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Socio-Demographic Determinants of Knowledge and Experience of Pregnancy Complications among Women in Osun State, South-west Nigeria

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Abstract: *Background: Maternal morbidity and mortality remain public health priorities in Nigeria, particularly in rural and peri-urban communities. Knowledge and personal experience of pregnancy complications are crucial indicators of maternal health outcomes, yet the socio-demographic factors influencing these remain underexplored at the local government level. Objective: This study investigates the socio-demographic determinants of both knowledge and experience of pregnancy complications among women of reproductive age in Iwo Local Government Area (LGA) of Osun State, Southwest Nigeria. Methods: A community-based cross-sectional survey was conducted among 200 women selected using multistage sampling. Data were collected via structured questionnaires and analyzed using descriptive statistics and chi-square tests of independence at a 5% significance level. Socio-demographic variables analyzed included age, income, education, marital status, religion, and occupation. Results: Only 35% of respondents were knowledgeable about pregnancy complications, while 22% reported experiencing at least one complication. Chi-square results revealed no statistically significant association between knowledge or experience of pregnancy complications and any individual socio-demographic variable ($p > 0.05$), although patterns suggested higher knowledge among women with post-secondary education and greater income. The analysis showed that education, age, and antenatal visits had visible but statistically non-significant effects on awareness levels. Similarly, experience of complications was evenly distributed across occupational and income categories. Conclusion: The findings highlight a substantial knowledge gap and suggest that while socio-demographic characteristics influence maternal health awareness and experience, the relationship is complex and context-dependent. The absence of significant statistical associations underscores the need for localized, multi-sectoral interventions. Tailored health education and improved access to antenatal care are essential to enhance maternal health outcomes in Iwo LGA and similar settings.*

Keywords: pregnancy complications, maternal health, socio-demographic determinants, knowledge, experience

1. INTRODUCTION

Pregnancy complications pose a major public health challenge, especially in developing countries where maternal health outcomes are often poor. In Nigeria, maternal mortality remains alarmingly high, with pregnancy-related complications contributing significantly to deaths among women of reproductive age (WHO, 2020). These complications ranging from pre-eclampsia, gestational diabetes, and hemorrhage to infections and obstructed labor can arise from pre-existing conditions or develop during pregnancy. Socio-demographic factors such as age, education, income, marital status, and occupation strongly influence women's knowledge and experience of these complications (Bello et al., 2021). Timely detection and intervention through antenatal care and skilled birth attendance are crucial for improving maternal and neonatal health outcomes (Say et al., 2014). Key Characteristics: Onset: Can occur during early, mid, or late pregnancy, during labor and delivery, or after childbirth. Impact: May affect physical, mental, or emotional health. Manageability: Many complications are preventable or treatable with timely and adequate healthcare. Many studies have been carried out on pregnancy complication within and outside the country. For example: Diviani, van den Putte, Giani, and van Weert (2015) conducted a systematic review of 48 peer-reviewed studies to examine the relationship between maternal health literacy and pregnancy outcomes. The findings indicate that women with higher levels of maternal health literacy possess greater awareness of pregnancy-related complications and are more inclined to utilize antenatal care services. The review concludes that maternal health literacy shaped by socio-demographic factors such as education and income is consistently and positively associated with improved maternal health outcomes. Fagbamigbe and Idemudia (2017) conducted a multilevel analysis using secondary data from the Demographic and Health Surveys (DHS) to investigate the determinants of maternal health care utilization across sub-Saharan Africa. Employing multilevel logistic regression, the study found that socioeconomic factors such as household wealth, educational attainment, and place of residence significantly influenced both the knowledge and use of maternal health services. In particular, women residing in rural areas demonstrated lower awareness of pregnancy complications compared to their urban counterparts. The study concluded that persistent socioeconomic inequalities continue to shape maternal health knowledge and experiences across the region. Klomegah (2020) conducted a cross-sectional study involving 300 pregnant women in Ghana to examine the socio-demographic predictors of maternal knowledge and practices related to danger signs during pregnancy. Data were collected using structured questionnaires. The findings revealed that the level of formal education and

frequency of antenatal care visits were the most significant predictors of maternal knowledge concerning pregnancy complications. Additionally, income level and maternal age were found to have a notable influence. The study concluded that promoting formal education and encouraging regular antenatal care attendance are essential strategies for enhancing women's awareness of pregnancy-related risks. Okonofua, Ntoimo, and Ogu (2018) conducted a nationwide cross-sectional study in Nigeria to assess women's knowledge of obstetric danger signs. Utilizing a multistage sampling technique, the study surveyed 1,200 women through a national household survey. The results indicated that only 30% of respondents possessed adequate knowledge of pregnancy complications. Educational attainment, household income, and exposure to mass media emerged as the most significant predictors of awareness. The study concluded that targeted, region-specific interventions are urgently needed, particularly in rural and underserved communities, to improve maternal health literacy and outcomes. Afolabi and Adeyemi (2019) conducted a community-based cross-sectional survey involving 250 women in rural areas of Osun State, Nigeria, to examine both awareness and experiences of pregnancy complications. Using chi-square analysis, the study found that 45% of participants reported experiencing at least one pregnancy complication, yet only 38% were able to accurately identify key danger signs. Significant socio-demographic determinants included educational level, marital status, and age. The study concluded that while awareness of pregnancy complications among rural women is gradually improving, critical gaps remain in knowledge and timely health-seeking behavior, necessitating targeted educational interventions.

Despite growing scholarship on maternal health in Nigeria and across sub-Saharan Africa, several critical gaps remain that this study seeks to address: While numerous studies have explored maternal health at national or regional scales (e.g., Okonofua et al., 2018; Fagbamigbe & Idemudia, 2017), limited research has focused on localized contexts such as Iwo Local Government Area (LGA) in Osun State. Given that health behaviors, service accessibility, and socio-cultural dynamics often vary within states, there is a pressing need for geographically nuanced research to inform context-specific interventions and policy formulation. The majority of existing studies tend to examine either the level of knowledge regarding pregnancy complications (Klomegah, 2020) or women's actual experiences of such complications (Afolabi & Adeyemi, 2019). However, integrated analyses that concurrently investigate both knowledge and lived experiences especially in relation to socio-demographic characteristics remain scarce. This dual perspective is essential for a comprehensive understanding of maternal vulnerability and service utilization. Prior research predominantly emphasizes educational attainment and income as determinants of maternal health outcomes (Diviani et al., 2015; Fagbamigbe & Idemudia, 2017). Less attention has been given to other potentially influential variables such as marital status, religion, occupation, and age. This study incorporates a broader array of socio-demographic indicators to capture a more holistic picture of the factors shaping knowledge and experience of pregnancy complications. While many local studies utilize descriptive statistics, few apply rigorous inferential statistical techniques such as chi-square tests with expected frequencies to examine the association between multiple socio-demographic variables and maternal health outcomes. The current study fills this methodological gap by employing robust statistical analyses across a diverse range of indicators. A disconnect often exists between research findings and actionable health policy, particularly at the community level. By providing disaggregated, community-specific data from Iwo LGA, this study contributes directly to the evidence base needed for locally tailored maternal health programs and interventions. Socio-demographic factors are pivotal in shaping how women perceive pregnancy complications. Age, for instance, plays an important role, as younger and older women are often at a higher risk for pregnancy complications (Liu et al., 2020). In Nigeria, youth pregnancy has been linked to higher rates of complications such as preeclampsia, while older maternal age increases the likelihood of conditions like gestational diabetes and other chronic diseases that complicate pregnancy (Hussain et al., 2019). Moreover, women's education level influences their knowledge of pregnancy complications; educated women are more likely to be aware of and seek timely medical intervention for complications (Ogunniyi & Olajide, 2017). Income and occupation also intersect with the ability to access healthcare and the level of information women are exposed to. Lower-income women may experience delays in seeking care due to financial constraints, while women with higher income or those in formal employment may have better access to quality healthcare services (Olusegun et al., 2018). In particular, housewives or women in agriculture, who may have limited access to healthcare services and information, are often more vulnerable to complications during pregnancy. The local community plays an essential role in shaping women's awareness and experiences of pregnancy complications. In regions like Iwo Local Government Area (LGA) in Osun State, cultural and socioeconomic factors often dictate access to maternal healthcare services. Despite improvements in healthcare infrastructure, rural areas continue to experience challenges, such as inadequate healthcare facilities, poorly trained healthcare providers, and cultural beliefs that hinder timely healthcare-seeking behavior during pregnancy (Fajemilehin & Adeniran, 2020). The interaction of these socio-demographic factors with healthcare access and cultural beliefs can create disparities in maternal health outcomes. In Iwo LGA, one of the 30 LGAs in Osun State, maternal health remains a critical issue. The prevalence of pregnancy-related complications is high, yet the level of awareness among women about the signs, symptoms, and risks associated with pregnancy complications is often insufficient. The socio-demographic characteristics of the women in this area—particularly age, education, income, and marital status are important determinants in predicting their knowledge and experience of pregnancy complications. Understanding these factors is crucial for designing public health interventions aimed at reducing maternal morbidity and mortality in this region. Research in other parts of Nigeria has demonstrated that socio-demographic factors significantly affect both the knowledge and experience of pregnancy complications. For instance, women with higher education levels were found to have a better understanding of complications like eclampsia and postpartum hemorrhage (Adebayo et al., 2021). Conversely, women

with lower income and limited access to healthcare were more likely to report not seeking medical care during pregnancy complications (Ajayi et al., 2019). Despite these insights, there is a lack of comprehensive studies focusing on Iwo LGA, Osun State, which highlights the need for localized research.

2. Conceptual Framework for the Study:

The topic of the study, "Socio-Demographic Determinants of Knowledge and Experience of Pregnancy Complications Among Women in Iwo LGA, Osun State, Southwest Nigeria", is rooted in the understanding that socio-demographic factors play a crucial role in shaping the knowledge and experiences of pregnancy complications. These factors influence how women perceive, understand, and respond to pregnancy-related issues, thereby affecting maternal health outcomes. The conceptual framework of this study draws on the interrelationship between socio-demographic factors, knowledge of pregnancy complications, experience of pregnancy complications, and maternal health outcomes. Below is a breakdown of the key components:

2.1. Socio-Demographic Factors

Socio-demographic factors are individual-level characteristics that can influence a woman's knowledge and experience of pregnancy complications. These factors include: Age: Age can affect a woman's awareness and experience of pregnancy complications. Younger women, especially those with limited pregnancy experience, may lack knowledge of complications, while older women may be more familiar with these complications due to previous pregnancies. Education: The level of formal education attained by women often determines their ability to access, understand, and retain information about pregnancy complications. Higher levels of education have been linked to better knowledge and health-seeking behavior. Income: The income level of women or their households influences their access to healthcare services, such as antenatal care (ANC). Wealthier women are more likely to attend ANC and seek medical attention when complications arise, while low-income women often face barriers to accessing these services. Marital Status: Marital status, often associated with social support systems, can influence health behaviors. Married women may have more support in terms of decision-making and accessing health services, but the level of support can vary depending on the family structure and husband's income and health knowledge. Occupation: A woman's occupation can affect her access to health services and her knowledge of pregnancy complications. Women employed in formal sectors or engaged in entrepreneurial activities often have better access to information and healthcare resources. Religion: Religious beliefs and practices can shape attitudes toward pregnancy care and decision-making. In some regions, religion may play a pivotal role in the kind of healthcare women receive or seek.

2.2 Knowledge and Experience of Pregnancy Complications

Knowledge of pregnancy complications refers to a woman's awareness and understanding of potential pregnancy-related issues such as pre-eclampsia, hemorrhage, and infections. This knowledge is vital because it helps women recognize the danger signs of complications and seek timely medical help. Women with higher knowledge are more likely to seek antenatal care, adhere to prescribed health practices, and have better pregnancy outcomes. Lack of knowledge or misinformation can result in delayed recognition of complications, leading to higher maternal morbidity and mortality (Afolabi & Adeyemi, 2019). Experience of pregnancy complications includes the personal or observed experiences of women related to pregnancy complications. This experience can shape a woman's understanding and subsequent actions in future pregnancies. Experience with complications may lead to improved health-seeking behavior, though repeated complications without proper care may result in adverse outcomes. Women who have experienced pregnancy complications may develop a better understanding of the importance of recognizing danger signs. However, some women may not have been adequately informed about complicationsdespite experiencing them, due to gaps in healthcare delivery, especially in rural areas (Fagbamigbe & Idemudia, 2017).

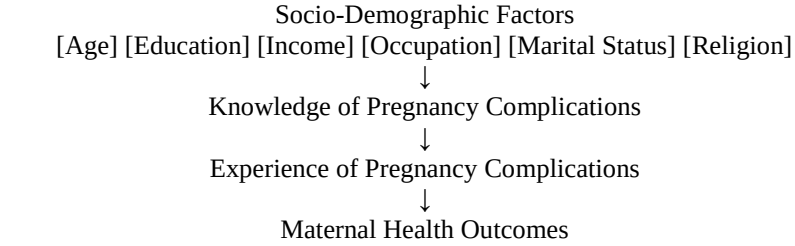
3. Maternal Health Outcomes

Maternal health outcomes include the effects of pregnancy complications on the health of both the mother and the baby. These outcomes are influenced by the interaction between knowledge, socio-demographic factors, and timely access to care. Women who have better knowledge and experience of pregnancy complications are more likely to have better maternal health outcomes, including fewer complications, reduced maternal mortality, and healthier babies.

4. Conceptual Relationship

The relationship between socio-demographic factors, knowledge, and experience of pregnancy complications is interconnected. For example, higher educational levels often lead to greater knowledge of pregnancy complications, which in turn influences health behaviors, such as attending ANC and recognizing danger signs. Similarly, income can determine access to healthcare, which further impacts both knowledge acquisition and the likelihood of seeking timely treatment during pregnancy complications. In conclusion, the study aims to explore how socio-demographic factors such as age, education, income, marital status, and occupation influence the knowledge and experience of pregnancy complications among women in Iwo LGA, Osun State. The conceptual framework

indicates that improving maternal knowledge through education and addressing socio-economic disparities can enhance the recognition of pregnancy complications and promote better health outcomes for both mothers and children.



Diagrammatic representation of the influence of socio-economic factors on pregnancy complication knowledge and experience

5. Literature Review

Maternal health remains a crucial component of public health, particularly in low- and middle-income countries (LMICs) like Nigeria, where maternal morbidity and mortality are still high (World Health Organization [WHO], 2021). The knowledge and experience of pregnancy complications are critical indicators of maternal health outcomes, as they significantly influence health-seeking behaviors, including antenatal care (ANC) utilization. This literature review explores the socio-demographic factors that impact the knowledge and experience of pregnancy complications, focusing on educational status, income, age, occupation, and other relevant variables.

5.1 Knowledge of Pregnancy Complications and its Importance

Pregnancy complications, such as pre-eclampsia, hemorrhage, and infections, are significant contributors to maternal morbidity and mortality (Cresswell et al., 2013). Knowledge of these complications is a crucial determinant of health outcomes, as it influences women's ability to recognize danger signs and seek timely medical attention. Studies have shown that women with higher knowledge of pregnancy complications are more likely to attend ANC, engage in healthier behaviors, and experience better pregnancy outcomes (Diviani et al., 2015). However, in many regions, including rural Nigeria, awareness remains low, which contributes to delays in seeking care and worsens health outcomes (Afolabi & Adeyemi, 2019).

5. 2. Socio-Demographic Determinants of Knowledge and Experience

Educational level is one of the most widely studied socio-demographic determinants of maternal health knowledge. Higher levels of education have been consistently linked to greater knowledge of pregnancy complications and improved health outcomes (Fagbamigbe & Idemudia, 2017). Women with higher education are more likely to access information, understand it, and apply it effectively to prevent or manage complications (Diviani et al., 2015). However, in many rural areas in Nigeria, education levels remain low, which contributes to gaps in knowledge (Afolabi & Adeyemi, 2019). Income is another significant factor that influences both the knowledge of pregnancy complications and access to care. Women from wealthier households tend to have better access to healthcare services, including ANC, which increases their chances of learning about pregnancy complications (Fagbamigbe & Idemudia, 2017). Conversely, women in low-income households often face barriers such as transportation costs, inability to afford health services, and lower levels of education, all of which contribute to inadequate knowledge and delayed responses to complications (Okonofua et al., 2018). Studies have shown that income inequality exacerbates maternal health outcomes in LMICs (Fagbamigbe & Idemudia, 2017). The relationship between age and maternal health knowledge is complex. Younger women, especially adolescents, are less likely to have adequate knowledge of pregnancy complications and danger signs (Klomegah, 2020). On the other hand, older women, particularly those with more experience, may have accumulated knowledge through personal experience or from social networks. However, experience does not always equate to better knowledge, as some women may not have been educated about pregnancy complications despite prior pregnancies (Klomegah, 2020). Age is thus an important but multifaceted factor in determining maternal health knowledge. Marital status is often linked to maternal health knowledge, with married women generally having greater access to healthcare services due to family support. However, the level of access can vary depending on the husband's income and health literacy (Afolabi & Adeyemi, 2019). Non-married women, particularly in conservative societies, may face social stigma and lack family support, which can limit their access to both knowledge and healthcare services (Fagbamigbe & Idemudia, 2017). Women's occupation influences their access to health information and resources. Women in formal employment or those who are entrepreneurs may have better access to healthcare and more opportunities for learning about pregnancy complications (Klomegah, 2020). Conversely, women in informal sectors, such as farming or domestic work, often face greater barriers to accessing health services and information (Afolabi & Adeyemi, 2019). Occupation can thus directly affect both knowledge acquisition and health-seeking behaviors.

6. Experience of Pregnancy Complications

Experiencing pregnancy complications is a significant determinant of maternal health outcomes. Studies have shown that women who have experienced pregnancy complications are more likely to develop a better understanding of danger signs, which in turn influences their decision to seek medical attention promptly (Diviani et al., 2015). However, repeated exposure to complications without adequate health interventions can lead to adverse outcomes, such as maternal death (Fagbamigbe & Idemudia, 2017). Furthermore, some women in rural Nigeria may have limited experience with or knowledge of complications due to a lack of proper healthcare facilities or traditional practices that delay timely treatment (Afolabi & Adeyemi, 2019).

7. Interventions to Improve Maternal Health Knowledge and Experience

Various interventions have been implemented to improve maternal health knowledge and experiences in Nigeria. These include health education campaigns, community-based health promotion, and government policies aimed at improving access to ANC. However, gaps in knowledge persist, particularly among rural women with low socio-economic status (Afolabi & Adeyemi, 2019). The need for tailored, community-specific interventions that address the unique socio-demographic characteristics of local populations is critical to improving maternal health outcomes.

8. Methodology

8. 1 Study Area

The study was conducted in Iwo Local Government Area of Osun State. The study area lies at approximately latitude 7°58′N and longitude 4°28′E, with an average elevation of 246 meters above sea level. The LGA experiences a tropical climate characterized by two distinct seasons: a wet season extending from March to October, and a dry season from November to February. Annual rainfall ranges between 2,000 mm and 2,200 mm, with average maximum temperatures reaching 32.5°C.

Figure 1: Map of the study area
Source: Adopted from the Administrative map of Osun State

The area also records a relatively high mean humidity level of 79.9%. Administratively, the LGA is divided into six agricultural blocks Ayedire, Irewole, Isokan, Ejigbo, Ola-Oluwa, and Iwo. While Iwo represents the urban nucleus, the remaining blocks are predominantly rural and agriculturally oriented. Agricultural activities form the backbone of the local economy, with major crops including cocoa, kolanuts, yam, timber, and, more recently, cucumber. Livestock farming is also practiced, primarily involving the rearing of cattle, sheep, and goats. However, pig farming is notably limited, largely due to the religious composition of the population, which is predominantly Muslim. The Odo-Ori market in Iwo serves as a significant commercial hub for agricultural produce, drawing traders from both within and beyond Osun State. According to the 2006 National Population Census, Iwo Local Government Area had a population of 191,377, comprising 98,312 males (51.4%) making it one of the largest LGA in the State, This study employed a cross-sectional design to assess socio-demographic determinants of knowledge and experience of pregnancy complications among women in Iwo Local Government Area (LGA) of Osun State, Southwest Nigeria. The study aimed to explore

the relationship between various socio-demographic variables (age, marital status, income, education, etc.) and the knowledge and experience of pregnancy complications among women in this region.

8.2 Materials and Methods

The study population consisted of women aged 15-49 years residing in Iwo LGA of Osun State. This age group was selected because it encompasses women of reproductive age, who are most likely to be impacted by pregnancy complications. A stratified random sampling technique was used to select participants from various communities within Iwo LGA. The stratification was based on key socio-demographic characteristics such as age group, education, and marital status to ensure diverse representation. Participants were randomly selected within these strata, ensuring equal opportunity for inclusion in the study. Inclusion Criteria: Women aged 18-49 years residing in Iwo LGA, women who had been pregnant or had experienced a pregnancy in the past, women who voluntarily consented to participate in the study while exclusion criteria: women under 18 or over 49 years of age, women without a history of pregnancy, women who declined to participate. Data were collected using a structured questionnaire developed to assess both knowledge and experience of pregnancy complications. The questionnaire included: Demographic variables: Age, marital status, religion, education, occupation, and income. Knowledge of pregnancy complications: Participants were asked about common pregnancy complications (e.g., preeclampsia, gestational diabetes) and their ability to recognize symptoms. Experience of pregnancy complications: Participants were asked whether they had personally experienced any complications during their pregnancies. The questionnaire was pre-tested in a neighboring area within Iwo LGA to ensure its clarity and appropriateness for the study population. The collected data were entered into a statistical software package (SPSS) for analysis. Descriptive statistics (frequencies, percentages) were first computed to summarize the socio-demographic characteristics of the participants. Data were analyzed using descriptive statistics (frequencies, percentages) to summarize the socio-demographic characteristics of the participants. Chi-square tests were conducted to determine whether there were statistically significant associations between socio-demographic factors (e.g., age, marital status, education, income) and both knowledge and experience of pregnancy complications. A significance level of $\alpha = 0.05$ was used for the Chi-square tests.

9. Result and discussions

9.1 Knowledge of pregnancy complication

Figure 2 presents the distribution of respondents according to their knowledge of pregnancy complications. The findings indicate that only 35% of the participants demonstrated awareness or understanding of pregnancy-related complications. This subset likely possesses insight into the associated risk factors, early warning signs, and preventive measures that are crucial for maternal and fetal health. In contrast, a significant 65% of respondents exhibited a lack of knowledge or awareness regarding pregnancy complications. This larger proportion may be unfamiliar with the common symptoms, potential dangers, or precautionary steps necessary to mitigate adverse pregnancy outcomes.

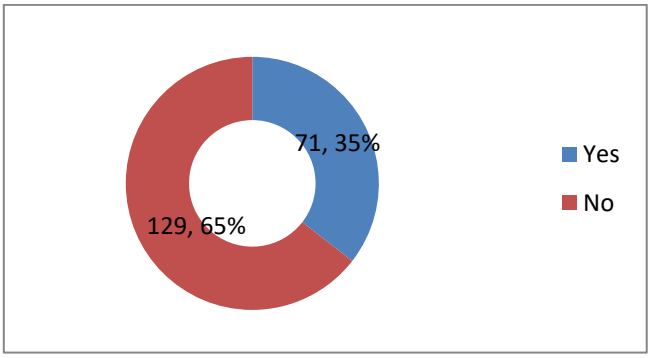


Figure 2 Distribution of Respondents by Knowledge of pregnancy complication
Source: Field Survey, 2024

The observation that merely a third of the population is informed about pregnancy complications underscores a substantial knowledge deficit within the study area. The dominance of uninformed respondents suggests that the majority either possess limited understanding or are entirely unaware of the clinical signs, medical risks, and necessary interventions associated with complications during pregnancy. This knowledge gap may stem from multiple underlying factors such as inadequate formal education, poor dissemination of maternal health information, cultural beliefs, or restricted access to antenatal care services. The implications of this widespread lack of awareness are profound. When a significant portion of the population is unable to identify the early indicators of pregnancy complications, there is a heightened risk of delays in seeking timely medical care. Such delays can result in the exacerbation of preventable conditions, potentially

leading to increased rates of maternal morbidity and mortality. Therefore, the data call attention to the urgent need for targeted health education programs and community-based interventions aimed at improving maternal health literacy, particularly in underserved and vulnerable populations.

10. Socio-economic influence of pregnancy complication knowledge and experience

10.1 Age and Knowledgeable of pregnancy complication

This analysis investigates the association between Socio-economic influence on complication knowledge and experience among women. Respondents are grouped into ten age categories, and their levels of awareness (categorized as "Aware" or "Not Aware") are analyzed to determine whether knowledge is significantly associated with age. The chi-square statistic of 14.39 with 9 degrees of freedom falls below the critical threshold of 16.92 at the 0.05 level of significance.

Table 1: Age and Knowledgeable of pregnancy complication

Age	Aware	Not Aware	Total
19–24	5(Expected: 6.5)	15 (Expected: 13.5)	20
25–29	7 (Expected: 8.13)	18 (Expected: 16.88)	25
30–34	10 (Expected: 7.48)	13 (Expected: 15.53)	23
35–39	15 (Expected: 12.35)	23 (Expected: 25.65)	38
40–44	9 (Expected: 7.15)	13 (Expected: 14.85)	22
45–49	8(Expected: 7.15)	14 (Expected: 14.85)	22
50–54	5(Expected: 8.15)	20 (Expected: 16.88)	25
55–59	3(Expected: 5.85)	15 (Expected: 12.15)	18
60–64	2 (Expected: 4.55)	12 (Expected: 9.45)	14
65+	1 (Expected: 0.33)	0 (Expected: 0.65)	1
$\chi^2 = 14.39$, df = 9, Sig. (α) = 0.05, p. value= 0.109 Dec. Not Sig			

Source: Field Survey, 2024

Moreover, the associated p- value of 0.109 exceeds the standard alpha level, indicating that the observed differences in knowledge across age groups are not statistically significant. This suggests that age does not independently influence the level of awareness regarding pregnancy complications among the respondents. Although some age groups, such as those aged 30–39, appear more knowledgeable than expected, and those in the older cohorts (50–64) slightly less so, these variations are not large enough to reach statistical significance. Noteworthy observations include: Women aged 30–39 show higher-than-expected awareness, possibly reflecting increased exposure to reproductive health information during peak childbearing years. Awareness declines slightly in the older age groups (50–64), though not significantly. This might indicate reduced engagement with maternal health services post-reproductive age. The youngest group (19–24) also shows slightly lower-than-expected awareness, which may be due to limited reproductive experience or fewer antenatal interactions. While age is often considered a factor in reproductive health knowledge, this study finds no significant age-based disparity in awareness of pregnancy complications. This outcome implies that age alone is not a reliable predictor of maternal health knowledge, and interventions should instead focus on more direct determinants such as education, antenatal care attendance, and access to health information. Given the slight clustering of knowledge in the reproductive-age group (30–39), maternal health campaigns might still benefit from targeting this demographic while ensuring older and younger women are not neglected. Ultimately, a universal education strategy cutting across age cohorts may be more effective than age-targeted interventions.

10.2 Education Level and Knowledge of Pregnancy Complications

This analysis investigates the association between educational attainment and knowledge of pregnancy complications among women. The data categorizes respondents into four educational levels No Formal Education, Primary Education, Secondary Education, and Post-Secondary Education and compares the proportion of respondents who are knowledgeable versus those who are not. The chi-square statistic of 10.5 with 3 degrees of freedom exceeds the critical value at the 5% significance level, indicating a statistically significant association between level of education and knowledge of pregnancy complications. This finding suggests that education plays a meaningful role in shaping awareness and understanding of maternal health risks. Notably: Respondents with primary education (15%) demonstrate the highest proportion of knowledge, despite constituting only 22.5% of the sample. This group significantly outperforms even those with post-secondary education in terms of knowledge relative to their group size. Those with no formal education represent the largest share of those without knowledge (27% out of 65%), reinforcing the link between lack of education and poor maternal health awareness. Surprisingly, post-secondary education does not correlate strongly with higher knowledge in this sample; only 8% of the total were knowledgeable despite comprising 31% of the population. This may suggest qualitative differences in the type or relevance of education received, gaps in health curricula, or disparities in health service engagement. This result underscores education as a critical determinant of maternal health knowledge, affirming findings from global maternal health literature. The non-linear relationship where primary education outperforms higher levels may reflect that basic education, when paired with community-based health interventions, may be more impactful in transferring maternal health knowledge than advanced academic attainment alone. Public health policies should therefore prioritize universal basic education, while also integrating maternal health content into both primary and post-secondary curricula.

Table 2: Relationship Between Education Level and Knowledge of Pregnancy Complications

Education Level	Knows about Pregnancy Complications (Yes)	Doesn't Know about Pregnancy Complications (No)	Total
No Formal Education	5%	27	32
Primary Education	15%	7.5	22.5
Secondary Education	7%	7.5	14.5
Post-Secondary	8%	23	31
Total	**35%**	**65%**	**100%**
χ^2 = 10.5, df = 3, Sig. (α) = 0.05, critical value = 7.815. Dec. Sig			

Source: Field Survey, 2024

Furthermore, context-specific health education, delivered through community health workers and antenatal platforms, could complement formal education and improve outcomes.

10.3 Occupation and Knowledgeable of pregnancy complication

This analysis seeks to determine if occupational category is a significant determinant of awareness about pregnancy complications. The differences between observed and expected frequencies across all six occupational groups are minimal. For instance, in every category (e.g., petty trading, farming, housewife), the number of respondents who are knowledgeable or not knowledgeable closely matches what would be expected if occupation had no impact.

Table 3: Occupation and Knowledgeable of pregnancy complication

Occupation	Knowledgeable (35%)	Not Knowledgeable (65%)	Total
None	9 (Expected: 8.75)	16 (Expected: 16.25)	25
Civil service	16 (Expected: 16.45)	31 (Expected: 30.55)	47
Farming	9 (Expected: 9.10)	17 (Expected: 16.90)	26
Petty trading	18 (Expected: 18.20)	34 (Expected: 33.80)	52
Artisan	9 (Expected: 8.75)	16 (Expected: 16.25)	25
Housewife	9 (Expected: 8.75)	16 (Expected: 16.25)	25

Total	**70**	**130**	**200**
$\chi^2 = 0.08$, df = 5. Sig. (α) = 0.05, critical value = 11.07. Dec. Not Sig.			

Source: Field Survey, 2024

The extremely low chi-square statistic of 0.08, compared to the critical value of 11.07, indicates that the observed distribution of knowledge is very close to the expected distribution under the assumption of no relationship. Therefore, the test provides no evidence of a statistically significant association between occupation and knowledge of pregnancy complications. In academic terms, the implication is that occupation, within this population, does not appear to play a significant role in shaping awareness of pregnancy-related health issues. The similarity between observed and expected frequencies suggests that knowledge levels are fairly evenly distributed across occupational categories.

10.4 Income and Knowledgeable of pregnancy complication

The observed chi-square statistic ($\chi^2 = 4.35$) is substantially lower than the critical value (15.51) at 8 degrees of freedom and a 5% level of significance. This indicates that there is no statistically significant association between income levels and knowledge of pregnancy complications among the respondents.

Table 4: Income and Knowledgeable of pregnancy complication

Income Range	Knowledgeable (35%)	Not Knowledgeable (65%)	Total
No fixed income	11 (Expected: 8.4)	20 (Expected: 22.6)	31
₦5,000 - ₦10,000	7 (Expected: 4.5)	14 (Expected: 16.5)	21
₦10,000 - ₦15,000	6 (Expected: 6.3)	12 (Expected: 11.7)	18
₦15,000 - ₦20,000	7 (Expected: 6.3)	14 (Expected: 14.7)	21
₦20,000 - ₦25,000	6 (Expected: 5.6)	11 (Expected: 11.4)	17
₦25,000 - ₦30,000	7 (Expected: 7.0)	13 (Expected: 13.0)	20
₦30,000 - ₦35,000	6 (Expected: 5.6)	10 (Expected: 10.4)	16
₦35,000 - ₦40,000	7 (Expected: 5.6)	10 (Expected: 11.4)	17
₦40,000 and above	14 (Expected: 13.0)	25 (Expected: 24.0)	39
Total	**70**	**130**	**200**
$\chi^2 = 4.35$, df = 8. Sig. (α) = 0.05, critical value = 15.51**. Dec. Not Sig.**			

Source: Field Survey, 2024

Although some disparities are evident in specific income categories for instance, respondents in the ₦5,000–₦10,000 and ₦35,000–₦40,000 brackets appear slightly more likely than expected to be knowledgeable these differences are statistically negligible in the overall distribution. This suggests that knowledge of pregnancy complications may be influenced by factors other than income alone, such as education, access to health information, antenatal care attendance, or sociocultural determinants. The apparent lack of a linear trend or concentration of knowledge among higher-income groups further supports the conclusion that income, in this context, does not independently predict knowledge level. These findings challenge the often-assumed direct correlation between socioeconomic status and health knowledge, emphasizing the need for targeted educational interventions across all income strata. Health promotion campaigns should not rely solely on income segmentation but should instead integrate broader determinants of health literacy, such as educational attainment, media exposure, and healthcare accessibility.

10.5 Religion and Knowledgeable of pregnancy complication

This statistical test assesses whether religion has a statistically significant influence on the level of awareness of pregnancy-related complications.

Table 5: Religion and Knowledgeable of pregnancy complication

Religion	Knowledgeable	Not Knowledgeable	Total
Muslim	50 (Expected: 54.25)	105 (Expected: 100.75)	155
Christian	20 (Expected: 15.75)	25 (Expected: 29.25)	45
Total	**70**	**130**	**200**
(χ^2) = 2.28, df =1, Sig. (α) = 0.05, Critical value (χ^2) =n3.84, Dec.= Not Sig.			

Source: Field Survey, 2024

The discrepancy between observed and expected frequencies suggests that Muslims were slightly less likely than expected to be knowledgeable, while Christians were more likely than expected to be knowledgeable. However, with a chi-square statistic of 2.28 which does not exceed the critical threshold of 3.84 at the 5% level of significance the deviation is not sufficient to declare a statistically meaningful association. Thus, we fail to reject the null hypothesis. In scholarly terms, the data do not provide sufficient evidence to suggest that religious affiliation (Muslim vs. Christian) significantly influences knowledge about pregnancy complications in this sample. Any observed differences are likely due to random variation rather than a systematic effect of religion.

10.6 Marital Status and Knowledgeable of pregnancy complication

The statistical analysis investigates whether a person's marital status significantly influences their awareness of complications during pregnancy. The observed frequencies (i.e., the actual number of knowledgeable and non-knowledgeable individuals across marital status categories) were compared with the frequencies that would be expected if marital status had no bearing on knowledge.

Table 6: Marital Status and Knowledgeable of pregnancy complication

Marital status	Knowledgeable	Not Knowledgeable	Total
Married	66 (Expected: 64.4)	118 (Expected: 119.6)	184
Not Married	4 (Expected: 5.6)	12 (Expected: 10.4)	16
Total	**70**	**130**	**200**
(χ^2) = 0.77, df =1, Sig. (α) = 0.05, Critical value (χ^2) =n3.84, Dec.= Not Sig.			

Source: Field Survey, 2024

With a chi-square value of 0.77 and a corresponding critical value of 3.84 at 1 degree of freedom and a 5% significance level, the test result does not exceed the threshold for statistical significance. Consequently, we retain the null hypothesis, which posits that there is no meaningful association between marital status and knowledge of pregnancy complications. In practical terms, this means that whether a woman is married or not does not significantly influence her level of awareness regarding pregnancy-related complications within this sample population.

11. Experience of pregnancy complication

Figure 3 illustrates respondents' experiences with pregnancy complications. According to the data, 22% of participants reported having experienced at least one pregnancy-related complication. Although this represents a minority within the sample, it remains a noteworthy proportion, emphasizing that pregnancy complications, while not ubiquitous, are still a relevant public health concern within the studied population. Conversely, the remaining 78% of respondents indicated that they did not experience any such complications.

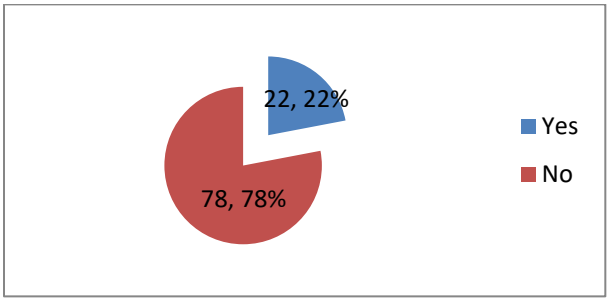


Figure 3 Respondents experience of complication
Source: Field Survey, 2024

The predominance of respondents (78%) who did not report complications could be indicative of generally favorable maternal health conditions, possibly influenced by effective prenatal care, access to health services, adherence to medical advice, or relatively low-risk pregnancies. This positive outcome may reflect the benefits of ongoing public health initiatives, maternal education, and improvements in reproductive healthcare delivery. However, the **22%** who experienced complications represent a significant subgroup that demands focused attention. This proportion underscores the continued need for targeted healthcare interventions, early detection strategies, and comprehensive maternal support services. These women may require specialized care pathways, follow-up monitoring, or tailored education to mitigate risks and improve maternal and neonatal outcomes. Despite the reassuring majority, the existence of complications in over one-fifth of pregnancies calls for sustained efforts in maternal health education, early warning systems, and community health outreach. It is essential that health systems not only maintain the gains reflected in the 78% but also address the vulnerabilities of the 22% to reduce maternal morbidity and enhance the overall safety of pregnancy and childbirth experiences.

11.1 Association Between Age and Experience of Pregnancy Complications

This table examines the relationship between respondents' age and their reported experience of pregnancy complications. Age is segmented into ten groups, and responses are categorized as either having experienced pregnancy complications or not.

Table 7: Age and experience of Pregnancy complication

Age Group	Complication: Yes (Frequency)	Complication: Yes (%)	Complication: No (Frequency)	Complication: No (%)
19–24	5	23.81%	16	76.19%
25–29	6	24.00%	19	76.00%
30–34	5	21.74%	18	78.26%
35–39	8	21.05%	30	78.95%
40–44	5	22.73%	17	77.27%
45–49	5	23.81%	16	76.19%
50–54	4	21.05%	15	78.95%
55–59	3	20.00%	12	80.00%
60–64	3	21.43%	11	78.57%
65+	0	0.00%	1	100.00%
(χ^2) = 0.49, (df) = 9, p-value = 0.99997 Dec. Not Sig.				

Source: Field Survey, 2024

The chi-square value of 0.49 with 9 degrees of freedom and a p-value of 0.99997 indicates an extremely high probability that the observed distribution is due to chance. In fact, this p-value is so close to 1.0 that it suggests virtually no difference whatsoever in the likelihood of experiencing pregnancy complications across age groups. The percentages of women reporting complications are remarkably consistent across all age brackets (ranging between ~20–24%), with no discernible trend. Even among younger women (19–24) and older women (55–64), the incidence of complications does not deviate significantly from the overall pattern. Only the 65+ age group, with a sample size of one respondent, shows a 0% complication rate this is statistically insignificant due to its very low count and does not influence the overall analysis. The results indicate no statistically significant association between age and the reported experience of pregnancy complications. This finding is critical in public health planning, as it suggests that pregnancy complications are not disproportionately concentrated in specific age cohorts in this sample. Contrary to established clinical expectations that older maternal age may correlate with higher obstetric risk, this study finds no empirical support for such a trend in this population. Universal maternal health interventions should be prioritized over age-targeted ones in similar contexts. Other variables such as antenatal care quality, pre-existing medical conditions, or socioeconomic status may exert greater influence on pregnancy outcomes than age alone in this setting. The homogeneity in complication rates across age groups could reflect the effectiveness (or limitations) of maternal care services available, warranting further investigation. This analysis demonstrates a statistically non-significant and practically negligible association between age and experience of pregnancy complications. Public health strategies should therefore broaden focus beyond age to encompass multi-dimensional factors influencing maternal health outcomes.

11.2 Association between Educational Attainment and Experience of Pregnancy Complications

This table explores the relationship between education level and the experience of pregnancy complications among women. Respondents are categorized into four educational levels: No Formal Education, Primary, Secondary, and Post-Secondary, with

responses grouped by whether they reported experiencing pregnancy complications. The chi-square statistic of 0.225 with 3 degrees of freedom and a p-value of 0.973 indicates no significant relationship between a woman's level of education and her reported experience of pregnancy complications. The p-value is substantially higher than the conventional threshold of 0.05, confirming that any observed differences in complication rates across educational groups are statistically negligible and could easily occur by random chance. Although slightly more women with no formal education (14 cases) reported complications compared to other groups, this difference is not statistically meaningful in light of the sample distribution. Additionally, the proportion of complications within each educational category remains relatively similar: No Formal Education: 14 out of 64 (~21.9%), Primary Education: 6 out of 29 (~20.7%), Secondary Education: 11 out of 45 (~24.4%), Post-Secondary Education: 13 out of 62 (~21.0%).

Table 8: Education and experience of Pregnancy complication

Education Level	Complication: Yes	Complication: No
No Formal Education	14	50
Primary	6	23
Secondary	11	34
Post-Secondary	13	49
Total	**44**	**156**
$(\chi^2) = 0.225$, (df) = 3, p-value = 0.973, Dec. Not Sig.		

Source: Field Survey, 2024

The analysis suggests that educational attainment does not significantly influence the likelihood of experiencing pregnancy complications in this study population. This contrasts with the prevailing assumption in maternal health literature that higher education is strongly associated with better maternal health outcomes. Education may influence awareness and health-seeking behavior more than physiological pregnancy outcomes themselves, which may be mediated by other factors such as healthcare access, quality of antenatal care, nutritional status, or genetic predispositions. In settings with universal or broadly accessible maternal health services, the protective role of education might be attenuated. The uniformity in complication rates across education levels may also point to systemic factors such as widespread barriers to emergency obstetric care—that affect all women similarly regardless of educational background. This study finds no statistically significant association between educational level and experience of pregnancy complications. The findings underscore the importance of addressing broader structural and health system determinants, and caution against relying solely on educational attainment as a proxy for predicting maternal health outcomes.

11.3 Association Between Occupation and Experience of Pregnancy Complications

This analysis explores the relationship between women's occupational status and their experience of pregnancy complications. Respondents were classified into six occupational categories: None, Civil Service, Farming, Petty Trading, Artisan, and Housewife. Each category was evaluated based on the frequency of self-reported pregnancy complications.

Table 9: Occupation and experience of Pregnancy complication

Occupation	Complication: Yes	Complication: No
None	6	19
Civil Service	10	37
Farming	6	20
Petty Trading	11	41
Artisan	6	19
Housewife	5	20
Total	**44**	**156**
$(\chi^2) = 0.23$, (df) = 5, p-value = 0.9988, Dec. Not Sig		

Source: Field Survey, 2024

The chi-square value of 0.23 with 5 degrees of freedom and an extremely high p-value of 0.9988 indicates no statistically significant relationship between a woman's occupation and her experience of pregnancy complications. The test statistic is notably low, suggesting that the observed distribution of complications across occupational categories closely aligns with what would be expected under the assumption of independence (i.e., no association). All occupational groups reported similar proportions of complications: None: 6 out of 25 (24%), Civil Service: 10 out of 47 (21.3%), Farming: 6 out of 26 (23.1%), Petty Trading: 11 out of 52 (21.2%), Artisan: 6 out of 25 (24%), Housewife: 5 out of 25 (20%) These percentages exhibit remarkable consistency, all hovering around 20–24%, with no outliers or notable deviations. This uniformity reinforces the statistical result that occupation does not significantly

influence the likelihood of experiencing pregnancy complications in this population. This finding challenges the notion that occupational engagement often linked to socioeconomic status, physical exertion, or access to healthcare has a direct influence on maternal morbidity, at least within this context. The lack of association may be attributable to: Homogeneity in occupational exposure risks, especially in informal sectors where most women work under similar conditions. system-wide maternal health constraints (e.g., under-resourced facilities or delayed emergency care) that affect all women regardless of employment status. The possibility that occupation may influence awareness or care-seeking behavior more than it affects physiological outcomes like pregnancy complications. There is no statistically significant relationship between occupational status and the experience of pregnancy complications among respondents. This suggests that occupational category alone does not serve as a reliable predictor of maternal health outcomes in the studied population. Future studies should explore interaction effects between occupation, income, healthcare access, and education to better understand determinants of maternal risk.

11.4 Association between Income Level and Experience of Pregnancy Complications

This table examines the relationship between women's monthly income and their experience of pregnancy complications. Income is stratified into nine categories, ranging from no fixed income to ₦40,000 and above, with respondents grouped by whether they reported experiencing complications during pregnancy. The observed chi-square value of 1.94 is substantially lower than the critical value of 15.51, and this indicates that there is no statistically significant association between a woman's income level and the likelihood of experiencing pregnancy complications. The implication is that the variation in the frequency of reported complications across income brackets is within the range that could occur by chance. A closer inspection of the data shows fairly consistent rates of complications across income groups: Ranging from approximately 17.9% (₦25,000–₦30,000) to 25.8% (No fixed income), The highest income group (₦40,000 and above) reported a complication rate of ~17.9%, which is not markedly different from other groups. This consistency across income levels suggests that income does not exert a differentiating influence on pregnancy outcomes in this context. The absence of a significant relationship between income and pregnancy complications challenges the expectation that higher income confers a protective effect against adverse maternal outcomes.

Table 10: Income and experience of Pregnancy complication

Income Group	Complication: Yes	Complication: No	Total
No fixed income	7	24	31
₦5,000–₦10,000	5	16	21
₦10,000–₦15,000	4	14	18
₦15,000–₦20,000	5	16	21
₦20,000–₦25,000	4	13	17
₦25,000–₦30,000	4	16	20
₦30,000–₦35,000	4	12	16
₦35,000–₦40,000	4	13	17
₦40,000 and above	7	32	39
Total	**44**	**156**	**200**
(χ^2) =1.94, df = 8, the critical value =15.51. Dec. Not Sig			

Source: Field Survey, 2024

Several factors could explain this pattern: uniformity in access to care: Women across income groups may be accessing similar healthcare services, especially in settings where free or subsidized maternal care is available. quality over affordability: The quality of maternal healthcare, rather than financial access alone, might be the critical determinant of outcomes. sociocultural or behavioral factors (e.g., health literacy, cultural beliefs, timing of antenatal care) may mediate or overshadow the effect of income. There is no statistically significant association between monthly income and experience of pregnancy complications among respondents. These findings highlight the need to look beyond economic indicators alone and explore more nuanced determinants such as healthcare quality, service utilization, and cultural practices in understanding maternal health outcomes.

11. 5 Association between Religion and Experience of Pregnancy Complications

This analysis examines the association between religious affiliation and the experience of pregnancy complications among women. The respondents were categorized into two major religious groups Muslim and Christian with each group assessed for whether they experienced complications during pregnancy. The computed chi-square value of 1.399 falls well below the critical threshold of 3.841, indicating no statistically significant association between religious affiliation and the experience of pregnancy complications. This implies that religion, in this dataset, does not significantly influence whether or not a woman experiences complications during pregnancy. A brief analysis of the complication rates by religious group: Muslims: 33 out of 150 (22.0%), Christians: 11 out of 50 (22.0%). The complication rates are identical (22%) across both religious groups, further underscoring the lack of variation and supporting the statistical conclusion. Contrary to some assumptions that religious affiliation might influence health outcomes due to

differing health beliefs, practices, or community support systems, this study finds no evidence that religion significantly affects pregnancy complications.

Table 11: Religion and experience of Pregnancy complication

Religion	Complication: Yes	Complication: No	Total
Muslim	33	117	150
Christian	11	39	50
Total	**44**	**156**	**200**
χ2=1.399, df=1, Sig. 0.05, the critical value is 3.841**. Dec, Not Sig.**			

Source: Field Survey, 2024

This neutrality suggests that: Healthcare access and maternal health outcomes are likely shaped more by structural and socioeconomic factors than by religious affiliation in the studied context. Both groups may share similar health-seeking behaviors, access levels, and quality of maternal care, possibly due to common regional policies or health programs. It also highlights that religion alone is not a sufficient predictor of maternal health risk and should not be overemphasized in public health interventions without considering the broader sociocultural and systemic context. The findings indicate that religious affiliation is not significantly associated with the experience of pregnancy complications. This suggests parity in maternal health experiences across the major religious groups in the study area. Therefore, maternal health interventions should be inclusive and universally targeted, rather than segmented by religious identity.

11. 6 Association between Marital Status and Experience of Pregnancy Complications

This section explores the potential relationship between marital status and the incidence of pregnancy complications among women in the study area. Respondents were categorized into two groups: married and non-married (including single, widowed, separated, or divorced). The prevalence of reported pregnancy complications within each group was then examined.

Table 12: Marital status and experience of Pregnancy complication

Marital Status	Complication: Yes	Complication: No	Total
Married	40.48	143.52	184
Non-married	3.52	12.48	16
Total	**44**	**156**	**200**
χ2=0.0918 df=1, Sig. 0.05, the critical value is 3.841. Dec, Not Sig.			

Source: Field Survey, 2024

The chi-square test yielded a value of 0.0918, well below the critical threshold of 3.841 at a 5% significance level, indicating no statistically significant association between marital status and the experience of pregnancy complications. A detailed look at the data reveals nearly identical complication rates: approximately 22.0% for both married (40.48 out of 184) and non-married women (3.52 out of 16). These findings suggest that marital status, in this context, does not influence the likelihood of experiencing complications during pregnancy.This outcome challenges prevailing assumptions that marital status—often regarded as an indicator of social support, economic security, and access to spousal care—plays a definitive role in maternal health outcomes. Instead, it implies that broader structural determinants such as healthcare availability, community-based support, and equitable access to antenatal care may be more influential. While the relatively small number of non-married respondents (n = 16) may limit the statistical power of the analysis, the consistency in complication rates across marital categories enhances the credibility of the result. It is plausible that non-married women in this setting receive comparable support and care, thereby mitigating disparities. Overall, the findings indicate that marital status is not an independent predictor of pregnancy complications in this sample. This underscores the importance of inclusive maternal health strategies that address the needs of all women, irrespective of marital status, to promote equitable health outcomes.

Conclusion

This study examined the impact of socio-demographic factors on women's knowledge and experiences of pregnancy complications in Iwo Local Government Area, Osun State. Although a considerable number of respondents reported having experienced complications during pregnancy, the general level of awareness regarding key danger signs remained low. While statistical analyses revealed some observable trends across variables such as education, income, and age, none of these associations were statistically significant at the 5% confidence level. These results suggest that individual socio-demographic characteristics may not be sufficient to explain variations in maternal health outcomes. Instead, structural and systemic determinants—such as accessibility and quality of antenatal care, the effectiveness of health communication, and prevailing cultural norms—likely play a more decisive role. The

complexity of maternal health behaviors and outcomes, as highlighted by the findings, underscores the importance of context-specific, community-based interventions aimed at improving maternal health knowledge and service utilization across diverse population groups.

Recommendations

i. **Community-Based Health Education**
Health departments and non-governmental organizations should implement targeted community-level health education programs focused on enhancing awareness of pregnancy danger signs. These initiatives should particularly prioritize women with limited formal education and low-income backgrounds, who may face greater barriers to accessing maternal health information.

ii. **Strengthening Antenatal Care (ANC) Services**
The government should ensure the availability of free or subsidized antenatal care services within the LGA. Additionally, community mobilization strategies such as outreach campaigns and local incentive programs should be employed to increase ANC attendance and engagement, particularly in underserved areas.

iii. **Integration of Maternal Health Literacy into Local Policy**
Maternal health literacy should be embedded as a core component of local health policies. Educational materials should be culturally appropriate, linguistically accessible, and disseminated through trusted community platforms to enhance comprehension and adoption.

iv. **Multi-Stakeholder Engagement**
Effective maternal health promotion requires the active involvement of community influencers. Religious leaders, traditional birth attendants, and other key stakeholders should receive training to serve as advocates for maternal health awareness, early care-seeking behavior, and the dissemination of accurate health information at the household level.

v. **Routine Data Collection and Evidence-Based Monitoring**
Local health facilities should routinely collect and analyze data related to pregnancy complications to support evidence-based planning and policy development. Furthermore, future research should incorporate qualitative methodologies (e.g., focus group discussions, in-depth interviews) to explore the socio-cultural dimensions of maternal health. Longitudinal studies are also recommended to establish causal relationships and assess how knowledge and experiences of pregnancy complications evolve over time. Comparative studies across local government areas in Osun State and neighboring Southwest states would provide valuable insights into spatial disparities in maternal health outcomes and knowledge.

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