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(RESEARCH ARTICLE)

A comparative study to assess the knowledge regarding gestational problems including infections, preeclampsia and miscarriage among gestational diseased women and non-gestational diseased women with a view to prepare an instructional module in selected hospital at Shevgaon

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Abstract

This study aimed to assess and compare the knowledge regarding gestational problems—including infections, preeclampsia, and miscarriage—among antenatal women with and without gestational diseases. Conducted in a selected hospital in Shevgaon, the study involved 120 gestationally diseased and 120 non-gestationally diseased women between 24–32 weeks of gestation. Data were collected using a structured questionnaire assessing demographic factors, influencing factors, and knowledge levels. Results indicated that women with gestational diseases demonstrated higher knowledge compared to those without. Key influencing factors included age, family history, BMI, blood pressure, and pre-existing conditions such as PCOD. A significant association was also found between knowledge levels and sociodemographic variables such as age, education, and occupation. The findings highlight the existing disparities in awareness and the need for targeted educational interventions. Based on these insights, an instructional module was developed to enhance maternal knowledge and promote safe pregnancy outcomes. This study emphasizes the importance of antenatal health education in reducing pregnancy-related complications and improving maternal-fetal well-being through informed decision-making and preventive care.

Keywords: Infections; Miscarriage; Preeclampsia; Gestational Diseases; Antenatal Mother

1. Introduction

Pregnancy is a critical phase in a woman's life that involves complex physiological and psychological changes. Despite advancements in maternal healthcare, gestational problems such as infections, preeclampsia, and miscarriage remain significant contributors to maternal and fetal morbidity and mortality. Infections during pregnancy can lead to complications such as preterm birth, low birth weight, and congenital anomalies, while preeclampsia—marked by high blood pressure and organ dysfunction—can result in life-threatening complications for both the mother and the fetus. Miscarriage, defined as the spontaneous loss of pregnancy before 20 weeks of gestation, is often associated with both physical and emotional trauma, making it essential to understand the underlying causes and preventive strategies.

The level of knowledge regarding these gestational problems among pregnant women plays a crucial role in their ability to seek timely care and adopt preventive measures. Women who are well-informed about the signs, symptoms, and risk factors of gestational complications are more likely to recognize early warning signs and seek medical intervention, thereby improving pregnancy outcomes. However, there remains a gap in awareness and understanding of these issues, particularly among women with existing gestational complications compared to those without.

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Conducting a comparative study to assess the knowledge levels of gestationally diseased and non-gestationally diseased women will provide valuable insights into the existing knowledge gaps. This understanding will aid in developing targeted educational interventions to enhance awareness and promote better pregnancy outcomes. Therefore, this study aims to assess and compare the knowledge regarding infections, preeclampsia, and miscarriage among women with and without gestational complications in a selected hospital at Shevgaon, with a view to developing an instructional module to bridge these knowledge gaps.

Pregnancy-related complications, including infections, preeclampsia, and miscarriage, pose significant risks to maternal and fetal health. According to global health statistics, pregnancy complications account for a substantial proportion of maternal and neonatal morbidity and mortality. Infections such as urinary tract infections (UTIs), bacterial vaginosis, and sexually transmitted infections (STIs) have been linked to preterm labor, low birth weight, and neonatal infections. Preeclampsia, which affects approximately 2–8% of pregnancies worldwide, can lead to severe outcomes such as eclampsia, HELLP syndrome, and organ failure if left untreated. Miscarriage, affecting 10–20% of known pregnancies, not only causes physical loss but also leads to emotional distress and long-term psychological consequences.

Despite the availability of healthcare services, a lack of knowledge and awareness among pregnant women regarding these complications remains a critical barrier to effective prevention and management. Studies have shown that pregnant women with higher levels of awareness about gestational problems are more likely to adopt healthy behaviors, comply with medical advice, and seek timely care. Conversely, limited understanding of these issues among women, particularly in rural and semi-urban areas like Shevgaon, exacerbates the risk of adverse pregnancy outcomes.

Comparing the knowledge levels of women with and without gestational complications will provide insights into the disparities in awareness and help identify specific areas where education and intervention are needed. Developing an instructional module based on the study findings will enable healthcare providers to offer targeted education, empower women with the knowledge to recognize early signs of complications, and promote better pregnancy outcomes. Thus, this study is essential to bridge the knowledge gap, enhance maternal health literacy, and reduce the burden of pregnancy-related complications in the community.

1.1. Statement of the problem

A comparative study to assess the knowledge regarding gestational problems including infections preeclampsia and miscarriage among gestational diseased women and non-gestational diseased women with a view to prepare an instructional module in selected hospital at Shevgaon.

Objectives

- Assess the level of knowledge regarding gestational problems including infections preeclampsia and miscarriage among antenatal women
- Compare the knowledge regarding gestational problems including infections preeclampsia and miscarriage among gestational diseased women and non-gestational diseased women
- Identify the factors influencing gestational problems including infections preeclampsia and miscarriage among antenatal women
- 4. Find out the association between level of knowledge of antenatal women and selected sociodemographic variables.

1.2. Hypotheses

- H1: There is significant difference in the knowledge of antenatal women gestational problems including infections preeclampsia and miscarriage among gestational diseased women and Non gestational diseased women
- H2: There is significant association between level of knowledge and selected socio demographic variables.

1.2.1. Research Approach

Quantitative descriptive approach.

1.2.2. Research design

Comparative design.

1.2.3. Variables

Demographic variables in the study are age, religion, type of family, educational qualification, occupation, monthly income, place of residence, previous knowledge regarding gestational diseases, presence of gestational diseases, and last menstrual period.

1.2.4. Setting of the study

Nityaseva Hospital, Shevgaon

1.2.5. Population

Population includes antenatal women between 24-32 weeks of gestation

1.2.6. Sample and sampling technique

120 gestational diseased women and 120 non-gestational diseased women Convenience sampling technique

1.2.7. Tool

Structured questionnaire to assess demographic data, factors influencing gestational diseases and knowledge regarding gestational problems including infections, preeclampsia and miscarriage

1.2.8. Data collection process

Assessment of knowledge regarding common Gestational problems among antenatal women using a structured questionnaire and compare them. Identification of factors influencing Gestational problems using a structured questionnaire.

1.2.9. Analysis and interpretation

Descriptive and Inferential Statistics

1.2.10. Communication of findings

Preparation of an instructional module on Gestational Miscarriage for antenatal women

1.2.11. Inclusion criteria

- Women those who are pregnant for the first time
- Women with 24-32 weeks of gestation

1.2.12. Exclusion criteria

Women who are not able to read or speak Marathi

1.3. Tool / Instruments

In this study the investigator used the following tools:

- Section I- Socio demographic proforma which includes age, religion, type of family, educational qualification, occupation, monthly income, place of residence, previous knowledge regarding gestational diseases, presence of gestational diseases, and last menstrual period.
- Section II- Structured questionnaire to identify factors influencing gestational problems
- Section III- Self-administered knowledge questionnaire to assess level of knowledge of antenatal women regarding gestational problems

1.3.1. Development /selection of the tool

The following steps were taken for the selection of items and preparation of tool.

- Review of literature and non-research literature was referred in the areas related to prevalence of gestational problems including infections, preeclampsia and miscarriage, and awareness of knowledge regarding gestational problems including infections, preeclampsia and miscarriage

- Formal discussion was held with the nursing and medical experts and their valuable suggestions were utilized for developing tool.
- Professional experience of the investigator helped in determining important areas to be included in the tool.

1.3.2. Description of the tool

The tool was organized under 3 sections.

- Section I consist of baseline data. It contains questions regarding demographic characteristics such as age, religion, type of family, education, occupation, income, place of residence
- Section II consists of questionnaire to identify factors influencing gestational problems such as family history, BMI, PCOD, polyhydramnios, blood pressure, sleep, exercise.
- Section III consist of questionnaire to assess the knowledge regarding gestational problems. It consisted of 28 multiple choice questions. Question covered the following areas such as etiology, risk factors, clinical features, screening, management, and complication. The tool was used to collect data on level of knowledge of antenatal women between 24-28 weeks of gestation regarding Gestational problems

1.3.3. Scoring and Interpretation

Each question carried 1 mark. Maximum score is 28 and minimum score is 0. The scoring is:0-9 poor, 10-20 average, 21-28 good

2. Results

Results of the present study were discussed under the following headings

- Section I: Socio demographic proforma
- Section II: Level of knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage
- Section III: Compare the knowledge regarding gestational problems including infections preeclampsia and miscarriage among gestational diseased women and non-gestational diseased women
- Section IV: Factors influencing gestational problems including infections preeclampsia and miscarriage
- Section V: Association between level of knowledge and selected socio demographic variables

2.1. Section I: Socio demographic proforma

Among Non GD group ,3.7% were in the age group less than or equal to 20 years, 45% were in between the age group 20-25 years, 15% were in between the age group 26-30 years and none of them were between the age group greater than 30 years and among GD group none of them were in the age group less than or equal to 20 or between 20-25 years, 4.58% were in between the age group 26-30 years and 45.41% were in the age group greater than 30 years.

Among non-GD group 28.3% were Hindu, 11.2% were Muslim ,10.4% were Christian and in GD group 24.2% were Hindu, 15.8% were Muslim and 10% were Christian

Among non-GD group 31.2% were from nuclear family,18.7% were from joint family and among GD group 28.7% were from nuclear family and 21.2% were from joint family.

Among non-GD group none of them were illiterate, 0.8% have primary education,17.1% have high school education, 26.2% have higher secondary education, 5.83% have graduation and above and in GDM group 0.4% were illiterate, 0.4% have primary education, 5.8% have high school education, 33.7% have higher secondary education and 9.5% have graduation and above.

Among non-GD group 22.1% were housewife, 5.8% were government employees,10% were private employees, 10.4% were self-employed, 1.7% were daily wages and in GD group 8.3% were housewife, 2.5% were government employees, 13.3% were private employees,23.4% were self-employed and 2.5% were daily wages.

Among non-GD group 19.2% have income less than or equal to 5001, 23.4% have income in between 5001-10000, 5.8% have income in between 10001-15000, 1.7% have income greater than 15000 and in GD group 8.3% have income less

than or equal to 5001, 24.2% have income in between 5001-10000, 13.7% have income in between 10001-15000 and 3.7% have income greater than 15000.

Among non-GD group 25% were from urban area, 25% were from rural area and in GD group 26.2% were from urban area and 23.8% were from rural area.

Among Non-GD group 46.3% have previous knowledge regarding Gestational Miscarriage,3.7% have no knowledge regarding the gestational problems including infections preeclampsia and miscarriage and in GD group 50% have previous knowledge regarding gestational problems including infections preeclampsia and miscarriage.

2.2. Section II: Level of knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage

Among Non GDM group 0.8% had poor knowledge, 36.7% had average knowledge, 12.5% had good knowledge and among GDM group 8.3% had average knowledge, 41.7% had good knowledge and none of them had poor knowledge.

2.3. Section III: Compare the knowledge regarding gestational problems including infections preeclampsia and miscarriage among gestational diseased women and non-gestational diseased women

Gestational Diseased women had more knowledge regarding gestational problems including infections preeclampsia and miscarriage compared to Non-Gestational Diseased women

2.4. Section IV

Factors influencing gestational problems including infections preeclampsia and miscarriage Factors like age, family history, BMI, BP, PCOD, exercise has significant association with gestational problems including infections preeclampsia and miscarriage.

2.5. Section V: Association between level of knowledge and selected socio demographic variables

There is significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and age($p<0.001$)

There is no significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and religion

There is no significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and type of family

There is significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and education($p<0.001$)

There is significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and occupation ($p<0.001$)

There is no significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and income

There is no significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and place of residence

There is no significant association between knowledge of antenatal women regarding gestational problems including infections preeclampsia and miscarriage and previous level of knowledge

3. Conclusion

The study revealed that antenatal women with gestational diseases possessed better knowledge regarding complications such as infections, preeclampsia, and miscarriage compared to non-gestationally diseased women. It also identified critical influencing factors including age, BMI, and education, which significantly impacted awareness levels. These findings underscore the urgent need for structured antenatal education tailored to bridge existing knowledge

gaps, especially among high-risk populations. The development and implementation of an instructional module can serve as an effective tool in empowering women, promoting early recognition of complications, and encouraging timely intervention. This study will benefit society by contributing to the reduction of maternal and neonatal risks, and paves the way forward for improved antenatal care through health literacy programs.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study. Participants were informed about the purpose of the research, ensured confidentiality, and given the right to withdraw at any stage.

Statement of ethical approval

This study was conducted in accordance with ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institution, and all procedures followed ethical research standards.

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