%, belongs to 18-24 years of age and about 31% belongs to more than or equal to 30 years of age. Most of our study population were completed up to higher secondary level of education which was about 25.2%, around 5.6% were illiterate among our study population and post- graduation was 28%. On the contrary, the study done by Grigoriadis S et al (9) showed that 18% had completed higher secondary and 42% were completed post graduation. Since more proportion of the study participants were post graduate. the awareness about anxiety and its outcome were relatively high in Grigoriadis S et al (9) study, compared to our study. This variation may be due to geographical distribution. As per the religion majority of the population were belong to the Hindu (51.6%); number of participants belong to Muslim (29.8%). In a study done by Patel V et al (10), 89% were Hindus, also in the study by Kumar N et al (11) it was observed that 80.3% were Hindus and 19.7 % were Muslims. In our study majority of the study population were nuclear family which was 77.6% and about 22.4% were belong to joint family. On the contrary, the study done by Kumar N et al (11), 36.8% belongs to nuclear family and 63.2% belongs to joint family. This variation may be due to geographical distribution of religion. Most of the study participants were belong to urban followed by slum then rural population. In the study done by Nivetha S et al (12), it was found that 65% of the study participants belongs to rural area were having the burden of anxiety and depression disorder.



This study highlights the significant influence of sociodemographic factors on antenatal anxiety and depression, emphasizing their critical role in shaping maternal mental health. Variables such as age, education, socioeconomic status, marital support, and cultural norms contribute significantly to the onset and severity of antenatal mental health conditions. These factors act as both risk and protective elements, influencing a woman's psychological well-being during pregnancy.

## CONCLUSION:

Findings from this research underscore the need for a holistic approach to maternal healthcare. Addressing antenatal anxiety and depression requires more than clinical interventions; it demands a comprehensive understanding of the broader sociodemographic context in which women live. Policies and healthcare strategies must consider these dimensions to ensure effective prevention, early diagnosis, and treatment. The study also sheds light on the disparity in mental health outcomes across different demographic groups, particularly in resource-constrained settings. Women in lower socioeconomic strata, with limited education or inadequate social support, are disproportionately affected. These findings call for targeted interventions, such as community-based mental health programs, counselling services, and financial support systems, to address the unique challenges faced by vulnerable populations.

Moreover, increasing awareness among healthcare providers and policymakers about the interplay between sociodemographic factors and antenatal mental health is imperative. Incorporating mental health screenings into routine antenatal care and fostering collaborations between obstetric and mental health professionals can help bridge gaps in care. In conclusion, understanding the role of sociodemographic factors is key to addressing antenatal anxiety and depression comprehensively. By acknowledging these factors, healthcare systems can better support pregnant women, reducing the burden of mental health challenges and promoting healthier outcomes for mothers and their children. Future research should further explore these dimensions to enhance our understanding and refine intervention strategies.

## REFERENCES

1. Biaggi A, Conroy S, Pawlby S, Pariante CM. Identifying the women at risk of antenatal anxiety and depression: a systematic review. *Journal of affective disorders*. 2016 Feb 1;191:62-77.
2. Bennett HA, Einarson A, Taddio A, Koren G, Einarson TR. Prevalence of depression during pregnancy: systematic review. *Obstet Gynecol*. 2004 Apr;103(4):698-709. doi: 10.1097/01.AOG.0000116689.75396.5f. Erratum in: *Obstet Gynecol*. 2004 Jun;103(6):1344. PMID: 15051562.
3. Stein A, Pearson RM, Goodman SH, Rapa E, Rahman A, McCallum M, Howard LM, Pariante CM. Effects of perinatal mental disorders on the fetus and child. *Lancet*. 2014 Nov 15;384(9956):1800-19. doi: 10.1016/S0140-6736(14)61277-0.
4. Kingston D, Austin MP, Hegadoren K, McDonald S, Lasiuk G, McDonald S, Heaman M, Biringer A, Sword W, Giallo R, Patel T, Lane-Smith M, van Zanten SV. Study protocol for a randomized, controlled, superiority trial comparing the clinical and cost- effectiveness of integrated online mental health assessment-referral-care in pregnancy to usual prenatal care on prenatal and postnatal mental health and infant health and development: the Integrated Maternal Psychosocial Assessment to Care Trial (IMPACT). *Trials*. 2014 Mar 6;15:72. doi: 10.1186/1745-6215-15-72.
5. Fisher J., Tran T., La B.T., Kriitmaa K., Rosenthal D., Tran T. Common perinatal mental disorders in northern Viet Nam: community prevalence and health care use. *Bull. World Health Organ*. 2010;88:737-745.
6. Dennis CL, Ross L. Women's perceptions of partner support and conflict in the development of postpartum depressive symptoms. *J Adv Nurs*. 2006 Dec;56(6):588-99. doi: 10.1111/j.1365-2648.2006
7. 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 Oct;2012.
8. Van Heyningen T, Honikman S, Myer L, Onah MN, Field S, Tomlinson M. Prevalence and predictors of anxiety disorders amongst low-income pregnant women in urban South Africa: a cross-sectional study. *Archives of women's mental health*. 2017 Dec 1;20(6):765-75.

9. Grigoriadis S, de Camps Meschino D, Barrons E, Bradley L, Eady A, Fishell A, Mamisachvili L, Cook GS, O'Keefe M, Romans S, Ross LE. Mood and anxiety disorders in a sample of Canadian perinatal women referred for psychiatric care. *Archives of women's mental health*. 2011 Aug 1;14(4):325-33.
10. Patel V, Rodrigues M, DeSouza N. Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *American journal of Psychiatry*. 2002 Jan 1;159(1):43-7.
11. Kumar N, Nagaraj AK, Koudike U, Majgi SM. Psychiatric morbidity and correlates in postpartum women in a tertiary care hospital. *Indian journal of psychological medicine*. 2016 Jul;38(4):309.
12. Srinivasan N, Murthy S, Singh AK, Upadhyay V, Mohan SK, Joshi A. Assessment of burden of depression during pregnancy among pregnant women residing in rural setting of Chennai. *Journal of clinical and diagnostic research: JCDR*. 2015 Apr;9(4):LC08.

<p>How to cite this article: Shinde S.D., Jain S., Vyas S., Khuteta R. Role of sociodemo-graphic factors in antenatal anxiety and depression. <i>Int.J.Med.Sci. Educ</i> 2021;7 (5):60-69</p>
---