

Knowledge and Prevalence of Placenta Previa in a Tertiary Health Institution in Southeast Nigeria

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Citation: Onyemereze CO, Ezirim EO, Akwuruoha EM, Mba KK, Mba CJ, Adesina OO, et al. Knowledge and Prevalence of Placenta Previa in a Tertiary Health Institution in Southeast Nigeria. *Int Jour Gyn Infer*. 2024;2(1):1-13.

Received Date: 26 September, 2024; **Accepted Date:** 29 September, 2024; **Published Date:** 30 September, 2024

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ABSTRACT

Background: Placenta previa, a condition where the placenta partially or completely covers the cervix, poses significant risks to both mother and fetus during pregnancy. This study aimed to assess the knowledge of placenta previa and its prevalence among pregnant women in a tertiary health institution in Southeast Nigeria.

Materials and Methods: This prospective descriptive study was conducted over two years, from January 2021 to December 2022. The study involved 8,766 pregnant women who delivered during the study period. Data were collected using structured, interviewer-administered questionnaires. Placenta previa was diagnosed via abdominal ultrasonography and managed according to the MacAfee regimen. Caesarean sections were performed for all diagnosed cases, with confirmation intraoperatively. Descriptive statistics and prevalence calculations were done using SPSS version 26.

Results: The majority of participants (61.02%) had never heard of placenta previa. Of those aware, 36.14% learned about it through social media and 34.06% from healthcare professionals. Most participants (83.22%) could not identify the symptoms. The prevalence of placenta previa was 1.07%. Educational level, marital status, employment status, and obstetric history influenced awareness. The study also found that 93.36% of participants believed early antenatal care could aid in early diagnosis.

Conclusion: Awareness of placenta previa among pregnant women in this institution was low, despite its potential severity. However, the prevalence was relatively low. Increased education on pregnancy complications and the importance of early antenatal care is crucial for better management and outcomes of placenta previa.

Keywords: Placenta previa, Awareness, Prevalence, Pregnancy complications, Antenatal care, Caesarean section.

INTRODUCTION

Placenta previa is a significant obstetric condition that occurs when the placenta implants abnormally in the lower segment of the uterus, covering the cervix either partially or completely. It is a leading cause of vaginal bleeding in the second and third trimesters of pregnancy, which can result in serious maternal and fetal complications. Globally, placenta previa accounts for a considerable proportion of maternal morbidity and mortality, particularly in low- and middle-income countries where access to timely obstetric care may be limited ^[1].

In Nigeria, maternal health challenges remain a public health priority due to high maternal mortality rates, with obstetric complications like placenta previa contributing significantly to these statistics. The condition's prevalence in developing regions like Southeast Nigeria has been associated with factors such as increasing maternal age, multiparity, prior cesarean sections, and other uterine surgeries^[2]. Understanding the local prevalence and knowledge surrounding this condition is essential for the development of appropriate interventions aimed at reducing its occurrence and improving maternal outcomes.

The global prevalence of placenta previa is estimated at 3 to 5 per 1,000 live births, although regional variations exist depending on socioeconomic factors, healthcare access, and obstetric care quality ^[3]. Studies have consistently shown that the prevalence of placenta previa is higher in women with risk factors such as advanced maternal age, multiple pregnancies, and prior cesarean deliveries ^[4]. In Sub-Saharan Africa, where access to antenatal care services is often delayed or inadequate, the prevalence of placenta previa is expectedly higher, and the management of this condition is further complicated by limited access to emergency obstetric services ^[5].

In Southeast Nigeria, previous studies have reported varying prevalence rates of placenta previa, with figures ranging from 0.5% to 1.5% among hospital deliveries ^[6]. These differences could be attributed to variations in the study populations, data collection methods, and the presence of regional healthcare disparities. Importantly, higher rates of placenta previa have been observed in tertiary healthcare centers, which serve as referral hubs for high-risk pregnancies, further underscoring the significance of this study in a tertiary institution in Southeast Nigeria.

Knowledge of placenta previa among pregnant women is a critical factor in the prevention and early diagnosis of the condition. Adequate knowledge of risk factors, symptoms, and the importance of seeking timely medical attention can significantly reduce the morbidity and mortality associated with the condition ^[7]. However, studies have highlighted a significant knowledge gap among women, especially in rural and low-resource settings. In

Nigeria, this is exacerbated by limited health education during antenatal visits, cultural beliefs, and misconceptions about pregnancy-related complications [8].

A study conducted in Northern Nigeria revealed that less than 30% of pregnant women were aware of placenta previa as a potential pregnancy complication, and even fewer understood its associated risk factors and symptoms [9]. This knowledge gap is particularly concerning given that the timely identification of symptoms, such as painless vaginal bleeding, can prompt earlier hospital visits and improved outcomes. In Southeast Nigeria, the level of awareness and knowledge regarding placenta previa among pregnant women remains under-researched, thereby emphasizing the importance of this study in filling the gap.

Placenta previa has well-established risk factors, including prior cesarean sections, advanced maternal age, high parity, multiple pregnancies, and previous uterine surgeries [3]. These factors are particularly prevalent in developing countries like Nigeria, where cesarean section rates have been rising in recent years due to improvements in obstetric care access and changing cultural perceptions [2]. However, despite these advancements, managing placenta previa remains a challenge due to limited resources, inadequate training of healthcare professionals, and delayed presentation of patients with complications [5].

In tertiary health institutions, where most cases of placenta previa are managed, the availability of blood transfusion services, specialized obstetric care, and emergency surgical interventions play a pivotal role in reducing maternal and fetal morbidity and mortality. Nonetheless, challenges such as inadequate infrastructure, delays in referral systems, and lack of awareness among patients about the seriousness of their condition continue to undermine effective management [4].

This study is particularly significant as it will assess the knowledge and prevalence of placenta previa in a tertiary health institution in Southeast Nigeria, contributing valuable data to the understanding of this condition in the region. By identifying the level of awareness among pregnant women and the frequency of occurrence of placenta previa, this study aims to inform healthcare providers and policymakers about the need for targeted antenatal education and improved management strategies. Ultimately, the findings from this study can serve as a foundation for the development of context-specific interventions to reduce maternal and fetal complications associated with placenta previa in Nigeria.

MATERIALS AND METHODS

This prospective descriptive study was carried out for two years, from January 2021 to December 2022. All pregnant women who delivered their children during the period of this study were enrolled in this study. Data were collected using a structured, interviewer-administered questionnaire. Participants were assured of the confidentiality of their responses, and data was anonymized to protect their identity. Informed consent was obtained from all participants, and they were informed of their right to withdraw from the study at any time without any consequences to their medical care.

Placenta praevia was identified via abdominal ultrasonography, revealing the placenta situated in the lower uterine section, with its lowest edge positioned beneath the dome of a distended urinary bladder. All preterm

diagnoses of placenta previa were admitted and handled according to the MacAfee regimen (expectant management), with interventions implemented only at term or in the event of complications. Immediate delivery was performed in symptomatic instances endangering mother or foetal life, regardless of gestational age, as well as in cases presenting at term. In this hospital, Caesarean sections were routinely performed for all instances of placenta praevia, with the diagnosis confirmed intraoperatively. The collected data was analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics such as frequencies and percentages were used to summarize the demographic characteristics and levels of knowledge about placenta previa. The proportion of women diagnosed with placenta previa was calculated for prevalence assessment.

RESULTS

A total of 8,766 deliveries were recorded during the period of this study. The women were primarily aged between 30 and 39 years (38.71%), followed closely by the 20-29 age group (33.04%). A significant majority, 60.54%, had completed secondary education, while 37.82% attained tertiary education. Marital status revealed that an overwhelming 99.14% of participants were married. Employment status showed that most participants were engaged in the public sector (45.13%) or were self-employed (28.46%). In terms of residence, 80.54% lived in urban areas (Table 1).

In examining obstetric history, it was found that the majority of participants (63.79%) had been pregnant two to three times, while 21.81% reported no previous deliveries. Notably, 8.16% experienced complications during previous pregnancies, with premature birth being the most common complication (57.06%). A substantial number, 34.33%, had undergone at least one Cesarean section (Table 2).

Awareness of placenta previa was relatively low, with only 38.98% of participants having heard of the condition before the survey. Among those who were aware, the most common sources of information included social media (36.14%) and healthcare professionals (34.06%). Furthermore, a significant 83.22% did not recognize any symptoms associated with the condition, highlighting a critical gap in knowledge. Only 13.28% had attended health talks discussing placenta previa (Table 3).

When assessing knowledge about placenta previa, results indicated mixed understanding. While 74.39% believed it could cause complications during pregnancy, only 13.51% strongly agreed with the definition of the condition. A majority (72.00%) felt that proper medical care could manage placenta previa, but many were uncertain about the timing of its diagnosis, particularly during the third trimester (24.93%) and at delivery (29.45%) (Table 4).

Most participants (70.35%) believed that preventive measures for placenta previa exist, and a resounding 93.36% agreed that early antenatal care could aid in its identification. The study found unanimous consensus (100%) on the need for increased education regarding pregnancy-related complications (Table 5). The prevalence of placenta previa in the study was notably low, with only 1.07% of participants diagnosed with the condition, compared to 98.93% who did not have it (Figure 1).

Table 1: Socio-Demographic Information of Participants

Socio-Demographic Information	Frequency (n = 8766)	Percentage (%)
Age (in Years)		
Below 20	362	4.13
20-29	2896	33.04
30-39	3393	38.71
40 and above	2115	24.13
Educational Level		
No formal Education	18	0.21
Primary Education	126	1.44
Secondary Education	5307	60.54
Tertiary Education	3315	37.82
Marital Status		
Single	31	0.35
Married	8691	99.14
Divorced/Widowed	44	0.50
Employment Status		
Unemployed	334	3.81
Self-employed	2495	28.46
Private sector employee	1854	21.15
Public sector employee	3956	45.13
Student	127	1.45
Residence		
Rural	1706	19.46
Urban	7060	80.54

Table 2: Obstetric History of Participants

Variable	Frequency (n = 8766)	Percentage (%)
How many times have you been pregnant including this present one (gravida)?		
1	1893	21.59
2-3	5592	63.79
4-5	834	9.51
More than 5	447	5.10
How many deliveries have you had (parity)?		
None	1912	21.81
1	3189	36.38
2-3	3127	35.67
4 or more	538	6.14
Did you experience any complications during previous pregnancies?		
Yes	715	8.16
No	6158	70.25
Not Applicable	1893	21.20
If yes, please specify		
Pre-eclampsia	217	30.35
Placenta previa	11	1.54
Premature birth	408	57.06
Others	79	11.04
Have you ever had a Cesarean section?		
Yes	3009	34.33
No	5757	65.67
If yes, how many times?		
1	1674	55.63
2-3	1324	44.00
More than 3	11	0.37

Table 3: Awareness of Placenta Previa

Variable	Frequency (n = 8766)	Percentage (%)
Have you heard of placenta previa before this survey?		
Yes	3417	38.98
No	5349	61.02
If yes, where did you first hear about it?		
Healthcare professionals	1164	34.06
Friends or family	41	1.20
Television/Radio	977	28.59
Social media	1235	36.14
Do you know any symptoms associated with placenta previa?		
Yes	1417	16.16
No	7295	83.22
Have you ever attended any health talk or seminar discussing placenta previa?		
Yes	1164	13.28
No	7602	86.72

Table 4: Knowledge of Placenta Previa

Variable	Frequency (n = 8766)	Percentage (%)
Placenta previa refers to a condition where the placenta covers the cervix. Do you agree with this statement?		
Strongly agree	1184	13.51
Agree	2317	26.43
Neutral	4415	50.37
Disagree	524	5.98
Strongly disagree	326	37.19
Can placenta previa cause		

complications during pregnancy or childbirth?		
Yes	6521	74.39
No	895	10.21
Not sure	1350	15.40
Do you believe placenta previa can be managed with appropriate medical care?		
Yes	6312	72.00
No	421	4.80
Not sure	2042	23.29
At what stage of pregnancy is placenta previa most likely to be diagnosed?		
First trimester	343	3.91
Second trimester	1983	22.62
Third trimester	2185	24.93
At delivery	2582	29.45
Not sure	1673	19.09

Table 5: Knowledge of Preventive Measures and Management of Placenta Previa

Variable	Frequency (n = 8766)	Percentage (%)
Are there preventive measures for placenta previa?		
Yes	6167	70.35
No	125	1.43
Not sure	2474	28.22
Do you think early antenatal care can help in identifying placenta previa?		
Yes	8184	93.36
No	31	0.35
Not sure	551	6.29
Do you think more education on pregnancy-related complications		

like placenta previa is needed?		
Yes	8766	100.00
No	00	0.00

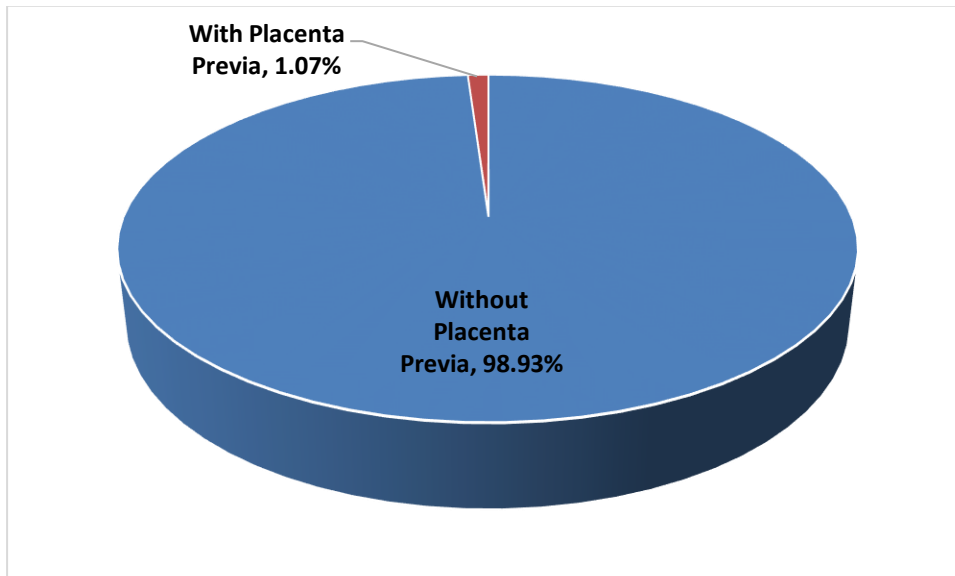


Figure 1: Prevalence of Placenta Previa

DISCUSSION

The majority of the women who gave birth in this hospital during this study fell within the age group of 30-39 years, followed by those aged 20-29 years, indicating a higher prevalence of women of reproductive age within these groups. This finding aligns with studies by Adiele et al. ^[10], which identified similar age distributions in pregnant populations in Nigeria. The majority of participants had secondary education, with a significant proportion having tertiary education. The high level of education suggests that the sample was relatively well-educated, which may influence health-seeking behavior and awareness of pregnancy complications. This is consistent with studies by Durojaiye et al. ^[11], which reported similar educational distributions in urban centres in Nigeria.

Marital status data revealed that nearly all participants were married, and only a small proportion was either single or divorced/widowed. This finding reflects the traditional marital structure in Nigeria, where marriage is a common social institution, particularly among women of childbearing age ^[12]. The study also found that the majority of participants were employed in either the public sector or self-employed, which mirrors the economic profile of urban centres where public sector employment is more common. Urban residency accounted for a

proportion of the participants; a finding consistent with previous studies indicating that urban areas have better access to tertiary healthcare facilities ^[13].

In terms of obstetric history, most participants had experienced two or three pregnancies, and nearly 60% of women had given birth one to three times. The prevalence of nulliparous women was 21.81%, indicating a considerable proportion of first-time mothers. These results align with previous findings by Anorlu et al. ^[14], which noted similar trends in gravidity and parity among pregnant women in Nigeria. A significant percentage of participants had undergone cesarean sections, reflecting the increasing rate of surgical deliveries in tertiary institutions in Nigeria, as documented by Ezeonu et al. ^[15].

Regarding pregnancy complications, 8.16% of women reported complications during previous pregnancies, with the most common being premature birth, followed by pre-eclampsia. The prevalence of placenta previa as a complication during previous pregnancies was low. This low prevalence is in line with reports from Chukwuanukwu et al. ^[16], who found similar rates of placenta previa in previous pregnancies.

Awareness of placenta previa was relatively low, with only 38.98% of participants having heard of the condition before the survey. This finding highlights the knowledge gap regarding placenta previa among pregnant women in the region, a trend also observed in previous studies ^[17]. Healthcare professionals were the primary source of information for those aware of the condition, followed by social media and television/radio. This is in line with the growing role of social media as a source of health information in Nigeria, as noted by Umeora et al. ^[18].

The knowledge of symptoms associated with placenta previa was even lower, with only 16.16% of women being able to identify symptoms of the condition. This finding further reinforces the need for increased education and awareness about placenta previa among pregnant women. Similar conclusions were drawn in the study by Oluwafemi et al. ^[19], which found that women's knowledge of obstetric complications was generally low in rural and semi-urban settings in Nigeria.

Knowledge of placenta previa was mixed, with 39.94% of participants either strongly agreeing or agreeing that placenta previa refers to a condition where the placenta covers the cervix, while 50.37% remained neutral. This level of uncertainty may be due to the technical nature of the condition and the lack of widespread education on its symptoms and management. A significant number of women correctly identified that placenta previa can cause complications during pregnancy or childbirth, which is consistent with findings from Mordi et al. ^[20], who also observed a reasonable level of awareness of the complications associated with the condition.

In terms of diagnosis, most women believed that placenta previa was most likely to be diagnosed either at delivery or in the third trimester. This is consistent with clinical data showing that placenta previa is often identified later in pregnancy when the placenta's position becomes problematic ^[21].

The majority of participants believed that there are preventive measures for placenta previa, and an overwhelming 93.36% believed that early antenatal care can help in identifying the condition. This finding is consistent with recommendations from the World Health Organization (WHO) ^[22], which emphasizes the importance of antenatal care in detecting and managing placenta previa. Furthermore, all participants agreed that more education on pregnancy-related complications like placenta previa is needed. This suggests a universal

desire for better information dissemination, which mirrors findings from similar studies by Okafor et al. [23], who stressed the importance of health education in preventing obstetric complications.

The prevalence of placenta previa in this study was 1.07%, which falls within the global prevalence range reported in previous research [24]. This figure is lower than the 0.5-2.0% range reported in some African studies [25], likely due to the improved antenatal care services available in urban tertiary health institutions. Nonetheless, the low prevalence highlights the importance of continued surveillance and education to prevent adverse outcomes associated with placenta previa.

CONCLUSION

This study highlights a low prevalence of placenta previa among the participants in a tertiary health institution in Southeast Nigeria. Despite this, awareness and knowledge of the condition remain insufficient, with over 60% of respondents unaware of placenta previa before the survey. While a significant majority recognize the potential complications and the importance of early antenatal care, the general lack of understanding about the condition's symptoms and management indicates a critical need for improved education and outreach.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. **Awareness Campaigns:** Comprehensive public health campaigns aimed at educating women about placenta previa, including its symptoms, risk factors, and management strategies should be implemented.
2. **Training for Healthcare Providers:** Training for healthcare professionals on how to effectively communicate information regarding placenta previa to patients should be enhanced, ensuring that they can adequately address concerns and misconceptions.
3. **Integrate into Antenatal Care:** Education on placenta previa should be incorporated into standard antenatal care protocols to ensure that all pregnant women receive information about potential complications.
4. **Research and Monitoring:** Further research to monitor the prevalence of placenta previa and other pregnancy-related complications should be encouraged, facilitating ongoing improvements in maternal health services.
5. **Community Health Seminars:** Community health talks and seminars focusing on pregnancy-related complications to increase awareness and empower women with knowledge to seek timely medical care should be organised.

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