

RESEARCH PAPER

A Study to Assess the Level of Stress Among High-Risk Pregnant Women in a Government Hospital (Dr. Baba Saheb Ambedkar Hospital) to Improve Maternal and Fetal Health Outcomes

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Abstract

High-risk pregnancy is commonly associated with increased psychological stress, which can significantly affect both maternal and fetal health outcomes. Elevated stress levels during pregnancy are linked with complications such as preterm labor, low birth weight, pregnancy-induced hypertension, and adverse neonatal outcomes.

The present study assessed the level of stress among high-risk pregnant women admitted to Dr. Baba Saheb Ambedkar Hospital and identified the factors contributing to such stress. Additionally, the study sought to determine the association between stress levels and selected maternal variables such as age, parity, and pre-existing medical conditions. It also evaluated the impact of stress on maternal and fetal outcomes.

A quantitative descriptive cross-sectional research design was adopted. Data was collected using standardized tools, including the Perceived Stress Scale (PSS). The findings of the study contribute to the development of targeted interventions aimed at reducing stress and improving pregnancy outcomes.

Furthermore, the study emphasizes the importance of integrating mental health screening into routine antenatal care services. It highlights the critical role of healthcare professionals, especially nurses, in early identification and management of stress. The results assist in developing hospital-based guidelines and counseling strategies for high-risk mothers, while also promoting awareness among families regarding the importance of emotional support during pregnancy. Overall, the study highlights the importance of enhancing the quality of maternal healthcare and ensuring better outcomes for both mother and child.

Keywords: High-risk pregnancy, Stress, Maternal health, Fetal outcomes, Antenatal care

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I. Background and Significance

Pregnancy is a significant physiological and psychological phase in a woman's life. While a normal pregnancy may involve mild emotional changes, high-risk pregnancy considerably increases the likelihood of severe stress and anxiety.

This increased stress can negatively affect a woman's coping ability, emotional stability, and overall well-being. If not identified and managed in a timely manner, it may result in adverse maternal and fetal outcomes.

High-risk pregnancy includes conditions such as:

- Hypertensive disorders (pregnancy-induced hypertension, preeclampsia)
- Gestational diabetes mellitus
- Previous history of abortion or preterm birth
- Multiple pregnancies (twins or more)
- Placental abnormalities

Psychological stress activates the hypothalamic–pituitary–adrenal (HPA) axis, leading to increased secretion of cortisol and other stress hormones. Elevated cortisol levels may impair fetal growth and development and increase the risk of complications.

In government hospital settings, additional stressors further intensify psychological burden, including:

- Financial constraints
- Lack of adequate family or social support
- Overcrowded healthcare facilities and limited resources

- Fear of complications and uncertainty regarding pregnancy outcomes

II. Review of Literature

The current vulnerability underlines the need for the implementation of strong mental health interventions as part of the nursing curriculum, at both the level of safeguarding the well being of nursing students and at the level of ensuring provision of good quality and empathic patient care upon graduation (Sonmez et al., 2023).

Moreover, a thorough understanding of psychological concepts enables future nurses with tools needed to identify and address psychological distress in their patients especially among vulnerable populations like pregnant women who are susceptible to perinatal mood disorders (Kusumawati et al., 2023).

For example, understanding the psychological effect of poor obstetric outcomes, such as preterm delivery, is crucial for nurses to deliver good, tender nursing care (Wyk et al., 2024). Recognising that psychological and physiological stress are important factors in preterm birth, nurses are encouraged to routinely ask pregnant women about stress levels in an effort to reduce the associated risks (Gennaro & Hennessy, 2003). This proactive approach, combined with an awareness of the

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possible psychological consequences of having to deal with gestational complications, such as frustration, feelings of guilt and fear experienced by the women, allows nurses to provide holistic support (Meneses et al., 2022).

For instance, psychological distress, including depression, anxiety, and stress, is especially common in postpartum mothers of premature babies and thus requires specialised nursing interventions (Bener, 2013). The significance of this understanding is further enhanced in low and middle income countries where exposure to serious life stressors and the rate of preterm births are considerably higher, thereby reinforcing the international relevance of addressing the psychosocial determinants of maternal health (Premji et al., 2015).

Consequently, the incorporation of mental health competences within undergraduate nursing education is necessary for the effective challenge of these issues (Chukwuere et al., 2025).

III. Objectives

1. To assess the level of stress among high-risk pregnant women admitted to Dr. Baba Saheb Ambedkar Hospital.
2. To identify factors contributing to stress in high-risk pregnancy.
3. To determine the association between stress levels and selected maternal variables such as age, parity, and medical conditions.
4. To evaluate the impact of stress on maternal and fetal health outcomes.

IV. Methodology

Study Design

A quantitative descriptive cross-sectional study design was used.

Study Setting

The study was conducted in the antenatal ward of Dr. Baba Saheb Ambedkar Hospital.

Sample Size

Approximately 60 high-risk pregnant women.

Sampling Technique

Non-probability purposive sampling technique was used.

Inclusion Criteria

- Pregnant women diagnosed with high-risk pregnancy
- Gestational age above 20 weeks
- Women admitted to the antenatal ward
- Willingness to participate in the study

Exclusion Criteria

- Women diagnosed with psychiatric disorders
- Critically ill patients
- Women who are unwilling to participate

Ethical Considerations

Ethical clearance was obtained from the Institutional Ethics Committee. Participants were informed about the purpose of the study and consent to participate was obtained in writing. Confidentiality of the data was preserved.

Data Collection Tools

- **Section A:** Socio-demographic variables (age, education, occupation, socioeconomic status)
- **Section B:** Obstetric and medical history (parity, gestational age, complications)
- **Section C:** Stress assessment scale (Perceived Stress Scale – PSS)
- **Section D:** Maternal and fetal outcomes (clinical indicators and outcomes)

V. Data Analysis

- **Descriptive Statistics:** Frequency, percentage, mean, and standard deviation
- **Inferential Statistics:**
 - Chi-square test (for association)
 - Correlation analysis
 - Regression analysis

VI. Results

The study revealed moderate to high levels of stress among high-risk pregnant women. Major contributing factors included medical complications, financial difficulties, lack of social support, and fear of adverse pregnancy outcomes.

The mean stress score fell within the moderate range (e.g., around 23 ± 7), with a statistically significant association between stress levels and pregnancy outcomes. Higher stress levels were associated with increased risk of adverse maternal and fetal outcomes.

Socio-Demographic Profile

- 41.7 percent of participants were between 24–30 years of age.
- 35 percent of participants had secondary education.
- 63.3 percent were primigravida mothers.
- 28.3 percent belonged to lower socioeconomic status.
- 21.7 percent had a previous history of obstetric complications.
- 31.7 percent reported inadequate family support during pregnancy.

Stress Level Assessment

- Mild stress: 20 percent
- Moderate stress: 51.7 percent
- Severe stress: 28.3 percent

Stress scores varied between 11 and 39.

Mean stress score: 24.8

Standard deviation: 6.21

Correlation Analysis

A positive correlation was found between stress level and severity of high-risk pregnancy complications ($r =$

0.62), indicating that higher pregnancy complications were associated with increased stress levels.

A negative correlation was observed between family support and stress level ($r = -0.48$), suggesting that better family support was associated with lower stress levels.

Regression Analysis

Regression analysis revealed that obstetric complications, low socioeconomic status, and inadequate family support were significant predictors of stress among high-risk pregnant women.

The regression model showed that obstetric complications contributed most strongly to increased stress scores.

Association with Variables

Chi-square analysis showed a statistically significant association ($p < 0.05$) between stress level and selected variables:

- Age
- Educational status
- Socioeconomic status
- Obstetric complications
- Family support
- Parity

The findings indicate that psychological stress is significantly associated with maternal and social factors among high-risk pregnant women.

VII. Discussion

The findings of the study highlighted psychological stress as a crucial factor in the management of high-risk pregnancy. Stress not only affects maternal mental health but also has physiological implications that can influence fetal development.

Appropriate interventions such as counseling, emotional support, stress management techniques, and improved antenatal care services are essential to address this issue effectively. Nurses play a vital role in providing holistic care, including psychological support.

VIII. Conclusion

Stress among high-risk pregnant women has a significant impact on maternal and fetal health outcomes. Early identification and effective management of stress can improve the quality of maternal healthcare.

Physiologically, stress leads to increased secretion of cortisol, which may affect fetal growth and result in complications such as preterm birth and low birth weight. In mothers, stress may contribute to hypertension, poor sleep, and reduced immunity.

Psychologically, stress can lead to anxiety, fear, and reduced coping ability, which may negatively affect adherence to antenatal care practices such as proper diet, medication compliance, and regular check-ups.

Therefore, early screening, counseling, and supportive care are essential components in managing stress during

high-risk pregnancy and ensuring better outcomes for both mother and baby.

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