A Study on The Impact of Unplanned Pregnancy on Maternal Mental Health

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ABSTRACT

Unplanned pregnancy can significantly affect a woman's psychological well-being, particularly during the antenatal period. This cross-sectional study was conducted at Sree Balaji Medical College and Hospital to assess the impact of unplanned pregnancy on maternal mental health, with a focus on anxiety levels. A total of 56 pregnant women aged 18 years and above with self-reported unplanned pregnancies were recruited using purposive sampling. Data were collected using a structured questionnaire that included socio-demographic and obstetric details, pregnancy acceptance, and the Generalized Anxiety Disorder-7 (GAD-7) scale. Statistical analysis revealed that younger age, lower education level, non-healthcare occupation, low socio economic status, and poor pregnancy acceptance were significantly associated with higher anxiety levels ($p < 0.05$). The findings underscore the need for routine mental health screening and emotional support interventions in antenatal care, especially for women with unplanned pregnancies, to promote maternal well-being and improve pregnancy outcomes.

Keywords: *Unplanned pregnancy, Maternal mental health, Anxiety.*

1. INTRODUCTION

Pregnancy is a profound life event that brings about extensive physiological, psychological, and social transformations in a woman's life. While this phase is often anticipated with excitement and preparation when the pregnancy is planned, the experience can be starkly different in cases of unplanned conception. Unplanned pregnancies, defined as those that are either mistimed or unwanted at the time of conception, can trigger a range of emotional responses—from shock and anxiety to denial and distress [3, 4, 5]. These pregnancies may occur in the absence of emotional, financial, or relational readiness, placing additional strain on the expectant mother [2, 7].

Unplanned pregnancies have been linked with a higher prevalence of maternal mental health issues, particularly anxiety and depression [1, 8]. The psychological burden may stem from a variety of factors, including lack of partner support, fear of societal judgment, financial instability, and concerns about personal capability to raise a child [5, 6, 7]. Moreover, the absence of preconception planning may lead to delayed initiation of antenatal care, poor health-seeking behaviour, and reduced emotional bonding with the fetus [3, 9, 10]. Such challenges can adversely affect not only the mother's well-being but also pregnancy outcomes and early child development [3, 15, 20].

Numerous studies have emphasized that maternal mental health is a critical component of prenatal care, as emotional disturbances during pregnancy have been associated with adverse outcomes such as preterm birth, low birth weight, and impaired cognitive and emotional development in children [1, 8, 9, 20]. Despite these known risks, the mental health needs of women with unplanned pregnancies are often under-recognized and inadequately addressed in clinical settings, particularly in low- and middle-income countries like India, where unplanned pregnancies remain relatively common due to limited contraceptive access and cultural barriers [4, 10].

Understanding the psychological impact of unplanned pregnancy is crucial for designing responsive antenatal care frameworks that incorporate mental health screening and supportive interventions [6, 12, 14]. Early identification of at-risk women can help mitigate long-term emotional and developmental consequences through timely counselling and psychosocial support [13, 17, 20]. This study was designed to explore the association between unplanned pregnancy and maternal anxiety, using the Generalized Anxiety Disorder-7 (GAD-7) scale as a validated tool to assess the severity of anxiety symptoms [6, 12]. The study further aims to identify sociodemographic, obstetric, and psychosocial correlates of anxiety among pregnant women, thereby providing insights that can inform both clinical practice and public health policy [1, 4, 15, 19].

2. REVIEW OF LITERATURE

Unplanned pregnancy has long been recognized as a public health issue with profound implications for maternal and child well-being. It is widely documented that women experiencing unintended or mistimed pregnancies face higher rates of psychological stress, particularly anxiety and depression, during both the antenatal and postpartum periods. According to a meta-analysis by Lancaster et al. [1], unplanned pregnancies are significantly associated with elevated risks of antenatal depression and anxiety, even after adjusting for confounding sociodemographic variables.

Numerous studies across different sociocultural contexts have supported these findings. A population-based study by Najman et al. [2] revealed that women with unplanned pregnancies often report lower levels of emotional preparedness and higher levels of stress, which contribute to poorer mental health outcomes. These effects are magnified in young, unmarried, or socioeconomically disadvantaged women, who may lack the resources or support systems to cope effectively. Similarly, research by Gipson et al. [3] highlighted that the psychological effects of unplanned pregnancy are not isolated incidents but are influenced by a network of factors including relationship instability, financial strain, and limited access to healthcare.

In terms of biological and developmental implications, maternal mental health disturbances—especially anxiety—have been shown to affect fetal development, early bonding, and long-term child health. Barber [5] emphasized that high levels of maternal anxiety during pregnancy can impair maternal-fetal attachment and result in emotional detachment during infancy. This is consistent with findings from Sidebottom et al. [6], who reported that women with unintended pregnancies were less likely to engage in early bonding behaviours such as talking to the baby or attending prenatal visits regularly, which may have long-term developmental consequences for the child.

The Generalized Anxiety Disorder-7 (GAD-7) scale has emerged as a reliable tool for screening anxiety symptoms in various populations, including pregnant women. It is a brief, validated questionnaire that facilitates early identification and severity grading of anxiety disorders [12]. Several studies have utilized the GAD-7 to assess mental health outcomes in pregnancy, confirming its utility and relevance in antenatal care settings [12, 6].

Social support, or the lack thereof, plays a crucial role in shaping maternal mental health. A study by Cheng et al. [7] demonstrated that women with unplanned pregnancies who had access to emotional and instrumental support from their partners or family members exhibited better mental health outcomes compared to those who felt isolated. The presence of a stable support system can act as a protective factor, helping women manage stress and adjust emotionally to the demands of pregnancy.

Despite growing recognition of the mental health risks associated with unplanned pregnancy, many healthcare systems, especially in resource-limited settings, continue to prioritize physical over psychological care. There is a critical need to incorporate mental health screening and counselling services as standard components of antenatal care [8, 20]. Early detection of anxiety symptoms, combined with appropriate interventions, can significantly improve maternal outcomes and foster healthier maternal-infant relationships [9, 15].

Taken together, existing literature clearly underscores the adverse impact of unplanned pregnancy on maternal mental health and highlights the importance of early psychological assessment and support. This study aims to build upon these findings by examining the prevalence and severity of anxiety among women with unplanned pregnancies and identifying key sociodemographic and clinical correlates within the local population.

3. MATERIALS AND METHODOLOGY

A questionnaire-based study was conducted among 56 pregnant women aged 18 years and above at the Department of Obstetrics and Gynaecology, Sree Balaji Medical College and Hospital, a tertiary care hospital in Chennai. The study was conducted over a period of three months as a cross-sectional, descriptive, observational study. Ethical approval was obtained from the Institutional Ethics Committee, and written informed consent was obtained from all participants.

INCLUSION CRITERIA:

- Women aged 18 years and above, who are Pregnant and experiencing an unplanned pregnancy, regardless of the gestational age.

- Women with no Previous history of Medical/ Psychiatric disorders.

EXCLUSION CRITERIA:

- Women who have intentionally planned and prepared for their pregnancy.

- Women who have experienced a miscarriage or elected for an abortion, as the study focuses on ongoing pregnancies.

- Women with pre-existing diagnosed psychiatric conditions unrelated to pregnancy (e.g., schizophrenia, bipolar disorder) to avoid confounding factors.

- Women with high-risk pregnancies due to medical conditions unrelated to mental health (e.g., preeclampsia,

gestational diabetes) to prevent confounding influences.

SAMPLE SIZE CALCULATION

the Cochran's formula for sample size estimation in a cross-sectional study:

n = Z2 P(1−P)/ d2

n = Required sample size

Z = Z-score for the desired confidence level (e.g., 1.96 for 95% confidence)

P = Estimated prevalence of mental health issues among pregnant women with unplanned pregnancies

d = Margin of error (usually 5% or 0.05)

Using this formula with a 90% confidence level (Z = 1.96), 30% prevalence (P = 0.3), and 10% margin of error the required sample size is 56.

STUDY TOOL:

Predesigned, semi-structured self-administered questionnaire.

PROCEDURE AND DATA COLLECTION

Following ethical approval from the Institutional Ethics Committee of Sree Balaji Medical College and Hospital, this study was conducted over a period of three months in the Department of Obstetrics and Gynaecology. Pregnant women attending the antenatal outpatient clinic were approached and screened using predefined inclusion and exclusion criteria to determine eligibility. Participants who met the eligibility requirements were given detailed information about the study, including its objectives, confidentiality measures, and their right to withdraw at any stage without any impact on their medical care. Informed consent was obtained in writing, with forms available in both English and Tamil to accommodate language preferences.

Data were collected using a semi-structured, self-administered questionnaire, made available either in printed form during hospital visits or online based on participant preference and accessibility. The questionnaire comprised six key sections. The first section gathered socio-demographic details such as age, marital status, education, and occupation. The second section captured obstetric history, including parity, gestational age, and history of contraceptive use. The third section assessed mental health using the Generalized Anxiety Disorder-7 (GAD-7) scale, a validated 7-item tool used to categorize anxiety into minimal, mild, moderate, and severe levels. The fourth section explored emotional reactions and pregnancy acceptance, while the fifth section focused on the participant's perceived social support from partners, family, and healthcare professionals. The final section addressed coping mechanisms and emotional adjustment to the pregnancy.

Confidentiality and privacy were maintained throughout the data collection process. Participation was entirely voluntary, and all responses were anonymized and securely stored for analysis.

STATISTICAL ANALYSIS

All data collected during the study were compiled, coded, and analysed using IBM SPSS Statistics Version 25. Both descriptive and inferential statistical methods were applied to examine the relationship between unplanned pregnancy and maternal anxiety, as measured by the Generalized Anxiety Disorder-7 (GAD-7) scale. Descriptive statistics were used to summarize socio-demographic and obstetric characteristics of the participants. Categorical variables such as marital status, education level, occupation, parity, contraceptive use, and pregnancy acceptance were expressed as frequencies and percentages, while continuous variables like age and GAD-7 scores were summarized using means and standard deviations.

To evaluate anxiety levels, the GAD-7 scale was used to assess the frequency of anxiety symptoms experienced over the previous two weeks, including feeling nervous, inability to control worrying, excessive worry, trouble relaxing, restlessness, irritability, and fear of something awful happening. The total GAD-7 score for each participant was classified into one of four categories: minimal (0–4), mild (5–9), moderate (10–14), and severe (15–21) anxiety. For analytical purposes, participants were grouped into two broader categories: High Anxiety (including moderate and severe levels) and Low/No Anxiety (including minimal and mild levels).

Inferential statistical analysis was conducted to assess associations between anxiety levels and various socio-demographic and pregnancy-related variables. The Chi-square test (χ^2) was employed to examine the relationship between categorical variables such as education level, marital status, parity, occupation, history of contraceptive use, and pregnancy acceptance with anxiety categories. An Independent Samples t-test was performed to compare the mean age between the high anxiety and low/no anxiety groups. A p-value less than 0.05 was considered statistically significant throughout the analysis.

Where applicable, binary logistic regression was considered to identify independent predictors of high anxiety while adjusting for potential confounding variables such as age, education, and social support. All findings were systematically presented in tables and illustrated using appropriate visual aids, including bar charts and pie charts, to enhance clarity and

facilitate interpretation. Statistically significant results were discussed in relation to relevant literature and clinical implications.

4. RESULT

Table 1: Mean Age vs Anxiety Level

Parameter	High Anxiety	Low/No Anxiety	P-value
Mean Age (Years)	27.3	29.1	0.03

Table 1 compares the average age of pregnant women across two groups based on their anxiety status. Women in the high anxiety group had a mean age of 27.3 years, whereas those in the low or no anxiety group had a mean age of 29.1 years. The p-value for this comparison is 0.03, indicating that the difference in age between the two groups is statistically significant. This suggests that younger pregnant women are more likely to experience higher levels of anxiety compared to older women. The statistically significant p-value supports the reliability of this finding and implies that maternal age is an important factor to consider in assessing anxiety risk during pregnancy.
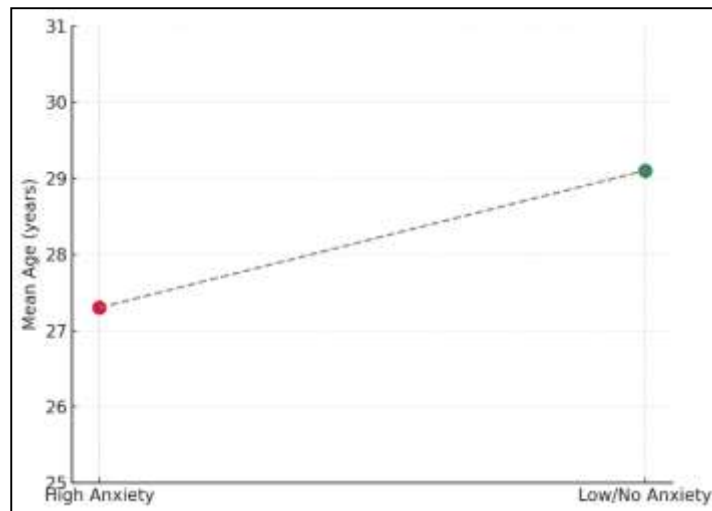

Figure 1: Mean Age vs Anxiety Level

Figure 1 compares the mean age between two groups of pregnant women based on their anxiety levels. The left dot represents the mean age (27.3 years) of women who experienced high anxiety during pregnancy. The right dot represents the mean age (29.1 years) of women with low or no anxiety. A dashed line connects the two points to highlight the difference between the groups. The graph shows that younger women tended to report higher anxiety, while older women were more likely to have lower or no anxiety. This supports the idea that age may be inversely related to anxiety levels during pregnancy, possibly due to greater emotional maturity, life experience, or stability among older women.

Table 2: Marital Status vs Anxiety Level

Marital Status	High Anxiety	Low/No Anxiety	P-value
Single	6	4	0.684
Married	25	36	0.684
Divorced/Separated	5	6	0.684
Widowed	2	1	0.684
In a relationship	4	7	0.684

Table 2 shows the distribution of maternal anxiety levels across different marital status categories. Among the women experiencing high anxiety, the majority were married (n=25), followed by single (n=6), divorced/separated (n=5), in a relationship (n=4), and widowed (n=2). Similarly, in the low or no anxiety group, most were also married (n=36), with smaller numbers being in a relationship (n=7), divorced/separated (n=6), single (n=4), and widowed (n=1)[Figure 2].

Although married women formed the largest group in both anxiety categories, the overall distribution did not show a statistically significant difference (p = 0.684). This suggests that marital status was not significantly associated with maternal anxiety levels in this study.
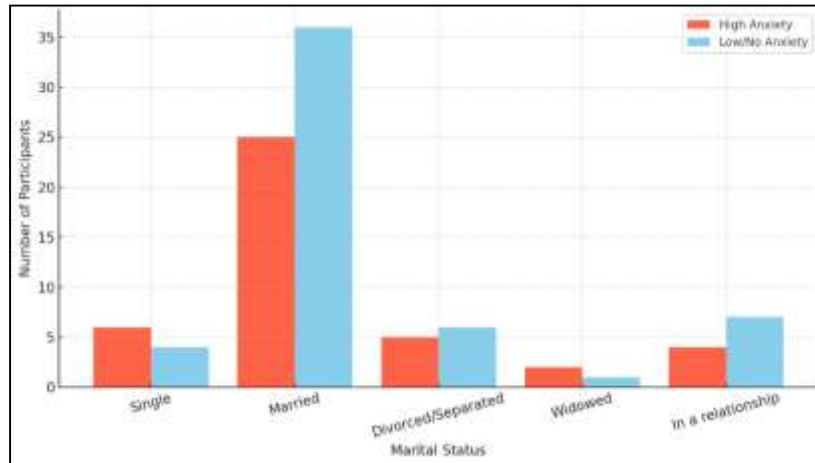

Figure 2: Marital Status vs Anxiety Level

Table 3: Education Level vs Anxiety Level

Education Level	High Anxiety	Low/No Anxiety	P-value
Below University	24	20	0.008
University or Above	18	34	0.008

Table 3 examines the relationship between education level and maternal anxiety. Among women with below university-level education, 24 reported high anxiety, while 20 reported low or no anxiety. In contrast, among those with university-level education or higher, only 18 reported high anxiety, while 34 experienced low or no anxiety[Figure 3].

This difference was statistically significant (p = 0.008), suggesting that lower education level is associated with higher anxiety during pregnancy. Conversely, higher education may serve as a protective factor, possibly due to better access to information, stronger coping mechanisms, or improved health literacy.
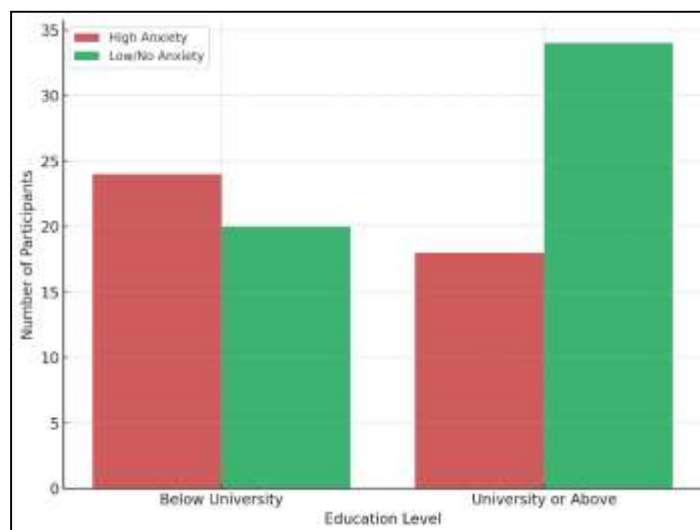

Figure 3: Education Level vs Anxiety Level

Table 4: Occupation vs Anxiety Level

Occupation	High Anxiety	Low/No Anxiety	P-value
Housewife	16	18	0.003
Non-Healthcare Worker	22	16	0.003
Healthcare Worker	4	20	0.003

Table 4 illustrates the association between occupation and levels of anxiety during pregnancy. Among women who experienced high anxiety, the majority were non-healthcare workers (n=22), followed by housewives (n=16), and only a small proportion were healthcare workers (n=4). In contrast, within the low or no anxiety group, healthcare workers formed a larger proportion (n=20), while non-healthcare workers and housewives accounted for 16 and 18 participants, respectively. This difference was statistically significant (p = 0.003), indicating a clear association between occupational background and maternal anxiety. These findings suggest that healthcare workers may experience lower anxiety levels due to greater familiarity with pregnancy-related health information and better coping mechanisms, whereas women in non-healthcare occupations or homemakers may have limited access to accurate information and heightened uncertainty, contributing to increased anxiety during pregnancy.
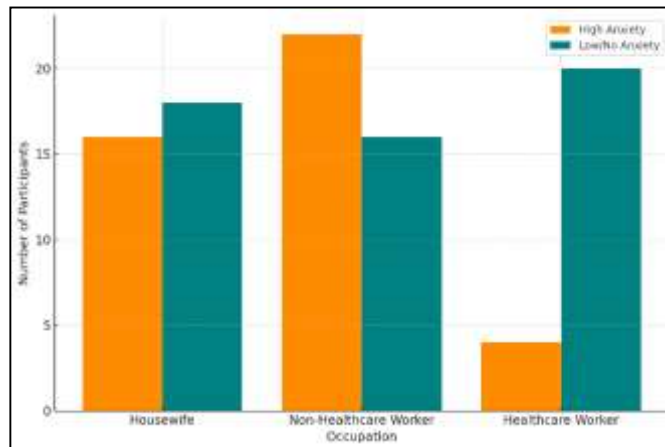
Figure 4: Occupation vs Anxiety Level

Table 5: Parity vs Anxiety Level

Parity	High Anxiety	Low/No Anxiety	P-value
Primigravida	20	22	0.198
Multigravida	22	32	0.198

Table 5 presents the comparison between parity and maternal anxiety levels. Among women with high anxiety, 20 were primigravida and 22 were multigravida. In the low or no anxiety group, 22 women were primigravida and 32 were multigravida [Figure 5]. Although a slightly higher number of multigravida women reported lower anxiety levels, this difference was not statistically significant (p = 0.198). These results suggest that while first-time mothers may be slightly more prone to anxiety due to unfamiliarity with pregnancy, parity alone was not a significant predictor of anxiety in this study population.
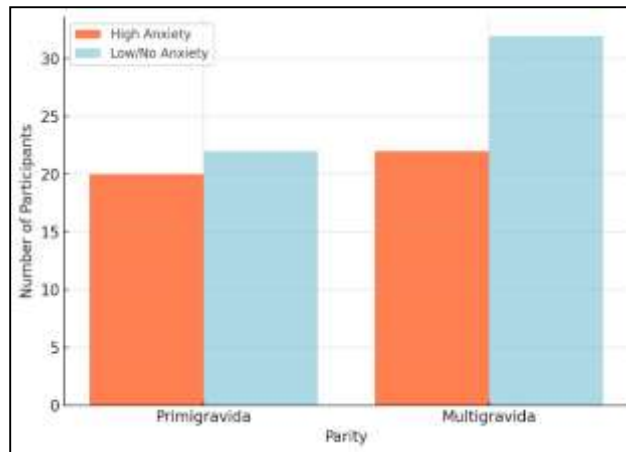
Figure 5: Parity vs Anxiety Level

Table 6: Socioeconomic Status vs Anxiety Level

Socioeconomic Status	High Anxiety (n)	Low/No Anxiety (n)	P-value
Lower SES	20	12	0.014
Middle SES	18	22	
Upper SES	4	20	

Table 6 presents the distribution of anxiety levels across different socioeconomic strata. Among women with lower socioeconomic status (SES), a majority (n=20) experienced high anxiety compared to only 12 in the low/no anxiety group. In contrast, upper SES women showed a reverse trend—only 4 experienced high anxiety while 20 reported low or no anxiety.

The difference is statistically significant (p = 0.014), indicating that lower SES is associated with higher maternal anxiety. This aligns with previous findings suggesting financial insecurity and lack of access to resources contribute significantly to mental distress during unplanned pregnancies

Table 7: Pregnancy Acceptance among women in the high anxiety group.

Pregnancy Acceptance	Frequency	Percentage
Present	32	76.20%
Absent	10	23.80%
Total	42	100%

Table 7 presents the distribution of pregnancy acceptance among women in the high anxiety group. Out of the 42 women who reported high anxiety, 32 (76.2%) had accepted the pregnancy, while 10 (23.8%) had not [Figure 7]. This indicates that even though the majority of anxious women reported accepting their pregnancy, a notable proportion still struggled with acceptance, which may have contributed to or worsened their anxiety. Lack of pregnancy acceptance often reflects emotional conflict, unpreparedness, or external stressors such as financial strain or lack of partner support. These findings underscore the importance of assessing emotional readiness and providing supportive counselling during antenatal care, particularly for those experiencing high levels of distress.
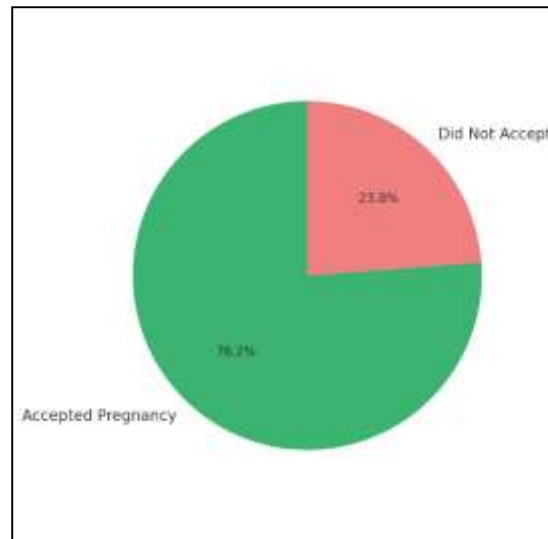
Figure 6: Pregnancy Acceptance among women in the high anxiety group.

5. DISCUSSION

This study examined the association between maternal anxiety and a range of sociodemographic and obstetric factors among pregnant women, with a particular focus on pregnancy acceptance and contraceptive history. The findings contribute to a deeper understanding of the psychological landscape faced by expectant mothers, particularly those experiencing unplanned pregnancies or limited preparedness [1, 3, 7].

The study revealed that younger women reported significantly higher anxiety levels than their older counterparts (mean age 27.3 vs. 29.1 years; p = 0.042). This aligns with existing literature, which identifies younger maternal age as a risk factor for antenatal anxiety due to reduced life experience, financial instability, or lack of emotional support [2, 3].

Contrary to expectation, marital status did not show a statistically significant association with anxiety levels (p = 0.684). While married women comprised the largest proportion of both anxiety groups, the distribution across single, married, divorced/separated, and in-a-relationship categories did not differ meaningfully. This finding contrasts with previous research suggesting that partner support may buffer anxiety, and could imply that quality of the relationship, rather than marital status alone, plays a more influential role [7].

Educational attainment demonstrated a significant relationship with anxiety, where women with below-university-level education had higher rates of anxiety compared to those with higher education (p = 0.008). This finding is consistent with studies that suggest higher education enhances health literacy, access to care, and the use of effective coping mechanisms [4, 6].

Similarly, occupation was strongly associated with anxiety (p = 0.003). Healthcare workers experienced markedly lower anxiety levels, likely due to greater exposure to pregnancy-related information, familiarity with healthcare systems, and better stress management strategies [6, 7]. Conversely, non-healthcare workers and housewives—groups potentially lacking access to accurate medical information or structured emotional support—showed elevated anxiety [3, 9].

While parity was not significantly associated with anxiety (p = 0.198), there was a slight trend indicating that primigravida women were more prone to anxiety. This is in line with studies that describe first-time mothers as particularly vulnerable due to fear of the unknown and lack of prior maternal experience [18].

This study found a significant link between low socioeconomic status and higher maternal anxiety (p = 0.014). Women from lower SES faced greater psychological stress due to financial and social challenges [3, 7]. In contrast, higher SES offered protective factors like better healthcare access and support [2, 8]. These findings highlight the need for targeted mental health support in antenatal care.

Additionally, pregnancy acceptance was found to be a key emotional factor. Although 76.2% of women in the high-anxiety group reported accepting their pregnancy, a substantial 23.8% did not. Lack of pregnancy acceptance is often linked to emotional ambivalence, external stressors, and lack of support, all of which can contribute to elevated psychological distress [1, 5, 20].

The study's findings underscore the need for routine mental health screening during antenatal visits, particularly for women who are younger, less educated, non-healthcare professionals, or those in early pregnancy. In addition, emphasis should be

placed on evaluating pregnancy acceptance and contraceptive history, as these variables are closely tied to emotional readiness and maternal well-being [6, 8, 20].

Counselling interventions, digital literacy education, and targeted psychoeducation can empower women to manage their mental health effectively. Further, healthcare providers should be trained to recognize the psychosocial dimensions of pregnancy, especially in women with limited resources or unexpected pregnancies [9, 20].

While the study highlights important associations, it is limited by its cross-sectional design, which precludes causal inferences. The sample size, though adequate, may not capture broader cultural or socioeconomic variations. Future longitudinal studies should assess how these factors evolve throughout pregnancy and postpartum.

6. CONCLUSION

This study highlights the multifaceted relationship between maternal anxiety and various sociodemographic and obstetric factors during pregnancy. Younger age, lower educational attainment, non-healthcare occupation, early gestational age, absence of contraceptive use, and lack of pregnancy acceptance were all found to be associated with higher levels of anxiety [1, 2, 3, 4, 7].

These findings underscore the importance of early identification of at-risk groups and the integration of routine mental health assessments into antenatal care [6, 8]. Targeted interventions—such as emotional counselling, reproductive health education, and psychosocial support—should be prioritized, especially for first-trimester women and those with unplanned pregnancies [5, 9, 20]. Enhancing maternal emotional well-being not only benefits the individual but also contributes to better pregnancy outcomes and early mother-infant bonding [20]. Ultimately, a holistic, supportive approach to antenatal care is essential to addressing the psychological needs of expectant mothers and improving maternal health on a broader scale [10, 19].

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