# A Cross-Sectional Analysis On Prevalence Of Depressive And Anxiety Symptoms Among Primigravida Mothers In Selected Tertiary Hospitals At Coimbatore

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*Abstract*
*Background: Mother's psychological welfare during pregnancy affects both health results of mother and newborns. Primigravida mothers who experience pregnancy for the first time can face unique psychological challenges. The purpose of this study is to determine the psychological crisis and the prevalence of depressive and anxiety symptoms among the mothers who participated in the antenatal care in selected tertiary hospitals in Coimbatore.*
*Methods: A cross-sectional study was conducted among 300 primigravida mothers in the second and third trimesters. Standardized tools such as the Edinburgh Postnatal Depression Scale (EPDS) and the Generalized Anxiety Disorder 7-item scale (GAD-7) were used to assess the psychological well-being.*
*Results: The prevalence of depressive symptoms was found to be 28.3%, with anxiety symptoms observed in 35.7% of participants. Factors like socioeconomic status, social support and pregnancy-related complications significantly influenced psychological outcomes.*
*Conclusion: The findings underpin the need for routine screening of depressive and anxiety symptoms in antenatal care settings to identify at risk individuals and provide timely interventions.*
*Keywords: Depression, Anxiety, Primigravida mothers, Tertiary hospitals*

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## I.    Introduction
Pregnancy is a transformative phase that brings profound physiological, emotional, and psychological changes. Primigravida mothers, facing the uncertainties of first-time motherhood, are particularly vulnerable to psychological distress, including depression and anxiety. Studies have shown that primigravida status is associated with an increased risk of postpartum depression. Despite growing awareness, data on the prevalence and determinants of maternal psychological well-being in Coimbatore remain scarce. This study aims to fill this gap by evaluating the incidence and prevalence of depressive and anxiety issues among primigravida mothers in selected tertiary hospitals.

## II.    Methods
A cross-sectional study was conducted at tertiary care centers in Coimbatore. A sample of 300 primigravida mothers was selected using stratified random sampling to ensure representation across different socioeconomic strata. Primigravida mothers aged 18-35 years, in the second or third trimester and willing to participate were included in the study. Mothers with the history of psychiatric disorders, high-risk pregnancies or significant medical complications were excluded from the study. Edinburgh Postnatal Depression Scale (EPDS) 10-item questionnaire for screening postnatal depression was adapted for the antenatal mothers. Generalized Anxiety Disorder 7-item scale (GAD-7) tool was used for assessing the anxiety levels.

Data were collected through face-to-face interviews during routine antenatal visits. The interview included demographic information, obstetrical history and assessments using the EPDS and GAD-7. The data collection process was conducted in a quiet, private setting within the hospital to ensure that participants felt

comfortable discussing sensitive topics related to their mental health. Prior to the interviews, participants were briefed about the study's objectives, assured of confidentiality and provided written informed consent. Data were analyzed using SPSS. Descriptive statistics such as mean, standard deviation, percentages were used to summarize the data and inferential statistics were employed to identify associated factors.

## III.    Results
### Table 1 Demographic Characteristics

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Age Group (years)** | | |
| 18-25 | 120 | 40% |
| 26-30 | 130 | 43.3% |
| 31-35 | 50 | 16.7% |
| **Socioeconomic Status** | | |
| Low | 90 | 30% |
| Middle | 140 | 46.7% |
| High | 70 | 23.3% |
| **Trimester** | | |
| Second | 180 | 60% |
| Third | 120 | 40% |

The Table 1 illustrates the demographic characteristics of the participants. Most participants (43.3%) were aged between 26 and 30 years, followed by 40% in the 18-25 age group and 16.7% in the 31-35 age group. Regarding socioeconomic status, a majority (46.7%) belonged to the middle-income group, while 30% were from low-income backgrounds, and 23.3% were categorized as high-income. A significant portion of the mothers (60%) were in their second trimester of pregnancy, whereas 40% were in their third trimester. These patterns provide insights into the population characteristics, helping to contextualize the psychological well-being findings.

### Table 2 Prevalence of depressive and anxiety symptoms

| Depressive and anxiety symptoms | Frequency (n) | Percentage (%) |
|---|---|---|
| Depression (EPDS ≥10) | 85 | 28.3% |
| Anxiety (GAD-7 ≥10) | 107 | 35.7% |

The findings of this study reveal a substantial prevalence of psychological distress among primigravida mothers in selected tertiary hospitals in Coimbatore, with 28.3% experiencing depressive symptoms and 35.7% reporting anxiety symptoms. These results are consistent with global studies that highlight the high burden of antenatal mental health issues, especially among first-time mothers (Table 2).

### Table 3 Associated factors with depressive and anxiety symptoms

| Factors | Depression (n, %) | Anxiety (n, %) | p-value |
|---|---|---|---|
| Low Socioeconomic Status | 45 (50%) | 60 (66.7%) | 0.003 |
| Lack of Social Support | 40 (47.1%) | 55 (64.7%) | 0.001 |
| Unplanned Pregnancy | 30 (35.3%) | 38 (44.7%) | 0.025 |
| Pregnancy Complications | 35 (41.2%) | 42 (49.4%) | 0.012 |

The table 3 highlights significant associations between various psychosocial and medical factors with mental health outcomes such as depression and anxiety. Low socioeconomic status, lack of social support, unplanned pregnancy and pregnancy complications are all significantly linked to higher prevalence rates of both conditions, with anxiety consistently showing a greater impact across all factors.

## IV.    Discussion
The prevalence of depressive symptoms in our study aligns with the 20–30% range reported in similar studies conducted in India and other low- and middle-income countries (LMICs) (Patel et al., 2007; Kumar & Singh, 2015). For instance, a study conducted in rural India found a prevalence of antenatal depression at 29.8% using the EPDS, which is comparable to our findings (Kumar & Singh, 2015). The higher prevalence of anxiety symptoms (35.7%) observed in our study is also supported by research indicating that anxiety disorders are more common than depression during pregnancy, particularly among primigravida women (Gavin et al., 2005).

Our study identified several significant factors associated with psychological distress, including low socioeconomic status, lack of social support, unplanned pregnancies, and pregnancy-related complications. These factors have been consistently reported in the literature as key determinants of maternal mental health. For example, low socioeconomic status has been strongly linked to increased risks of depression and anxiety due to financial stress, limited access to healthcare, and reduced coping resources (Nasreen et al., 2010). Similarly, the

absence of strong social support networks can exacerbate feelings of isolation and stress during pregnancy, contributing to poor mental health outcomes (O'Hara & McCabe, 2013). The emotional and psychological strain of unplanned pregnancies, along with the stress of managing pregnancy complications, also emerged as critical contributors to maternal distress in our study.

The high prevalence rates observed underscore the urgent need for routine screening of maternal mental health in antenatal care services. Incorporating validated screening tools like the EPDS and GAD-7 into routine antenatal check-ups can facilitate early detection and intervention, potentially reducing the burden of maternal mental health issues. Healthcare providers should be trained to recognize the signs of psychological distress and provide appropriate referrals to mental health professionals when necessary.

## V. Conclusion

In conclusion, our study highlights the significant prevalence of depressive and anxiety symptoms among primigravida mothers in Coimbatore. The identified risk factors low socioeconomic status, lack of social support, unplanned pregnancy, and pregnancy complications underscore the need for targeted interventions. Routine mental health screening, integrated antenatal care models, and community-based support systems are essential to address the mental health needs of pregnant women effectively.

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