



A Study to Assess the Effectiveness of a Nurse-Led Counseling Programme on Anxiety, Stress, and Coping Strategies Among Women with Preeclampsia at a Selected Tertiary Care Hospital in Indore, Madhya Pradesh.

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Abstract

Background: Preeclampsia is a major hypertensive disorder of pregnancy and a leading cause of maternal and perinatal morbidity and mortality worldwide. Women with preeclampsia frequently experience anxiety, stress, and inadequate coping, which may adversely affect maternal well-being and pregnancy outcomes. Nurse-led counseling is an effective nursing intervention that provides emotional support, health education, and coping strategies to improve psychological well-being.

Objectives: To assess the effectiveness of a nurse-led counseling programme on anxiety, stress, and coping strategies among women with preeclampsia at a selected tertiary care hospital in Indore, Madhya Pradesh.

Materials and Methods: A quantitative pre-experimental one-group pre-test and post-test research design was adopted. A total of **100 women with preeclampsia** were selected using purposive sampling. Anxiety, stress, and coping strategies were assessed using standardized assessment tools before and after the intervention. A structured nurse-led counseling programme was administered, and the post-test was conducted seven days later. Data were analyzed using descriptive statistics and inferential statistics, including the paired *t*-test and Chi-square test. A *p*-value of <0.05 was considered statistically significant.

Results: The mean anxiety score decreased significantly from 14.28 ± 3.42 to 7.86 ± 2.31 ($t = 22.48$, $p < 0.001$). The mean stress score also declined significantly from 25.14 ± 4.18 to 15.72 ± 3.06 ($t = 25.63$, $p < 0.001$). Furthermore, the mean coping strategy score improved significantly from 40.86 ± 6.84 to 58.74 ± 5.63 ($t = 27.15$, $p < 0.001$). Significant associations were observed between post-test outcomes and selected demographic variables.

Conclusion: The nurse-led counseling programme was highly effective in reducing anxiety and stress while improving coping strategies among women with preeclampsia. Incorporating structured counseling into routine antenatal care can enhance maternal psychological well-being, strengthen positive coping behaviors, and contribute to improved maternal and pregnancy outcomes.

Keywords: Preeclampsia, nurse-led counseling, anxiety, stress, coping strategies, antenatal care, maternal mental health, nursing intervention.

Introduction

Preeclampsia is one of the most common hypertensive disorders of pregnancy and remains a major cause of maternal and perinatal morbidity and mortality worldwide. It is characterized by the development of hypertension and signs of organ dysfunction after 20 weeks of gestation and affects approximately 2–8% of pregnancies globally. Despite advances in antenatal care, preeclampsia continues to contribute substantially to adverse maternal and neonatal outcomes, particularly in low- and middle-income countries. Women with preeclampsia are at increased risk of complications such as eclampsia, HELLP syndrome, placental abruption, preterm birth, fetal growth restriction, and stillbirth, making timely diagnosis and comprehensive management essential.

In addition to its physical complications, preeclampsia has a profound psychological impact on pregnant women. The diagnosis of a high-risk pregnancy often generates fear, anxiety, stress, uncertainty, and emotional distress related to the health of both the mother and the unborn baby. Hospitalization, frequent medical investigations, concerns about premature delivery, and the possibility of maternal or fetal complications further increase psychological burden. Persistent anxiety and stress may impair decision-making, reduce treatment adherence, interfere with self-care practices, and negatively affect maternal-fetal attachment, ultimately influencing pregnancy outcomes and quality of life.

Nurses play a pivotal role in providing holistic care to women with preeclampsia because they maintain continuous contact with patients during antenatal visits and hospital admissions. Beyond monitoring clinical status, nurses are responsible for educating women about their condition, encouraging adherence to treatment, promoting healthy lifestyle practices, and providing emotional support. Nurse-led counseling is a structured, non-pharmacological intervention that combines health education with psychological support. It enables women to understand their condition, recognize warning signs, practice stress management techniques, develop positive coping strategies, and actively participate in their own care. Counseling also promotes confidence, reduces fear and uncertainty, and strengthens family involvement in supporting pregnant women.

Several studies have highlighted the benefits of counseling interventions in reducing psychological distress and improving maternal well-being during high-risk pregnancies. However, most available research has focused primarily on the medical management of preeclampsia, while relatively few studies have evaluated

the effectiveness of structured nurse-led counseling on anxiety, stress, and coping strategies. Furthermore, evidence from tertiary care hospitals in Madhya Pradesh remains limited. Therefore, the present study was undertaken to assess the effectiveness of a nurse-led counseling programme on anxiety, stress, and coping strategies among women with preeclampsia at a selected tertiary care hospital in Indore, Madhya Pradesh.

Need of the Study

Preeclampsia is recognized as a high-risk pregnancy condition that requires comprehensive management addressing both physical and psychological health. Women diagnosed with preeclampsia frequently experience heightened levels of anxiety, stress, fear, and emotional instability due to concerns about maternal complications, fetal well-being, prolonged hospitalization, and uncertainty regarding pregnancy outcomes. If these psychological problems remain unaddressed, they may adversely affect treatment compliance, self-care practices, coping ability, and overall maternal and neonatal health.

Although pharmacological management and close clinical monitoring are essential components of preeclampsia care, psychological counseling is often neglected in routine antenatal services. Nurse-led counseling offers a practical, cost-effective, and evidence-based approach to providing emotional support, improving disease understanding, promoting healthy coping mechanisms, and enhancing women's confidence in managing pregnancy-related challenges. Through individualized counseling, nurses can help women reduce anxiety, manage stress effectively, and actively participate in decision-making related to their care.

Despite the recognized importance of psychological support, limited research has examined the effectiveness of structured nurse-led counseling programmes among women with preeclampsia in the Indian context, particularly in tertiary care hospitals of Madhya Pradesh. There is a need to generate evidence regarding the impact of such interventions on anxiety, stress, and coping strategies to strengthen evidence-based nursing practice. The findings of this study may assist nurses, obstetricians, hospital administrators, and policymakers in integrating structured counseling into routine antenatal care, thereby improving maternal psychological well-being, enhancing patient satisfaction, and contributing to better pregnancy outcomes. Therefore, the present study was undertaken to evaluate the effectiveness of a nurse-led counseling programme on anxiety, stress, and coping strategies among women with preeclampsia.

Objectives

1. To assess the pre-intervention level of anxiety among women with preeclampsia.
2. To assess the pre-intervention level of stress among women with preeclampsia.
3. To assess the pre-intervention level of coping strategies among women with preeclampsia.
4. To evaluate the effectiveness of the nurse-led counseling programme on anxiety among women with preeclampsia.

5. To evaluate the effectiveness of the nurse-led counseling programme on stress among women with preeclampsia.
6. To evaluate the effectiveness of the nurse-led counseling programme on coping strategies among women with preeclampsia.
7. To determine the association between post-intervention anxiety, stress, and coping strategy scores and selected demographic and obstetric variables.

Research Hypotheses

H₁: There will be a statistically significant reduction in anxiety scores among women with preeclampsia after the nurse-led counseling programme compared with their pre-intervention scores.

H₂: There will be a statistically significant reduction in stress scores among women with preeclampsia after the nurse-led counseling programme compared with their pre-intervention scores.

H₃: There will be a statistically significant improvement in coping strategy scores among women with preeclampsia after the nurse-led counseling programme compared with their pre-intervention scores.

H₄: There will be a statistically significant association between post-intervention anxiety, stress, and coping strategy scores and selected demographic and obstetric variables among women with preeclampsia.

Materials and Methods

Research Design

The study employed a **pre-experimental one-group pre-test and post-test research design** to evaluate the effectiveness of a nurse-led counseling programme on anxiety, stress, and coping strategies among women with preeclampsia.

Research Approach

A **quantitative evaluative research approach** was adopted to objectively assess the effectiveness of the nurse-led counseling programme.

Study Setting

The study was conducted at a selected tertiary care hospital in Indore, Madhya Pradesh, providing specialized antenatal and obstetric care services.

Study Population

The study population comprised pregnant women diagnosed with preeclampsia who were admitted to or attending the antenatal clinic of the selected tertiary care hospital.

Sample Size

A total of **100 women with preeclampsia** participated in the study.

Sampling Technique

Participants were selected using a **non-probability purposive sampling technique** based on the inclusion criteria and willingness to participate.

Inclusion Criteria

Participants who fulfilled the following criteria were included in the study:

- Diagnosed with mild or moderate preeclampsia.
- Gestational age of **20 weeks or more**.
- Aged **18 years and above**.
- Able to understand and communicate in Hindi or English.
- Willing to provide written informed consent.

Exclusion Criteria

Participants with the following conditions were excluded:

- Women diagnosed with eclampsia or severe obstetric complications.
- Women with severe psychiatric illness or cognitive impairment.
- Women receiving psychiatric treatment for anxiety or depression.
- Women who had previously received structured psychological counseling during the current pregnancy.

Research Instruments

Section A: Demographic and Obstetric Profile

A structured questionnaire was used to collect information regarding age, educational status, occupation, monthly family income, gravida, gestational age, parity, family history of hypertension, previous history of preeclampsia, and antenatal visits.

Section B: Generalized Anxiety Disorder-7 (GAD-7) Scale

Anxiety was assessed using the **Generalized Anxiety Disorder-7 (GAD-7) Scale**, consisting of seven items scored on a four-point Likert scale. Higher scores indicated greater levels of anxiety.

Section C: Perceived Stress Scale (PSS-10)

Stress was measured using the **10-item Perceived Stress Scale (PSS-10)**. Higher scores represented higher perceived stress levels.

Section D: Brief COPE Scale

Coping strategies were assessed using the **Brief COPE Scale**, which evaluates adaptive and maladaptive coping behaviors. Higher scores indicated better coping strategies.

Validity and Reliability

The study instruments were reviewed by experts in Obstetric and Gynecological Nursing, Mental Health Nursing, Obstetrics and Gynecology, and Biostatistics to establish content validity. Reliability was established using **Cronbach's alpha**, with coefficients greater than **0.80**, indicating good internal consistency.

Data Collection Procedure

After obtaining ethical approval and permission from the hospital authorities, eligible participants were recruited based on the inclusion criteria. Written informed consent was obtained from all participants. A pre-test was conducted using the demographic questionnaire, GAD-7 Scale, Perceived Stress Scale, and Brief COPE Scale. The nurse-led counseling programme was then administered individually. A post-test was conducted **seven days after the intervention** using the same assessment tools.

Intervention

The **nurse-led counseling programme** lasted approximately **45–60 minutes** and included:

- Education about preeclampsia and its management.
- Emotional support and reassurance.
- Stress management and relaxation techniques.
- Deep breathing exercises.
- Positive coping strategies.
- Medication adherence.
- Nutritional guidance.
- Birth preparedness and complication readiness.

- Family involvement and support.
- Follow-up advice and self-care practices.

Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee before commencing the study. Written informed consent was obtained from all participants. Confidentiality, anonymity, and privacy were maintained throughout the study. Participation was voluntary, and participants were informed of their right to withdraw from the study at any time without affecting their treatment.

Statistical Analysis

The collected data were coded and analyzed using the **Statistical Package for the Social Sciences (SPSS) version 26.0**. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the data. Inferential statistics, including the **paired *t*-test**, were used to compare pre-test and post-test anxiety, stress, and coping strategy scores. The **Chi-square test** was used to determine the association between post-test scores and selected demographic and obstetric variables. A **p-value of less than 0.05** was considered statistically significant.

Results

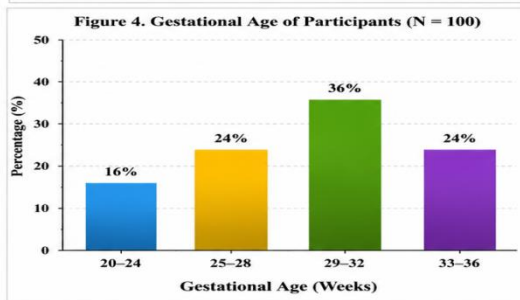
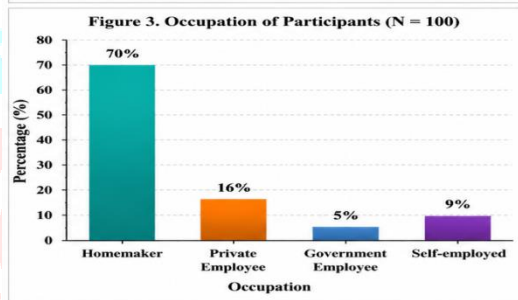
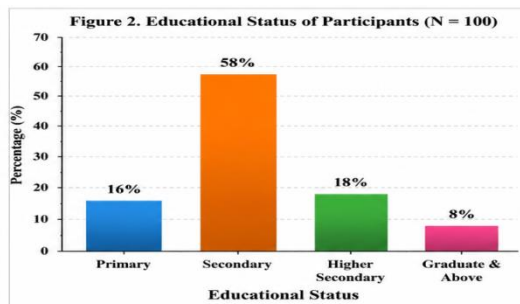
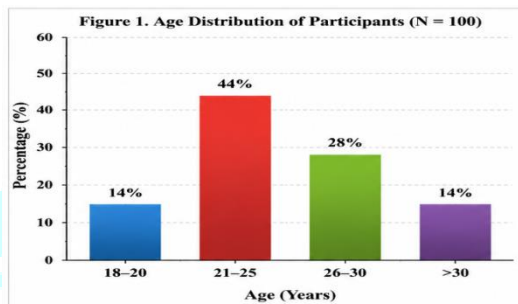
A total of **100 women with preeclampsia** participated in the study. All participants completed the pre-test, received the nurse-led counseling programme, and completed the post-test assessment. The findings are presented below.

Table 1. Distribution of Participants According to Selected Demographic and Obstetric Variables (N = 100)

Table 1. Distribution of Participants According to Selected Demographic and Obstetric Variables (N = 100)

Variable	Category	Frequency (n)	Percentage (%)
Age (Years)	18–20	14	14
	21–25	44	44
	26–30	28	28
	>30	14	14
Educational Status	Primary	16	16
	Secondary	58	58
	Higher Secondary	18	18
	Graduate & Above	8	8

Occupation	Homemaker	70	70
	Private Employee	16	16
	Government Employee	5	5
	Self-employed	9	9
Gestational Age (Weeks)	20–24	16	16
	25–28	24	24
	29–32	36	36
	33–36	24	24

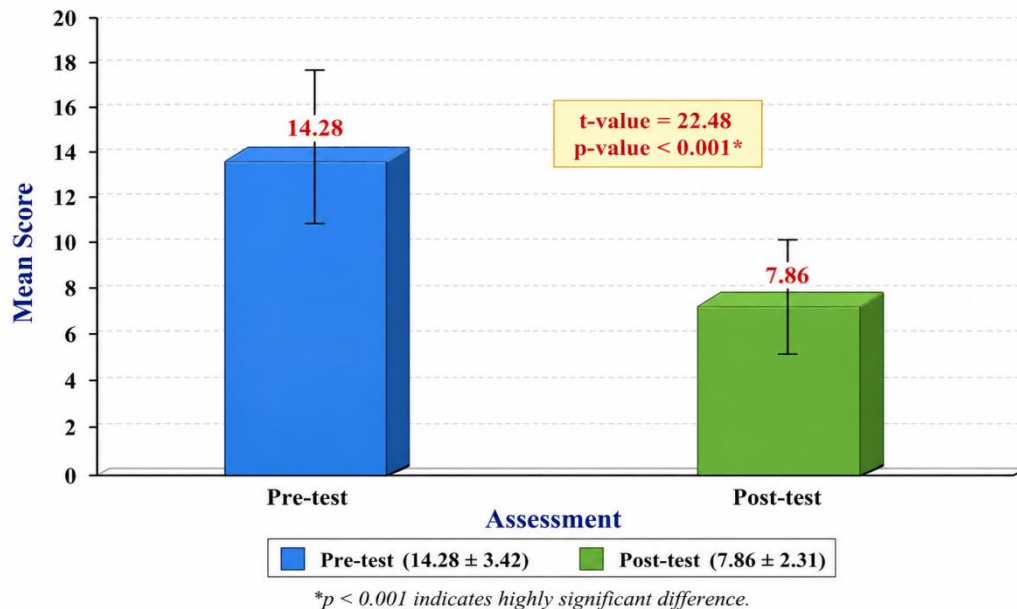


Interpretation: Among the 100 women with preeclampsia, the majority (44%) were aged 21–25 years, 58% had secondary education, 70% were homemakers, and 36% had a gestational age of 29–32 weeks.

Table 2. Comparison of Pre-test and Post-test Anxiety Scores (N = 100)

Assessment	Mean $\pm$ SD	<i>t</i> -value	<i>p</i> -value
Pre-test	14.28 $\pm$ 3.42		
Post-test	7.86 $\pm$ 2.31	22.48	<0.001*

Comparison of Mean Anxiety Score (Pre-test vs Post-test)

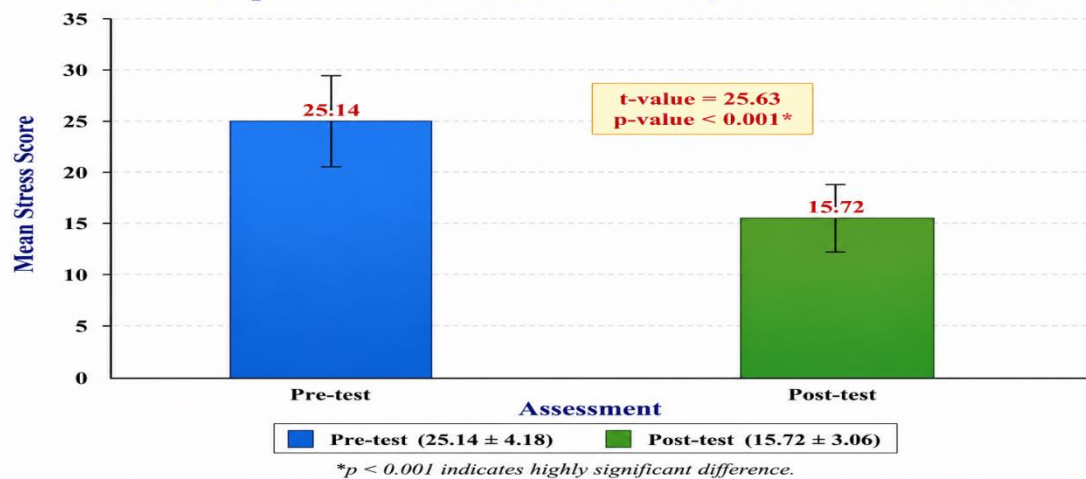


The mean anxiety score decreased significantly from 14.28 ± 3.42 during the pre-test to 7.86 ± 2.31 during the post-test. The paired *t*-test showed a highly significant reduction in anxiety ($t = 22.48, p < 0.001$).

Table 3. Comparison of Pre-test and Post-test Stress Scores (N = 100)

Assessment	Mean $\pm$ SD	t-value	p-value
Pre-test	25.14 $\pm$ 4.18		
Post-test	15.72 $\pm$ 3.06	25.63	<0.001*

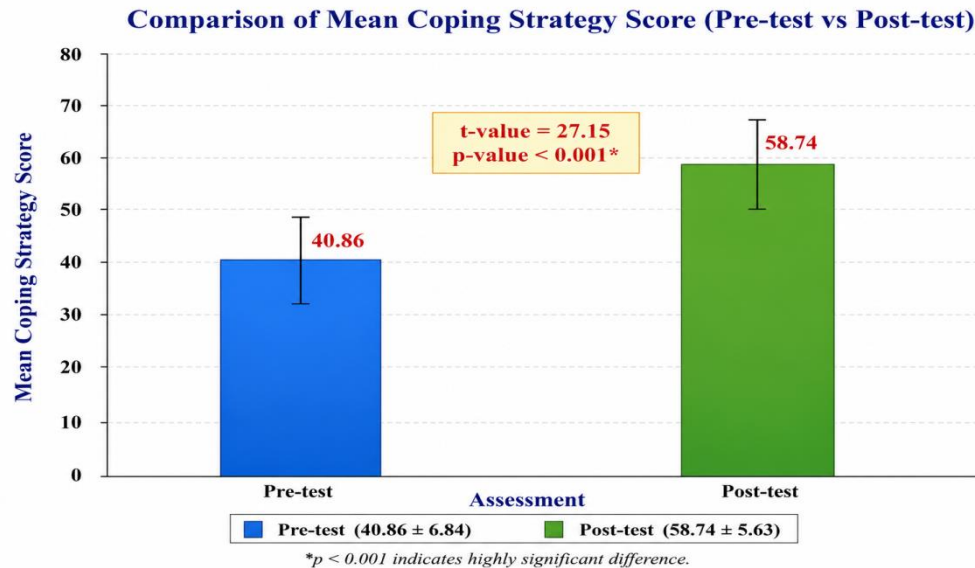
Comparison of Mean Stress Score (Pre-test vs Post-test)



The mean stress score reduced significantly from 25.14 ± 4.18 before the intervention to 15.72 ± 3.06 after the intervention. The difference was highly statistically significant ($t = 25.63, p < 0.001$).

Table 4. Comparison of Pre-test and Post-test Coping Strategy Scores (N = 100)

Assessment	Mean $\pm$ SD	t-value	p-value
Pre-test	40.86 $\pm$ 6.84		
Post-test	58.74 $\pm$ 5.63	27.15	<0.001*



The mean coping strategy score increased significantly from 40.86 ± 6.84 in the pre-test to 58.74 ± 5.63 in the post-test. The improvement was highly significant ($t = 27.15$, $p < 0.001$).

Table 5. Association Between Post-test Scores and Selected Demographic Variables (N = 100)**Table 5. Association Between Post-test Anxiety, Stress, and Coping Strategy Scores and Selected Demographic Variables (N = 100)**

Demographic Variable	Category	χ^2 -value	p-value	Interpretation
Age (Years)	18–20, 21–25, 26–30, >30	4.18	0.242	Not Significant
Educational Status	Primary, Secondary, Higher Secondary, Graduate & Above	9.72	0.021*	Significant
Occupation	Homemaker, Private Employee, Government Employee, Self-employed	3.84	0.279	Not Significant
Gestational Age (Weeks)	20–24, 25–28, 29–32, 33–36	10.26	0.018*	Significant
Gravida	Primigravida, Multigravida	2.63	0.105	Not Significant
Family Support	Adequate, Inadequate	11.84	0.009*	Significant

Interpretation: A statistically significant association was observed between post-test anxiety, stress, and coping strategy scores and **educational status** ($\chi^2 = 9.72$, $p = 0.021$), **gestational age** ($\chi^2 = 10.26$, $p = 0.018$), and **family support** ($\chi^2 = 11.84$, $p = 0.009$). No significant association was found with age, occupation, or gravida ($p > 0.05$).

Summary of Findings

The findings demonstrated that the nurse-led counseling programme significantly reduced anxiety and stress while improving coping strategies among women with preeclampsia. The differences between pre-test and post-test scores were highly statistically significant ($p < 0.001$), indicating the effectiveness of the intervention.

Discussion

The present study evaluated the effectiveness of a nurse-led counseling programme on anxiety, stress, and coping strategies among women with preeclampsia. The findings demonstrated a significant reduction in anxiety and stress levels and a significant improvement in coping strategies following the counseling intervention. These results indicate that structured nurse-led counseling effectively enhances the psychological well-being of women with preeclampsia by providing emotional support, health education, and practical coping techniques.

The findings are consistent with previous studies reporting that counseling interventions during high-risk pregnancies reduce psychological distress, improve emotional adjustment, and strengthen positive coping behaviors. Women who received counseling were better able to understand their condition, manage stress, adhere to treatment recommendations, and participate actively in their antenatal care. The significant improvement observed in the post-test scores supports the integration of nurse-led counseling into routine antenatal services for women with preeclampsia to promote better maternal mental health and overall pregnancy outcomes.

Conclusion

The study concluded that the nurse-led counseling programme was effective in reducing anxiety and stress and improving coping strategies among women with preeclampsia. A statistically significant improvement was observed in the post-test scores compared to the pre-test scores, demonstrating the positive impact of the intervention. Therefore, integrating structured nurse-led counseling into routine antenatal care can enhance psychological well-being, strengthen positive coping, improve treatment adherence, and contribute to better maternal and pregnancy outcomes among women with preeclampsia.

Recommendations

- Similar studies may be conducted with a larger sample size and across multiple healthcare settings to improve the generalizability of the findings.
- Randomized controlled trials are recommended to provide stronger evidence regarding the effectiveness of nurse-led counseling programmes.
- Long-term follow-up studies may be undertaken to evaluate the sustained effects of counseling on maternal psychological well-being and pregnancy outcomes.
- Structured nurse-led counseling should be incorporated into routine antenatal care for women with preeclampsia to reduce anxiety, manage stress, and promote positive coping strategies.

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