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ASSESSMENT OF KNOWLEDGE OF PREGNANT WOMEN REGARDING ANTENATAL CARE IN A TERTIARY CARE HOSPITAL LAHORE

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ABSTRACT

Background: Antenatal care (ANC) is essential to prevent maternal and neonatal complications, yet Pakistan continues to report a high maternal mortality rate (276 per 100,000 live births) and neonatal mortality rate (55 per 1,000). Assessing women's knowledge of ANC is critical to improving health outcomes.
Objective: To assess the knowledge of pregnant women regarding antenatal care (ANC) and its relationship with demographic characteristics in tertiary care hospitals of Lahore, Pakistan.
Methods: A descriptive cross-sectional study was conducted at a tertiary care hospital in Lahore from January to June 2024. A convenient sampling technique was used to recruit 100 pregnant women and data collected from them using an adopted questionnaire.
Results: Over half of the participants (51%) had poor knowledge of ANC, 43% demonstrated average knowledge, and only 6% showed good understanding. Notably, 67% could not define ANC, 65% were unaware of the appropriate timing for the first checkup, and 59% did not recognize the need for at least four ANC visits. Similarly, 67% were unaware of the harms of smoking, 65% of alcohol risks, and 67% did not know the correct response in case of pregnancy complications. Education and occupation were significant determinants of ANC awareness.
Conclusion: The findings reveal substantial knowledge gaps among pregnant women regarding ANC, highlighting the urgent need for targeted educational interventions, community-based awareness campaigns, and improved counseling by healthcare providers to reduce preventable maternal and neonatal deaths in Pakistan.

Introduction

Antenatal care (ANC) stands as a crucial cornerstone in safeguarding the health and well-being of expectant mothers and their unborn children. Its significance lies not only in facilitating informed decision-making but also in providing access to appropriate healthcare services, thus mitigating the risks associated with pregnancy-related complications and adverse outcomes (Ariff et al., 2024). Effective ANC includes comprehensive health assessments, education, and interventions that can prevent complications and promote healthy pregnancy outcomes. In Lahore, a significant urban center in Pakistan, understanding the knowledge of pregnant women regarding ANC is essential for improving maternal and neonatal health outcomes. The place of delivery in previous pregnancies often influences a woman's knowledge and utilization of ANC services. This study aims to assess the knowledge of pregnant women regarding antenatal care in a tertiary care hospital in Lahore.

Timely initiation of Antenatal care can significantly improve pregnancy outcomes by allowing early detection and management of potential complications. In Pakistan, there is a need to assess the knowledge of pregnant women regarding the appropriate timing for the first antenatal checkup. Understanding when to commence ANC is vital, as early and regular checkups are associated with better health outcomes for both mother and child (Kpienbaareh et al., 2022).

Moreover, awareness of harmful behaviors and factors during pregnancy, such as maternal smoking, alcohol consumption, and infections, is critical. Maternal smoking poses significant risks to the fetus, including low birth weight, preterm birth, and developmental issues. Similarly, alcohol consumption during pregnancy can adversely affect fetal growth, leading to fetal alcohol syndrome (FAS) and other developmental disorders. Additionally, any infection during pregnancy can harm the baby, and taking medications not prescribed by a doctor can also pose serious risks to fetal health (Stock & Bauld, 2020).

Another important aspect of maternal health knowledge understands the best place for delivery. The choice of a safe and equipped facility for childbirth is crucial to ensure both maternal and neonatal health. Furthermore, recognizing the danger signs of pregnancy, such as severe abdominal pain, heavy bleeding, severe headaches, blurred vision, and sudden swelling of the hands or face, is essential for seeking timely medical intervention and preventing adverse outcomes.

In case of any such problems, it is imperative for pregnant women to seek immediate medical attention. Consulting healthcare providers promptly can help in managing complications effectively and reducing risks to both mother and baby.

Health indicators, including the Maternal Mortality Rate (MMR) and Neonatal Mortality Rate (NMR), underscore the significant challenges facing maternal and neonatal health in Pakistan. The reported MMR of 276 deaths per 100,000 live births paints a grim picture of reproductive healthcare conditions in the country (Younas et al., 2020). Similarly, the NMR, which stood at 51 deaths per 1,000 live births in 1990-1991 and increased to 55 deaths per 1,000 live births by 2012-13, reflects an alarming 8% rise over two decades, indicating a concerning trend compared to neighboring nations (Aziz et al., 2020). This persistently high MMR and NMR point to shortcomings in antenatal care (ANC) provision in Pakistan. Despite the government's commitment in 2002 to achieve the Sustainable Development Goals (SDGs) by 2015, particularly SDG 4 (reducing child mortality) and SDG 5 (improving maternal health), Pakistan fell short of meeting these targets (Farrar et al., 2024).

Globally, approximately 303,000 women and adolescent girls succumb to pregnancy and childbirth-related complications annually, with a staggering 99% of these tragic deaths occurring in low-resource settings. The global adult lifetime risk of maternal mortality is 1 in 180; in Pakistan, it is 1 in 170; in developed regions, 1 in 4,900 (Albert et al., 2020).

The differences in maternal mortality between developed and developing countries are mainly due to the quality of antenatal care (ANC) available in the two groups of countries. Although there has been a notable reduction in maternal mortality rates worldwide, challenges persist, highlighting the imperative to delve deeper into the comprehension of ANC among pregnant women, especially in regions such as Pakistan, where maternal health remains a pressing concern (Ariff et al., 2024).

Antenatal care transcends the realm of routine health check-ups for pregnant women; its essence lies in ensuring a safe pregnancy, encompassing not only the absence of disease but also proactive screening for conditions such as preeclampsia and fetal abnormalities (Nasir et al., 2020). However, the utilization patterns of ANC in low- and middle-income countries diverge significantly from those in high-income nations. Despite a marked increase in utilization over the past decades, the motivations driving this uptake remain ambiguous (Warri & George, 2020). Surprisingly, studies reveal that Pakistani women often prioritize birth preparation over availing themselves of other preventive or screening services offered during ANC visits. Moreover, instances of delayed or infrequent presentation for ANC further underscore the underutilization of antenatal services in the country. Consequently, the potential of ANC as a platform for comprehensive screening, education, and healthcare provision during pregnancy remains largely untapped (Konlan et al., 2020).

In light of these realities, our research endeavors to shed light on the factors influencing the utilization of ANC services among pregnant women attending outpatient departments in Lahore's tertiary care hospitals. By comprehensively assessing the reasons driving ANC utilization, we aim to unravel the intricacies of pregnant women's decision-making processes regarding their prenatal care. This exploration is pivotal not only for understanding the current landscape but also for informing targeted interventions aimed at optimizing ANC utilization and, subsequently, improving maternal and child health outcomes in Pakistan.

Expanding our lens beyond Pakistan, global disparities in ANC coverage further emphasize the critical role of ANC utilization in maternal health. Discrepancies in ANC coverage across regions like sub-Saharan Africa highlight the complex interplay between healthcare access, socioeconomic factors, and maternal mortality rates (Aziz Ali et al., 2020). As nations strive to achieve universal access to reproductive healthcare and meet Sustainable Development Goals targets on maternal and reproductive health, there is an urgent need for context-specific evidence and policy recommendations (Ala et al., 2021). Thus, our study seeks to contribute to this discourse by examining women's knowledge and factors influencing optimum ANC utilization, offering insights that transcend geographical boundaries and advance maternal health outcomes on a global scale.

Problem Statement

Despite global efforts to improve maternal and neonatal health outcomes, Pakistan continues to face significant challenges in reducing maternal and neonatal mortality rates. With a Maternal Mortality Rate (MMR) of 276 deaths per 100,000 live births and a Neonatal Mortality Rate (NMR) of 55 deaths per 1,000 live births, the country lags behind in achieving key health indicators,

reflecting inadequacies in antenatal care (ANC) services. Despite commitments to the Sustainable Development Goals (SDGs) in 2002, particularly SDG 4 and SDG 5 aimed at reducing child mortality and improving maternal health respectively, Pakistan failed to meet these targets by 2015. This persistent gap between healthcare goals and outcomes underscores the urgent need to investigate the factors contributing to poor antenatal care utilization and the consequent impact on maternal and neonatal health outcomes in Pakistan.

Significance of the Study

This study holds substantial significance in addressing critical gaps in maternal and neonatal healthcare in Pakistan. By investigating the factors influencing antenatal care (ANC) utilization, the study aims to provide valuable insights into the root causes of persistently high maternal and neonatal mortality rates in the country. Understanding these factors is crucial for developing targeted interventions and policy recommendations aimed at improving ANC services and ultimately enhancing maternal and neonatal health outcomes.

Furthermore, the study's findings can inform the development of evidence-based strategies to bridge the gap between healthcare goals and outcomes, particularly in achieving Sustainable Development Goals (SDGs) related to maternal and child health.

Moreover, the study's focus on tertiary care hospitals in Lahore provides an opportunity to assess the quality of ANC services in urban settings, where access to healthcare may be relatively better compared to rural areas. Insights gained from this study can guide efforts to strengthen ANC services not only in Lahore but also in other urban centers across Pakistan.

Overall, the study's findings have the potential to inform policy decisions, improve healthcare delivery, and ultimately save the lives of mothers and newborns in Pakistan, contributing to the global efforts to achieve Sustainable Development Goals (SDGs) related to maternal and child health.

Objectives of the Study

. To assess the knowledge level of pregnant women regarding antenatal care (ANC) in tertiary care hospitals in Lahore, Pakistan.
. To assess the relationship between knowledge level of pregnant women regarding antenatal care and demographic characteristics in tertiary care hospitals in Lahore, Pakistan.

Hypothesis of the Study

Null Hypothesis (H0):

. There is no significant difference in the knowledge level of pregnant women regarding antenatal care (ANC) in tertiary care hospitals in Lahore, Pakistan.
. There is no significant relationship between the knowledge level of pregnant women regarding antenatal care and demographic characteristics in tertiary care hospitals in Lahore, Pakistan.

Alternative Hypothesis (H1):

. There is a significant difference in the knowledge level of pregnant women regarding antenatal care (ANC) in tertiary care hospitals in Lahore, Pakistan.
. There is a significant relationship between the knowledge level of pregnant women regarding antenatal care and demographic characteristics in tertiary care hospitals in Lahore, Pakistan.

Operational Definitions

Knowledge

The knowledge of pregnant women will be assessed using an adopted knowledge assessment scale of Antenatal Care developed by (Gebremariam et al., 2023). This consists of 10 multiple choice questions to assess the pregnant women's' knowledge of Antenatal Care. Each correct answer will be given a score 1 and wrong answering 0. Total score ranged from 0- 10. The knowledge of participants will be graded as per category based on score percentage.

Categories	Percentage
Poor Knowledge	≤ 49%
Average Knowledge	50%-74%
Good Knowledge	> 74%

Materials & Methods

The study employed a descriptive cross-sectional design to examine relationships among variables within the outpatient gynecology clinic at a Tertiary Care Hospital Lahore. It was conducted over six months, from January 2024 to June 2024, and targeted a sample size of 100 participants with an estimated margin of error of ±5%. Data were collected using a convenience sampling approach, appropriate given the clinical setting and logistical constraints.

Inclusion Criteria

- Pregnant women of 1st, 2nd and 3rd trimester receiving antenatal care at public sector hospital
- Aged between 20 to 35 Year
- Multigravida with singleton pregnancy
- No musculoskeletal deformity, no medical problem
- Those willing to give informed consent

Exclusion Criteria

- Having history of gestational diabetes, pre-eclampsia, cardiovascular, neurologic, neuromuscular, or respiratory disease or psychological illness
- Women with multiple pregnancies, spinal and pelvic deformity
- Not willing to participate in study

Ethical Considerations

- Written informed permission was obtained from all individuals.
- All information and data gathered was kept strictly secret.
- Participants were kept anonymous during the study.
- The participants were informed that there are no drawbacks or hazards to the study during the effective intervention of external ventricular drain care guidelines on nursing practice and patient issues.
- They were told that they might leave the study at any time.

Data Collection Procedure

The data will be gathered from pregnant women taking antenatal care at tertiary care hospital, Lahore. The data collection was done using adopted questionnaire. The demographic part of the questionnaire contained information regarding age, religion, qualification, Husband's education, occupation, gravida and parity where as the knowledge of pregnant women was assessed using the assessment scale of antenatal care developed by (Gebremariam et al., 2023). This consists of ten multiple choice questions to assess the pregnant women's' knowledge of antenatal care. Each correct given a score 1 and wrong answer 0. Total score ranged from 0- 10.

The knowledge of participants was categorized as:

Categories	Percentage
Poor Knowledge	≤ 49%
Average Knowledge	50%-74%
Good Knowledge	> 74%

Data Analysis Procedure

Data has been analyzed using Statistical Package for Social Sciences (SPSS) version 25. The demographic characteristics (age, education, occupation, gravidity, and parity) were summarized using frequencies and percentages. The knowledge questions (antenatal care, timing of first checkup, four-

visit requirement, and smoking harms) were presented as counts and percentages to reflect the distribution of correct and incorrect responses. Where appropriate, cumulative percentages were noted to illustrate overall coverage across categories.

Results

Demographic Characteristics

Table 1: Age of participants

Age in Years	Frequency (n)	Percentage (%)
<20 Year	25	25.0
20-29 Year	50	50.0
30-39 Year	25	25.0
Total	100	100.0

Table 1 presents the age distribution of participants in the study. It categorizes participants into three age groups: those under 20 years, those aged 20-29 years, and those aged 30-39 years. The largest group comprises individuals aged 20-29 years, with 50 participants, accounting for 50% of the total sample. Participants fewer than 20 years and those aged 30-39 years each represent 25% of the total, with 25 participants in each category. Overall, the table shows a total of 100 participants, with cumulative percentages indicating that 75% of participants are under 30 years old, and 100% are included by the age of 39.

Figure 1: Age of participants

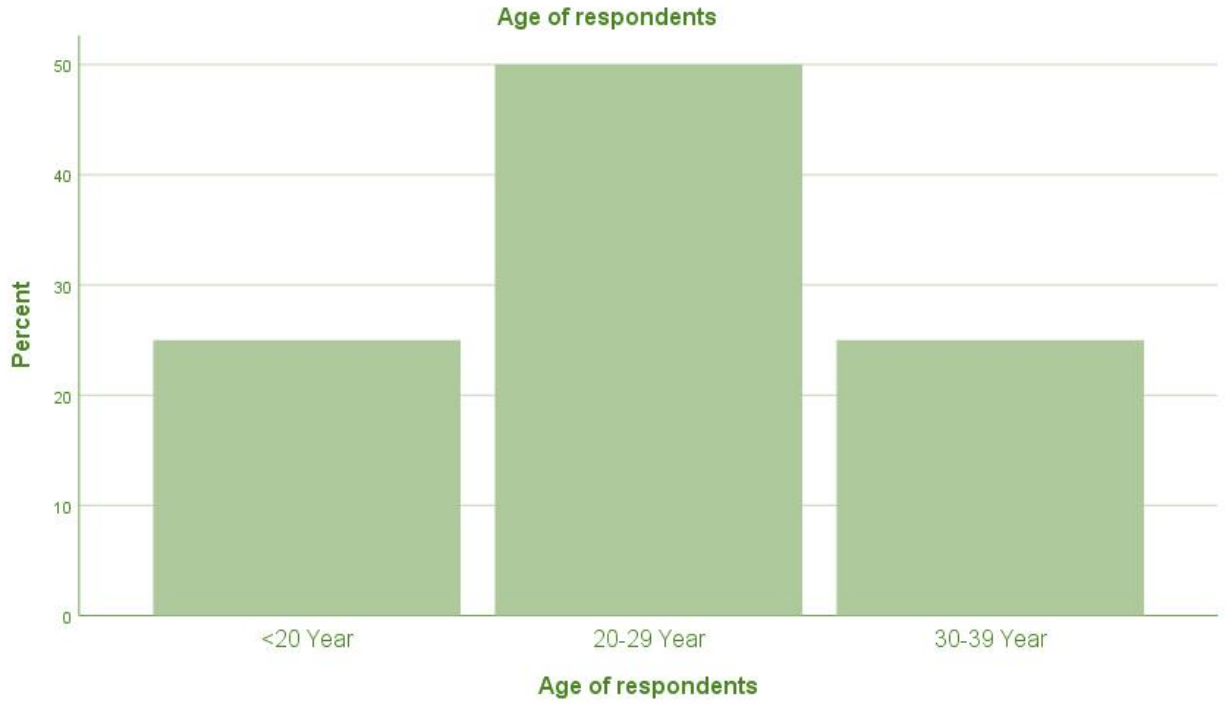

Table 2: Educational level of participants

Educational level	Frequency (n)	Percentage (%)
No formal education	18	18.0

Primary	21	21.0
Middle	32	32.0
High school or Above	29	29.0
Total	100	100

Table 2 outlines the educational levels of participants in the study. The data reveals that 18 participants, or 18%, have no formal education. The primary education level is represented by 21 participants, making up 21% of the total. A significant portion, 32 participants (32%), have completed middle school, while 29 participants (29%) have attained a high school education or higher.

Figure 2: Educational level of participants

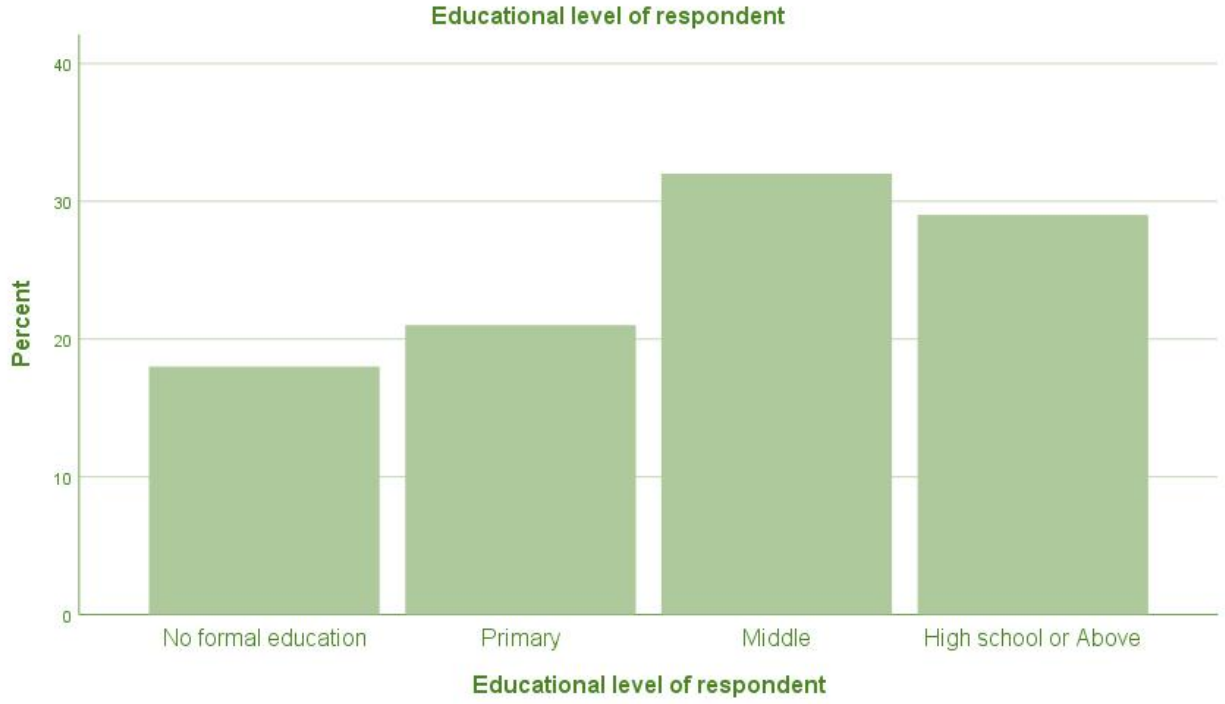

Table 3: Occupation of participants

Occupation	Frequency (n)	Percentage (%)
Housewife	45	45.0
Self-employed	30	30.0
Governmental	14	14.0

Single-unemployed	11	11.0
Total	100	100.0

Table 3 presents the occupational distribution of participants in the study. The data shows that the largest group, comprising 45 participants (45%), is housewives. The second-largest group consists of 30 self-employed individuals, accounting for 30% of the total. The governmental sector employs 14 participants, representing 14% of the sample. Finally, 11 participants (11%) are single and unemployed. The cumulative percentages indicate that by the end of the self-employed category, 75% of participants are accounted for, and by the single-unemployed category, all participants (100%) are included.

Figure 3: Occupation of participants

Table 4: Gravidity of participants

Gravidity	Frequency (n)	Percentage (%)
Zero	15	15.0
One-Four	35	35.0
>Four	50	50.0
Total	100	100.0

Table 4 illustrates the gravidity status of the participants in the study, categorizing them based on the number of pregnancies they have experienced. The data indicates that 15 participants (15%) have had no pregnancies, classified as "Zero." The largest group consists of 35 participants (35%) who have experienced between one and four pregnancies, labeled as "one-four." The highest gravidity category, ">Four," includes 50 participants (50%), indicating they have had more than four pregnancies. The cumulative percentages show that 50% of participants fall into the "one-four" category, and by the end of the ">Four" category, all participants (100%) are accounted for. This distribution highlights the varying experiences of participants regarding their pregnancy history.

Figure 4: Gravidity of participants

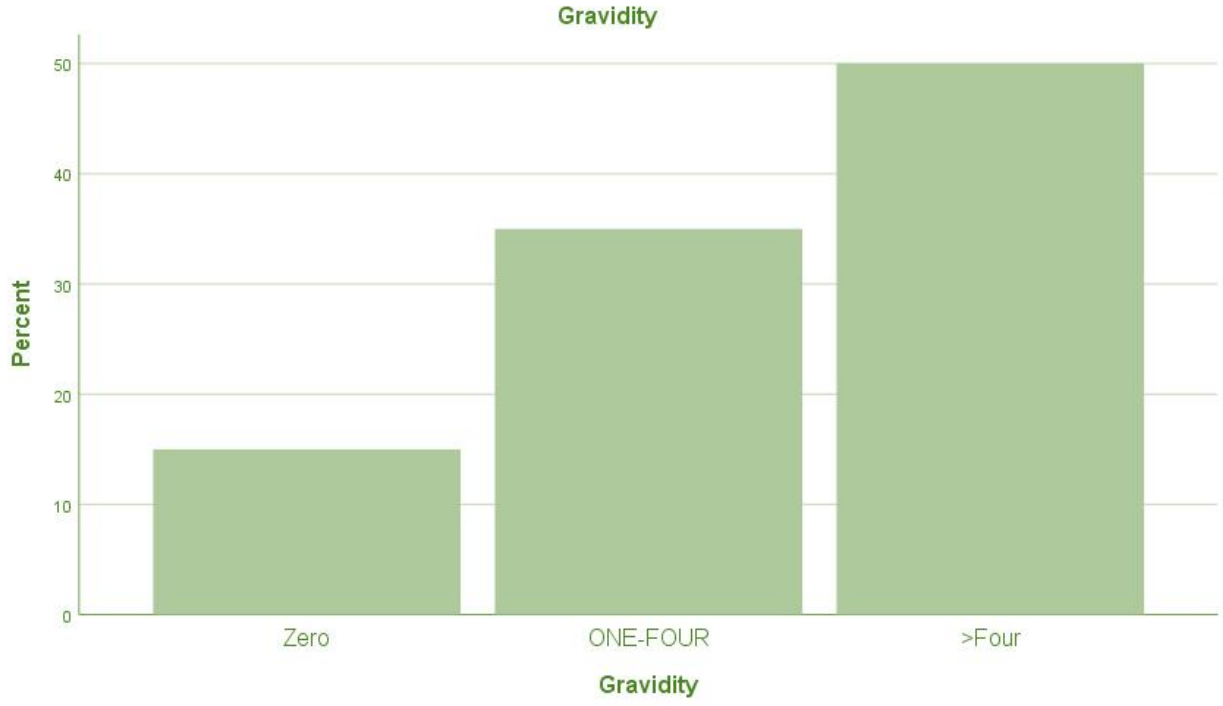

Table 5: Parity of participants

Parity	Frequency (n)	Percentage (%)
Zero	17	17.0
One-Four	52	52.0
>Four	31	31.0
Total	100	100.0

Table 5 details the parity status of the participants in the study, which refers to the number of births they have experienced. The data reveals that 17 participants (17%) have had no births, categorized as "Zero." The largest group consists of 52 participants (52%) who have experienced between one and four births, referred to as "One-Four." Additionally, 31 participants (31%) fall into the ">Four" category, indicating they have had more than four births. The cumulative percentages demonstrate that 69% of participants have had between one and four births, and by the end of the ">Four" category, all participants (100%) are accounted for.

Figure 5: Parity of participants

Table 6: Antenatal care knowledge

What is antenatal care?	Frequency (n)	Percentage (%)
Wrong answer	67	67.0
Correct Answer	33	33.0
Total	100	100.0

Table 6 presents the responses of participants regarding their understanding of antenatal care. The data indicates that a significant majority, 67 participants (67%), provided a wrong answer when asked about antenatal care, highlighting a potential gap in knowledge regarding this important aspect of maternal health. In contrast, 33 participants (33%) correctly identified what antenatal care entails. The cumulative percentages show that 67% of participants answered incorrectly, while 100% of the responses are accounted for by the end of the table.

Figure 6: Antenatal care knowledge

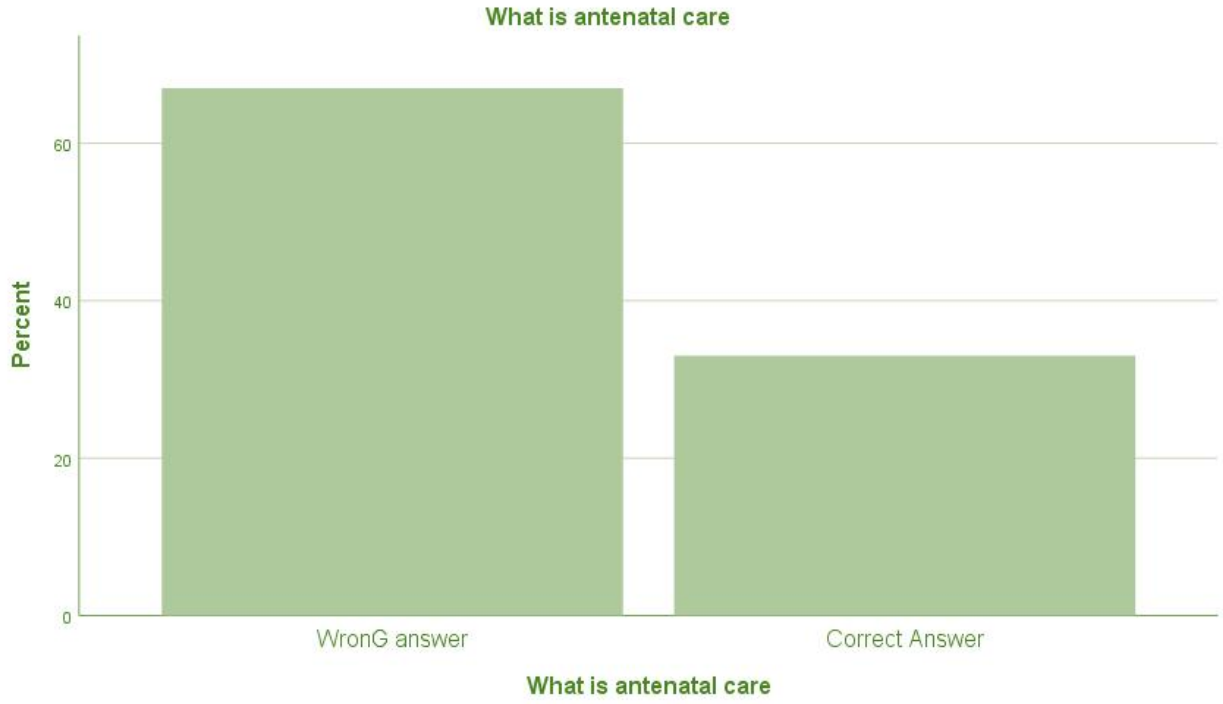

Table 7: Antenatal checkup knowledge

When should the first antenatal checkup be started?	Frequency (n)	Percentage (%)
Wrong answer	65	65.0
Correct Answer	35	35.0
Total	100	100.0

Table 7 outlines the responses of participants regarding the appropriate timing for the first antenatal checkup. The results show that 65 participants (65%) provided a wrong answer, indicating a significant lack of awareness about when to initiate antenatal care. Conversely, 35 participants (35%) correctly identified the appropriate timing for the first antenatal checkup. participants answered incorrectly, with all responses accounted for by the end of the table.

Figure 7: First antenatal checkup

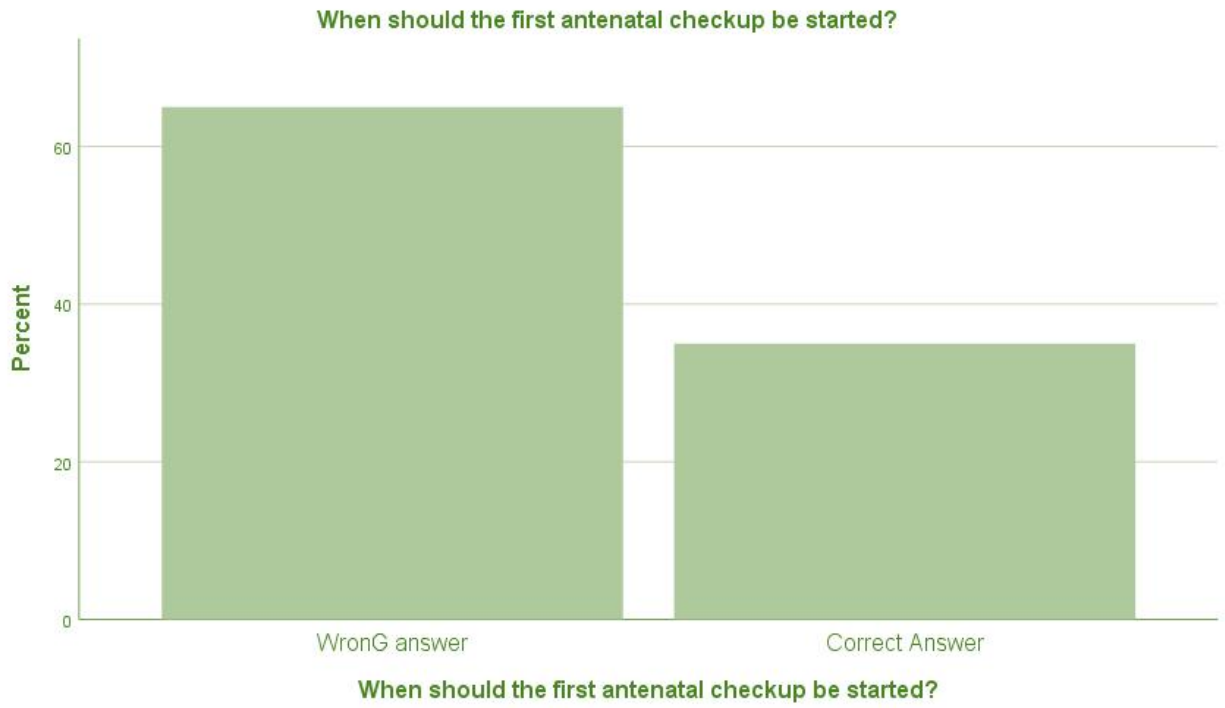

Table 8: Visits during antenatal period

Does a pregnant woman need to come for at least four antenatal checks throughout her pregnancy?	Frequency (n)	Percentage (%)
Wrong answer	59	59.0
Correct Answer	41	41.0
Total	100	100.0

Table 8 shows participants' responses regarding whether a pregnant woman needs to attend at least four antenatal checkups during her pregnancy. The results indicate that 59 participants (59%) answered incorrectly, reflecting a lack of understanding about the recommended frequency of antenatal visits. Conversely, 41 participants (41%) provided the correct answer.

Figure 8: Antenatal checks throughout pregnancy

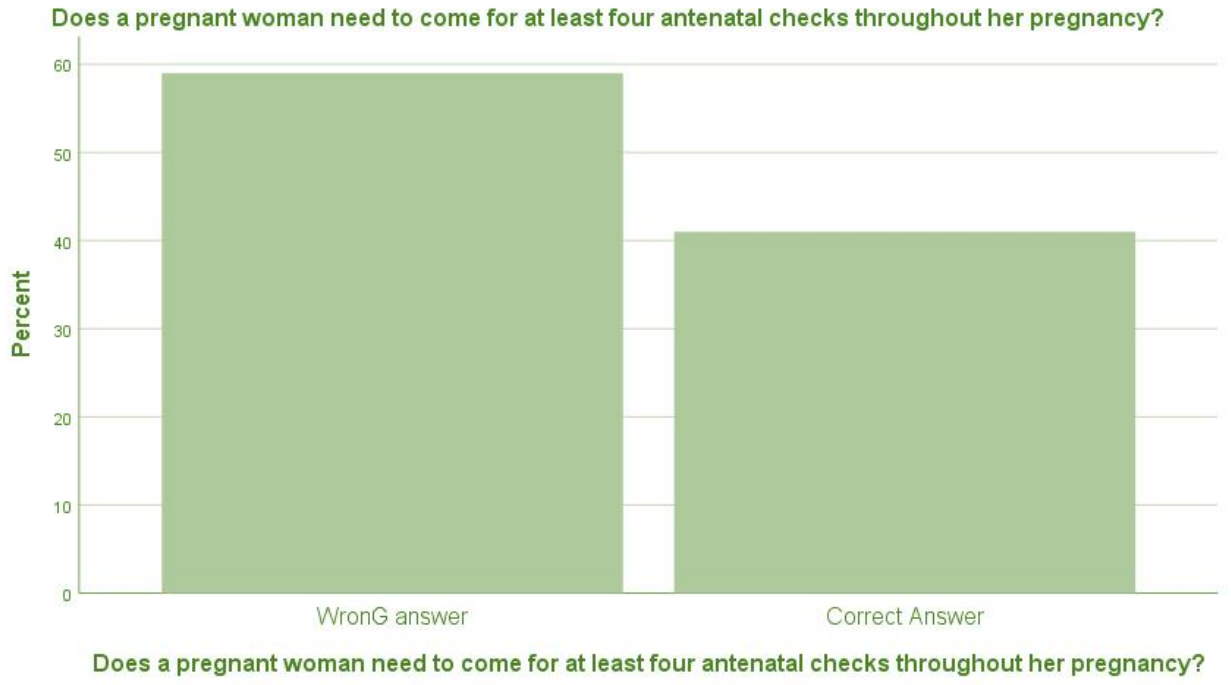

Table 9: Effects of maternal smoking to the fetus

Is maternal smoking harmful to the fetus?	Frequency (n)	Percentage (%)
Wrong answer	67	67.0
Correct Answer	33	33.0
Total	100	100.0

Table 9 presents participants' responses regarding the potential harm of maternal smoking to the fetus. The data reveals that a majority of participants, 67 (67%), provided a wrong answer, indicating a lack of awareness about the negative impacts of smoking during pregnancy. In contrast, only 33 participants (33%) correctly identified the harmful effects of maternal smoking on the fetus. The cumulative percentages show that 67% of participants were misinformed, while all responses are accounted for by the end of the table. This distribution highlights the need for increased education and awareness about the risks of maternal smoking to promote better fetal health outcomes.

Figure 9: Effect of maternal smoking to the fetus

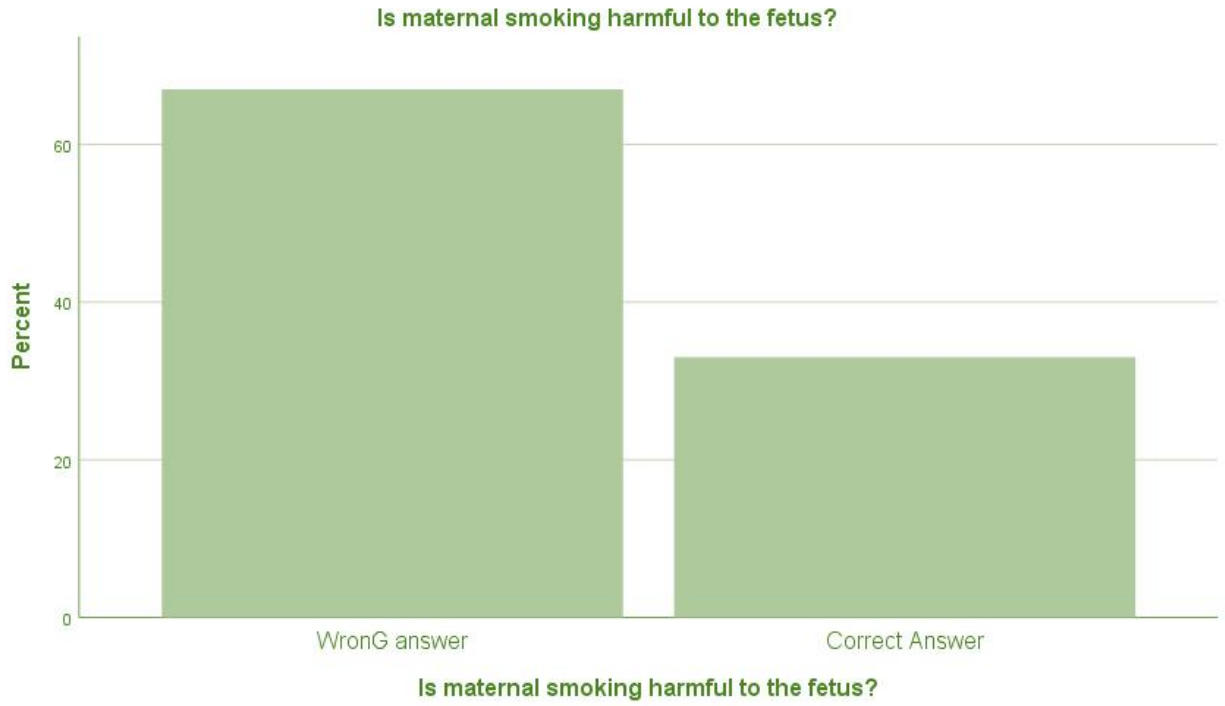

Table 10: Knowledge regarding alcohol consumption during pregnancy

Can alcohol consumption during pregnancy affect the fetal growth?	Frequency (n)	Percentage (%)
Wrong answer	65	65.0
Correct Answer	35	35.0
Total	100	100.0

Table 10 outlines participants' responses regarding the potential impact of alcohol consumption during pregnancy on fetal growth. The data indicates that a significant majority, 65 participants (65%), provided a wrong answer, suggesting a lack of awareness about the negative effects of alcohol on fetal development. Conversely, only 35 participants (35%) correctly identified the harmful relationship between maternal alcohol consumption and impaired fetal growth. The cumulative percentages reveal that 65% of participants were misinformed, while all responses are accounted for by the end of the table.

Figure 10: Knowledge regarding alcohol consumption during pregnancy

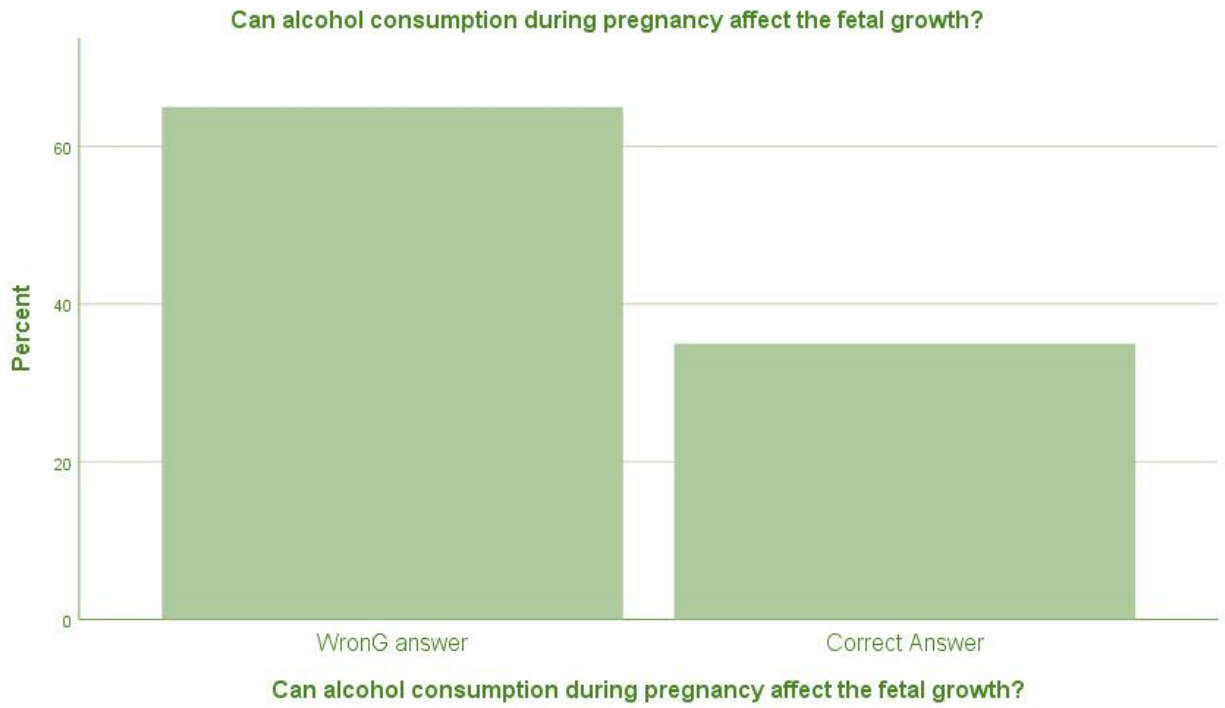

Table 11: Awareness regarding infection during pregnancy

Are you aware that any infection during pregnancy can cause harm to your baby?	Frequency (n)	Percentage (%)
Wrong answer	59	59.0
Correct Answer	41	41.0
Total	100	100.0

Table 11 presents participants' awareness regarding the potential harm that infections during pregnancy can cause to the baby. The results indicate that 59 participants (59%) answered incorrectly, reflecting a significant lack of understanding about the risks associated with infections during pregnancy. In contrast, 41 participants (41%) correctly acknowledged that infections can indeed harm the fetus.

Figure 11: Awareness regarding infection during pregnancy

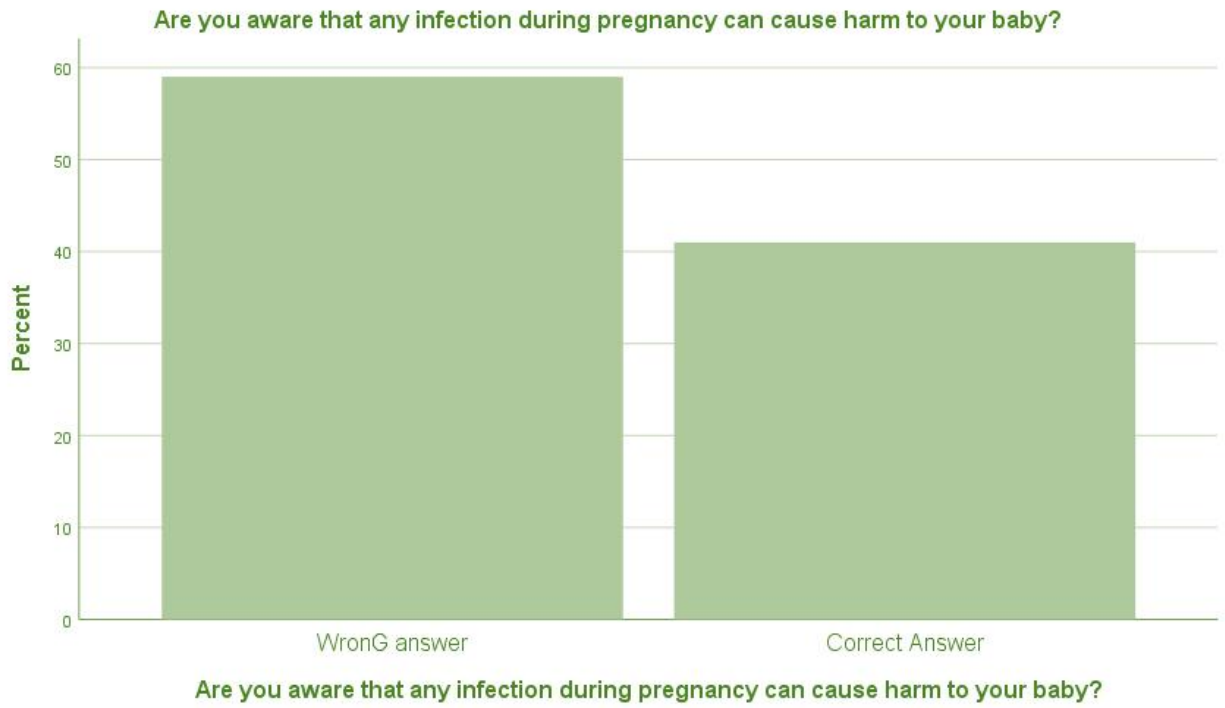

Table12. Self-Medication effects to fetus

Any medicines other than those prescribed by doctor can cause harm to your baby?	Frequency (n)	Percentage (%)
Wrong answer	67	67.0
Correct Answer	33	33.0
Total	100	100.0

Table 12 illustrates participants' understanding of the potential risks associated with taking any medicines other than those prescribed by a doctor during pregnancy. The data reveals that 67 participants (67%) provided a wrong answer, indicating a significant lack of awareness about the dangers of prescribed medications on fetal health. Conversely, only 33 participants (33%) correctly recognized that such medicines can indeed cause harm to the baby.

Figure 12: Self-Medication affects to fetus

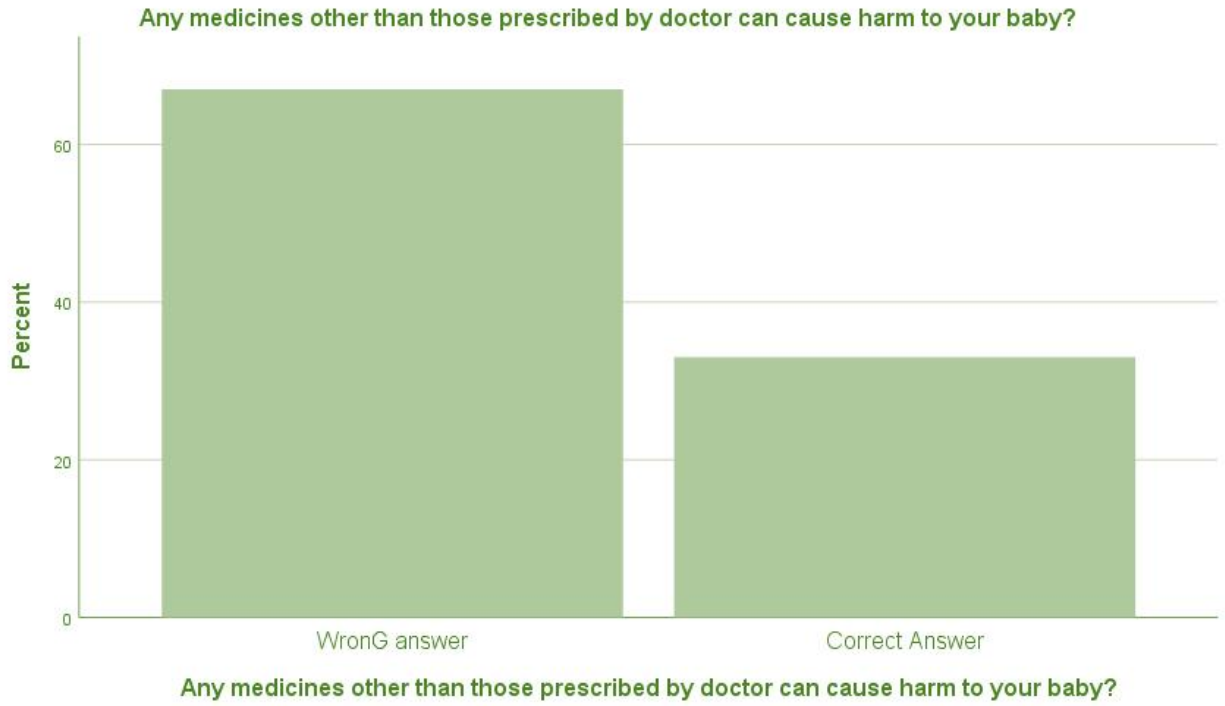

Table13. Knowledge regarding birth place

In your opinion, where should a pregnant woman deliver her baby?	Frequency (n)	Percentage (%)
Wrong answer	65	65.0
Correct Answer	35	35.0
Total	100	100.0

Table 13 presents participants' opinions on the appropriate location for a pregnant woman to deliver her baby. The results indicate that 65 participants (65%) provided a wrong answer, reflecting a significant lack of understanding regarding recommended delivery settings. In contrast, 35 participants (35%) correctly identified the appropriate locations for childbirth, suggesting some awareness of safe delivery practices. The cumulative percentages demonstrate that 65% of participants were misinformed, while all responses are accounted for by the end of the table.

Figure 13: Knowledge regarding birth place

Table14: Danger signs of pregnancy

What are the danger signs of pregnancy?	Frequency (n)	Percentage (%)
Wrong answer	59	59.0
Correct Answer	41	41.0
Total	100	100.0

Table 14 outlines participants' knowledge regarding the danger signs of pregnancy. The data reveals that 59 participants (59%) provided a wrong answer, indicating a significant lack of awareness about the critical warning signs that may indicate complications during pregnancy. Conversely, 41 participants (41%) correctly identified the danger signs, reflecting some level of understanding of maternal health issues.

Figure 14: Danger signs of pregnancy

Table 15: React in critical situation

What should be done in case of any such problem?	Frequency (n)	Percentage (%)
Wrong answer	67	67.0
Correct Answer	33	33.0
Total	100	100.0

Table 15 presents participants' understanding of the appropriate actions to take in the event of pregnancy-related problems. The data indicates that 67 participants (67%) provided a wrong answer, highlighting a significant lack of knowledge regarding the necessary steps to address complications during pregnancy. In contrast, only 33 participants (33%) correctly identified the appropriate course of action. The cumulative percentages reveal that 67% of participants were misinformed, while all responses are accounted for by the end of the table.

Figure 15: **React in critical situation**

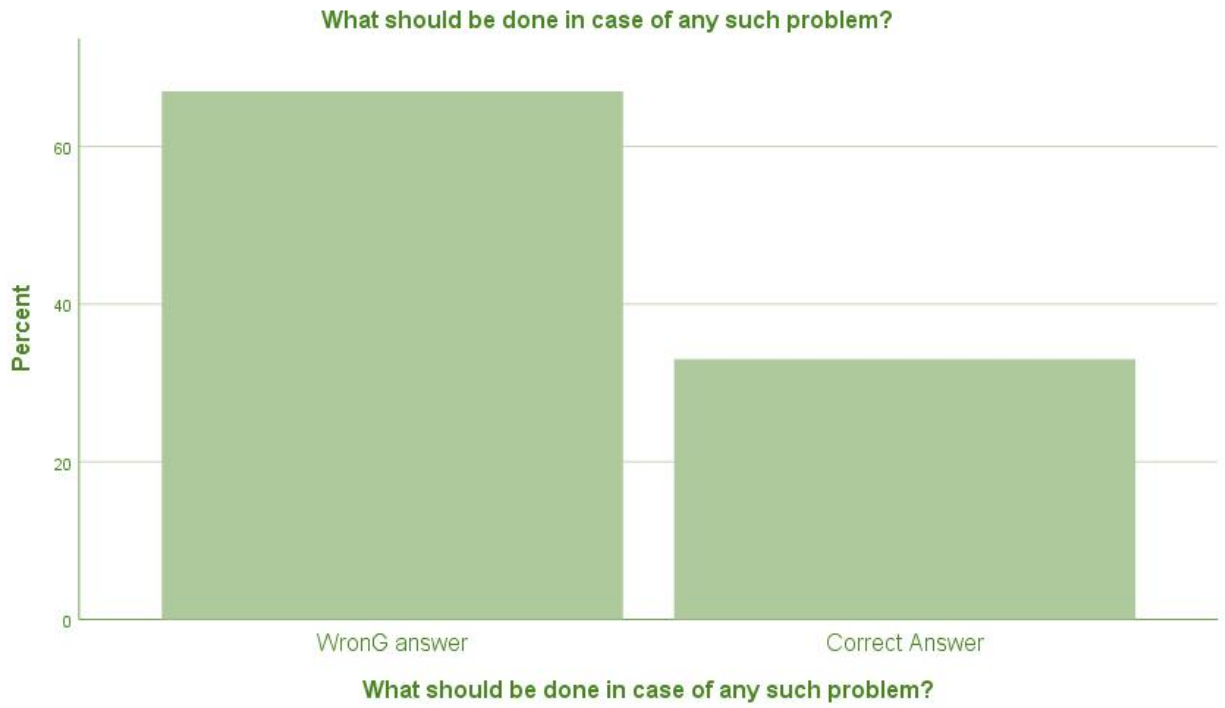

Table 16: Overall Knowledge of Participants

Level of knowledge	Frequency (n)	Percentage (%)
Poor Knowledge	51	51.0
Average Knowledge	43	43.0
Good Knowledge	6	6.0

Table 16 presents an overview of the participants' knowledge levels regarding maternal health. The findings indicate that 51 participants (51%) have poor knowledge, reflecting a significant lack of understanding in this area. In contrast, 43 participants (43%) demonstrate average knowledge, suggesting that while they possess some awareness, it is not comprehensive. Only 6 participants (6%) are categorized as having good knowledge, indicating a very limited number of individuals with a strong understanding of maternal health topics.

Figure 16: Overall Knowledge of participants

Discussion

The demographic characteristics of the participants in this study reveal significant insights into maternal health awareness and knowledge. The age distribution indicates that half of the participants are in the 20-29 age groups, which aligns with findings from previous studies that suggest younger mothers are more prevalent in certain regions due to cultural and socioeconomic factors (Dasgupta et al., 2023). This demographic is crucial as it represents a critical period for maternal education and health interventions.

The educational levels of participants demonstrate a concerning trend, with a combined 39% having no formal education or only primary education. This is consistent with findings from other studies, such as the Tromsø Study, which noted that lower educational attainment is often associated with poorer health outcomes and lower health literacy (Tromsø Study, 2023). The predominance of participants with poor knowledge about antenatal care (67% incorrect responses) further emphasizes the need for targeted educational programs aimed at this demographic.

The occupational distribution reveals that a significant portion of participants are housewives (45%), which may contribute to their limited access to information about maternal health. Previous research has shown that women in similar socioeconomic positions often have less exposure to health education resources, which can hinder their understanding of essential health topics (Frontiers in Psychology, 2017). This finding underscores the importance of community-based interventions that reach women in domestic roles, providing them with the necessary knowledge to improve maternal health outcomes.

The gravidity and parity data indicate that a large percentage of participants have experienced multiple pregnancies, with 50% having more than four pregnancies. This finding is consistent with studies that highlight the challenges faced by women with high gravidity, including increased risks for complications during pregnancy and childbirth (BMC Public Health, 2023). The

parity data also reflects a trend where a majority of participants have had between one and four births, which aligns with global patterns of childbirth but may also suggest a need for enhanced reproductive health education.

The overall knowledge assessment reveals that 51% of participants have poor knowledge regarding maternal health, which is alarming and suggests a critical gap in awareness. This finding is corroborated by various studies that have identified low health literacy as a barrier to effective maternal health care (BMC Public Health, 2023). The low percentage of participants with good knowledge (6%) highlights the urgency for educational initiatives tailored to improve understanding of maternal health issues, particularly in communities with similar demographic characteristics.

When comparing these findings with current literature, it is evident that the challenges faced by this participant group are not isolated. Studies have consistently reported that demographic factors such as age, education, and occupation significantly influence health literacy and access to care (Dasgupta et al., 2023). Furthermore, the high rates of incorrect responses regarding antenatal care and the dangers of maternal smoking and alcohol consumption align with findings from other studies that emphasize the need for comprehensive health education programs targeting pregnant women and new mothers.

Conclusion

The study reveals significant gaps in maternal health knowledge among participants, despite their diverse demographics, with most aged 20-29 years and varying in education and occupation. The findings show that the majority of participants lack adequate awareness of key maternal health topics, including antenatal care, the timing and frequency of checkups, and the risks associated with smoking, alcohol consumption, and infections during pregnancy. Over 50% of participants provided incorrect answers in these areas, indicating a substantial knowledge deficit. Additionally, many were unaware of the dangers posed by un-prescribed medications during pregnancy and the appropriate steps to take in case of complications. Only a small percentage of participants demonstrated good knowledge, while most displayed poor or average understanding. These results highlight the urgent need for educational interventions to improve maternal health knowledge and promote informed decision-making for better pregnancy outcomes.

Limitations of Study

The limitations of this study include several factors that may affect the generalizability and accuracy of the findings.

. First, the sample size of 100 participants, though sufficient for a preliminary analysis, may not represent the broader population, limiting the ability to generalize the results.

. Second, the study focused on a specific geographic region, and cultural or regional differences may influence the participants' knowledge and perceptions of maternal health, further limiting the applicability of the results to other settings.

. Lastly, the study did not account for external factors, such as access to healthcare services, which could influence participants' knowledge and practices regarding maternal health. Future studies with larger, more diverse samples and a broader focus on contextual factors would help address these limitations.

Recommendations of the Study

. Develop and implement comprehensive educational programs focused on antenatal care, the risks of smoking, alcohol consumption, infections, and the importance of prescribed medications during pregnancy. These programs should be tailored to the

literacy and cultural context of the target population.

2. Initiate awareness campaigns at the community level to promote understanding of the importance of early antenatal checkups and regular visits. These campaigns can involve local healthcare providers, community leaders, and media outlets to reach a broader audience.
3. Encourage healthcare professionals to provide clear, consistent information about maternal health during routine consultations. Healthcare workers should actively engage pregnant women and their families in discussions about pregnancy risks and preventive measures.
4. Enhance access to reliable health information through the distribution of educational materials in clinics, hospitals, and community centers. Visual aids, pamphlets, and digital resources can help bridge knowledge gaps for those with limited formal education.
5. Conduct further research with larger, more diverse populations to explore additional factors influencing maternal health knowledge and behaviors. This could include examining the role of socioeconomic status, healthcare access, and cultural practices in shaping maternal health awareness.

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