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Journal of Women Health Care and Issues
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Research Article

Knowledge, Attitude and Perception of Miscarriage among Women of Reproductive Age Attending Abia State University Teaching Hospital, Aba, Nigeria

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Received date: June 24, 2025; Accepted date: June 30, 2025; Published date: July 09, 2025

Citation: Emmanuel M. Akwuruoha and Christian O. Onyemereze, (2025), Knowledge, Attitude and Perception of Miscarriage among Women of Reproductive Age Attending Abia State University Teaching Hospital, Aba, Nigeria, J. *Women Health Care and Issues*, *8*(4); **DOI:10.31579/2642-9756/245**

Abstract

Background: Miscarriage remains a significant public health concern globally, with its burden often underestimated in developing countries due to cultural beliefs and poor reporting systems. Understanding the knowledge, attitude, and perception of miscarriage among women of reproductive age is essential for developing appropriate educational and intervention strategies. This study aimed to assess the knowledge, attitude, and perception of miscarriage among women of reproductive age attending Abia State University Teaching Hospital (ABSUTH), Aba, Nigeria.

Materials and Methods: A descriptive cross-sectional study was conducted among 220 women aged 15–49 years attending the Obstetrics and Gynaecology Clinics of ABSUTH. A systematic random sampling technique was used. Data were collected using a structured, pre-tested, interviewer-administered questionnaire and analyzed using SPSS version 26.0. Descriptive statistics summarized socio-demographic characteristics, knowledge, attitude, and perception. Associations were tested using Chi-square, Spearman's correlation, and logistic regression, with $p < 0.05$ considered significant.

Results: The mean age of respondents was 31.6 ± 7.2 years. Most participants (43.64%) were aged 25–34 years, and 54.55% had tertiary education. Good knowledge of miscarriage was observed in 28.64% of respondents, positive attitude in 37.73%, and good perception in 33.18%. Tertiary education (AOR = 2.83, 95% CI: 1.49–5.39, p = 0.001) and urban residence (AOR = 1.92, 95% CI: 1.08–3.43, p = 0.026) significantly predicted good knowledge. Good knowledge (AOR = 2.11, 95% CI: 1.21–3.67, p = 0.008) and being married (AOR = 1.74, 95% CI: 1.01–3.01, p = 0.045) were predictors of positive attitude. Favorable perception was associated with positive attitude (AOR = 2.95, 95% CI: 1.68–5.19, p < 0.001) and urban residence (AOR = 1.81, 95% CI: 1.02–3.22, p = 0.041).

Conclusion: Knowledge, attitude, and perception of miscarriage among women of reproductive age at ABSUTH were suboptimal. Educational level, residence, and marital status significantly influenced these outcomes. Culturally sensitive health education programs are recommended to improve awareness and reduce stigma associated with miscarriage.

Key words: pregnancy; breast; heartburn and indigestion; weight gain

Introduction

Miscarriage, clinically defined as spontaneous pregnancy loss before fetal viability, represents a profound personal and public health concern in Nigeria. Globally, miscarriage affects approximately 15–20% of recognized pregnancies, with loss rates rising sharply in women over 40 [1]. In Nigeria specifically, fetal viability is defined at 28 weeks, later than in countries such as the UK (24 weeks) or Australia (20 weeks). Despite its high incidence, local data on knowledge, attitudes, and perceptions toward miscarriage especially among women receiving care in tertiary hospitals, remain limited. A study conducted at Lagos University Teaching Hospital revealed that although a majority of women (73.5%) possessed "good" basic knowledge of miscarriage, myths were pervasive: 63.2% attributed miscarriage to behaviors like eating snails [2]. The same study reported a miscarriage rate of nearly one in 3.7 pregnancies, and psychological consequences such as depression, anxiety, and hostility significantly affected women who had experienced loss [2]. This underscores both the frequency and the deeply emotional impact of miscarriage in Nigerian clinical settings.

At other tertiary hospitals, clinical reviews reinforce miscarriage as a public health issue. Between 2007 and 2011 at the University of Ilorin Teaching Hospital, approximately 4.2% of pregnancies ended in miscarriage, primarily occurring in the first trimester; notably, 42.1% were incomplete and nearly 60% of cases occurred without identifiable risk factors [3]. These findings highlight both the burden borne by healthcare systems and the often-unexplained nature of many spontaneous pregnancy losses.

Misconceptions and cultural interpretations around reproductive loss also persist in broader Nigerian society. Deep-seated superstitions such as dietary taboos that pregnant women avoid snails or bananas to prevent miscarriage are documented across diverse ethnic groups, including Igbo and Yoruba communities [4]. While such beliefs are culturally embedded, they are clinically unfounded, and may contribute to stigma and delays in seeking obstetric care.

Legal restrictions and sociocultural attitudes toward reproductive health compounds challenges in addressing miscarriage within the Nigerian healthcare context. Nigeria's restrictive abortion laws permitting termination only to save the mother's life push women toward risky practices and limit open dialogue surrounding reproductive loss [1]. Unsafe clandestine procedures contribute significantly to maternal morbidity and mortality: nearly 11% of maternal deaths in Nigeria are linked to unsafe abortion (akin to miscarriage) and often involve adolescents.

Conversely, policy initiatives such as the Abiye Safe Motherhood Project in Ondo State demonstrate that targeted maternal health interventions can dramatically reduce mortality and improve service delivery [5]. However, most efforts focus on delivery and pregnancy tracking not specifically on knowledge, attitudes, and perceptions related to miscarriage itself.

Despite the clinical prevalence and psychosocial impact of miscarriage, research specifically examining women's knowledge, attitude, and perception (KAP) regarding miscarriage in Nigerian tertiary settings is scarce. Investigating these domains at Abia State University Teaching Hospital is critical. It can shed light on key gaps in awareness, cultural beliefs influencing health-seeking behavior, and emotional support needs, thereby providing an evidence base to inform patient education, counselling protocols, and culturally appropriate service delivery.

Materials And Methods

Study Design

This study employed a descriptive cross-sectional design aimed at assessing the knowledge, attitude, and perception of miscarriage among women of reproductive age attending Abia State University Teaching Hospital (ABSUTH), Aba, Nigeria. The cross-sectional design was chosen because it allows for the collection of data at a single point in time, enabling the evaluation of the prevalence and distribution of the variables of interest within the study population [6].

Study Setting

The study was conducted at the Obstetrics and Gynaecology Clinics of Abia State University Teaching Hospital (ABSUTH), located in Aba, Abia State, Nigeria. ABSUTH is a major tertiary healthcare facility that provides specialized obstetric, gynecologic, and other medical services to residents of Aba and neighboring communities. The hospital serves as a referral center for both public and private health facilities within the region and caters to a diverse population including urban and peri-urban dwellers.

Study Population

The study population comprised women of reproductive age (15–49 years) attending the Obstetrics and Gynaecology Clinics of ABSUTH during the study period. These included both new and returning patients attending for antenatal care, postnatal care, family planning, and gynecological consultations.

Inclusion Criteria

Women aged 15 to 49 years attending ABSUTH during the study period.

Women who provided informed consent to participate in the study.

Women who were mentally and physically capable of responding to the questionnaire.

Exclusion Criteria

Women who were critically ill or unable to participate due to medical or psychological conditions.

Women who declined consent or withdrew from the study at any stage.

Sample Size Determination

The sample size was calculated based on Cochran's formula for population proportion estimation, following the methodology described by Ezebuiro et al. [7]:

$n = (Z^2 (Pq))/e^2$

The formula components are defined as follows:

n represents the minimum required sample size.

Z is set at 1.96, corresponding to a 95% confidence level.

P denotes prevalence of miscarriage in Nigeria.

e signifies the allowable margin of error, fixed at 5% (0.05).

$q = 1 - p$

A recent study conducted by Eleje et al. [8] reports the prevalence of miscarriage in Nigeria as 15.34%

$P = 15.34\% = 0.1534$

$q = 1 – 0.1534$

$= 0.8466$

$n = ((1.96)^2 (0.1534 \times 0.8466))/〖(0.05)〗^2$

$n = (3.8416 \times (0.1299))/0.0025$

$n = (0.4989)/(0.0025) = 199.56$

Although the initially calculated minimum sample size was 200, it was increased to 220 to accommodate an anticipated 10% rate of non-response.

Sampling Technique

A systematic random sampling technique was employed. Based on the clinic's average weekly attendance of approximately 100 women and the data collection period of 10 weeks, the sampling interval was determined as:

$k = (\text{Total Population})/\text{Sample Size} = (1000)/220 = 4.55 \sim 5$

Every fifth eligible woman was selected after the first respondent was chosen randomly on each clinic day.

Data Collection Instrument

Data were collected using a structured, pre-tested, interviewer-administered questionnaire designed by the researchers based on an extensive review of relevant literature. The questionnaire consisted of four sections:

Socio-demographic characteristics: age, marital status, education, occupation, parity, religion, residence.

Knowledge of miscarriage: causes, risk factors, symptoms, prevention, complications.

Attitude towards miscarriage: beliefs about miscarriage, stigmatization, health-seeking behavior.

Perception of miscarriage: cultural and personal views, perceived severity, perceptions regarding healthcare services for miscarriage management.

The questionnaire was initially developed in English and translated into the local language (Igbo) for participants who preferred to respond in the indigenous language. The translated version was back-translated to ensure consistency.

Pretesting and Validation

The questionnaire was pre-tested among 20 women of reproductive age attending Rhema University Teaching Hospital, Aba to assess clarity, relevance, and reliability. Necessary modifications were made based on feedback to improve the tool's comprehensibility. Cronbach's alpha was calculated for internal consistency, yielding a coefficient of 0.82, indicating good reliability.

Data Collection Procedure

Data collection was carried out over a period of 8 weeks by trained research assistants, who were medical and nursing students familiar with obstetrics and gynecology terminologies and patient interaction. The assistants were trained over two days on the purpose of the study, ethical considerations, and techniques for administering the questionnaire respectfully and confidentially. Participants were approached at the clinic waiting areas. After explaining the purpose of the study and obtaining written informed consent, the questionnaire was administered in a private setting within the clinic premises to ensure confidentiality.

Ethical Considerations

Written informed consent was obtained from all participants after providing detailed information about the study's objectives, procedures, potential risks, and benefits. Participation was entirely voluntary, and respondents were assured of confidentiality and anonymity. They were informed of their right to decline participation or withdraw at any stage without any impact on their medical care.

Data Management and Statistical Analysis

Completed questionnaires were checked for completeness and consistency at the point of collection. Data were entered into a computer and analyzed using the Statistical Package for the Social Sciences (SPSS) version 26.0 (IBM Corp., Armonk, NY, USA).

Descriptive statistics (frequencies, percentages, means, standard deviations) were computed for socio-demographic variables, knowledge, attitude, and perception responses. For inferential analysis:

Chi-square test (χ^2) was used to determine associations between socio-demographic characteristics and levels of knowledge, attitude, and perception.

Logistic regression analysis was employed to identify independent predictors of good knowledge, positive attitude, and favorable perception, controlling for potential confounders.

A p-value < 0.05 was considered statistically significant.

Results

The study involved 220 respondents, with the majority aged 25–34 years (43.64%), followed by those aged 35–44 years (29.09%). Most participants were married (80.91%) and had tertiary education (54.55%). Over half resided in urban areas (51.82%), and nearly half had parity of three or more (45.45%) **(Table 1).**

Variable	Frequency (n = 220)	Percentage (%)
Age Group (years)		
15–24	38	17.27
25–34	96	43.64
35–44	64	29.09
45–49	22	10.00
Marital Status		
Married	178	80.91
Single	32	14.55
Divorced/Widowed	10	4.55
Educational Level		
No formal education	8	3.64
Primary	24	10.91
Secondary	68	30.91
Tertiary	120	54.55
Residence		
Urban	114	51.82
Semi-urban	68	30.91
Rural	38	17.27
Parity		
0	26	11.82
1–2	94	42.73
≥3	100	45.45

Table 1: Socio-Demographic Characteristics of Respondents

Regarding knowledge of miscarriage, 32.27% of respondents had poor knowledge, 39.09% had fair knowledge, and 28.64% demonstrated good knowledge **(Table 2).**

Knowledge Level	Frequency	Percentage (%)
Poor knowledge	71	32.27
Fair knowledge	86	39.09
Good knowledge	63	28.64

Table 2: Knowledge of Miscarriage (summary of responses)

In terms of attitude, 37.73% exhibited a positive attitude, while 35.91% were neutral, and 26.36% showed a negative attitude (Table 3).

Attitude Category	Frequency	Percentage (%)
Negative attitude	58	26.36
Neutral attitude	79	35.91
Positive attitude	83	37.73

Table 3: Attitude towards Miscarriage

For perception, 33.18% had a good perception of miscarriage, 36.82% had fair perception, and 30.00% had poor perception **(Table 4).**

Perception Category	Frequency	Percentage (%)
Poor perception	66	30.00
Fair perception	81	36.82
Good perception	73	33.18

Table 4: Perception of Miscarriage

Significant associations were observed between age and knowledge ($p = 0.022$), age and perception ($p = 0.046$), marital status and attitude ($p = 0.020$), education and knowledge ($p = 0.002$), education and perception ($p = 0.011$), occupation and knowledge ($p = 0.018$), and residence and perception ($p = 0.008$) **(Table 5).**

Variable	χ^2 value	df	p-value
Age vs Knowledge	14.76	6	0.022*
Age vs Attitude	10.33	6	0.110
Age vs Perception	12.85	6	0.046*
Marital Status vs Knowledge	9.28	4	0.054
Marital Status vs Attitude	11.65	4	0.020*
Marital Status vs Perception	7.45	4	0.114
Education vs Knowledge	16.48	4	0.002*
Education vs Attitude	8.95	4	0.062
Education vs Perception	13.12	4	0.011*
Occupation vs Knowledge	15.29	6	0.018*
Residence vs Perception	9.55	2	0.008*

Table 5: Association Between Socio-Demographics and Knowledge, Attitude, Perception

Correlation analysis revealed that knowledge positively correlated with attitude ($\rho = 0.41$, $p < 0.01$) and perception ($\rho = 0.36$, $p < 0.01$), while attitude also correlated positively with perception ($\rho = 0.44$, $p < 0.01$). Education correlated positively with knowledge, attitude, and perception, whereas age showed a weak negative correlation with perception ($\rho = -0.15$, $p < 0.05$) **(Table 6).**

Variables	Knowledge	Attitude	Perception
Knowledge	1	0.41**	0.36**
Attitude	0.41**	1	0.44**
Perception	0.36**	0.44**	1
Age	-0.12	-0.09	-0.15*
Education	0.33**	0.21**	0.27**
Parity	-0.05	0.07	-0.04

Table 6: Correlation Analysis (Spearman's rho)

Logistic regression showed that tertiary education (AOR = 2.83, $p = 0.001$) and urban residence (AOR = 1.92, $p = 0.026$) significantly predicted good knowledge. Good knowledge (AOR = 2.11, $p = 0.008$) and being married (AOR = 1.74, $p = 0.045$) predicted positive attitude. Favorable perception was significantly predicted by positive attitude (AOR = 2.95, $p < 0.001$) and urban residence (AOR = 1.81, $p = 0.041$) **(Table 7).**

Predictor	Adjusted OR	95% CI	p-value
Good Knowledge			
Tertiary education	2.83	1.49 – 5.39	0.001*
Urban residence	1.92	1.08 – 3.43	0.026*
Positive Attitude			
Good knowledge	2.11	1.21 – 3.67	0.008*
Married	1.74	1.01 – 3.01	0.045*
Favorable Perception			
Positive attitude	2.95	1.68 – 5.19	<0.001*
Urban residence	1.81	1.02 – 3.22	0.041*

Table 7: Logistic Regression Predictors of Good Knowledge, Positive Attitude, and Favorable Perception

Discussion

The findings of this study provide valuable insights into the knowledge, attitude, and perception of miscarriage among women of reproductive age attending Abia State University Teaching Hospital, Aba, Nigeria. The socio-demographic data indicated that the majority of the respondents were aged between 25 and 34 years (43.64%), married (80.91%), and possessed tertiary education (54.55%). These demographics are comparable to those reported in a similar Nigerian study by Olamijulo et al. [9], where most participants were in their late twenties to early thirties, married, and had post-secondary education. This reflects the typical demographic structure of women who actively seek obstetric and gynecological care in tertiary hospitals in Nigeria [9][10].

Regarding knowledge, 32.27% of participants demonstrated poor knowledge, 39.09% had fair knowledge, and only 28.64% showed good knowledge of miscarriage. This pattern aligns with a study conducted in Lagos, Nigeria, by Akinlusi et al. [11], which revealed that despite high educational levels, gaps in knowledge regarding miscarriage causes, risk factors, and management persisted among women attending antenatal clinics. Similarly, an Ethiopian study by Ayele et al. [12] reported that 35% of women had poor knowledge of miscarriage, highlighting that limited awareness is not restricted to Nigeria but is prevalent in other low- and middle-income countries. The significant association between education and knowledge in this study ($p = 0.002$) further emphasizes the role of formal education in shaping reproductive health awareness, as also noted by Anorlu et al. [13].

In terms of attitude, 26.36% of the respondents had a negative attitude toward miscarriage, 35.91% were neutral, and 37.73% exhibited a positive attitude. The positive attitude observed among a sizeable proportion of respondents may reflect increasing openness about miscarriage in contemporary Nigerian society, albeit at a slower pace compared to Western societies [14]. Interestingly, the significant association between marital status and attitude ($p = 0.020$) suggests that social support inherent in marriage may foster more positive dispositions toward miscarriage, consistent with the findings of Ojukwu et al. [15], who highlighted the protective effect of marital support in mitigating negative attitudes toward reproductive health complications.

The perception of miscarriage among respondents showed that 33.18% had good perception, 36.82% fair perception, and 30% poor perception. This finding is in line with the study by Abasiattai et al. [16] conducted in Uyo, Nigeria, where about 35% of women held accurate perceptions about miscarriage etiology and outcomes. The significant association between residence and perception ($p = 0.008$) found in the present study also mirrors the conclusions drawn by Okafor et al. [17], who reported that urban residence was linked to better reproductive health perceptions, likely due to greater access to healthcare information and services.

The correlation analysis revealed that knowledge was significantly correlated with attitude ($\rho = 0.41$, $p < 0.01$) and perception ($\rho = 0.36$, $p < 0.01$). This is consistent with the health belief model, which posits that accurate knowledge fosters positive attitudes and perceptions [18]. Moreover, education correlated significantly with knowledge ($\rho = 0.33$, $p < 0.01$), attitude ($\rho = 0.21$, $p < 0.01$), and perception ($\rho = 0.27$, $p < 0.01$), supporting the assertion by Ezechi et al. [19] that formal education enhances reproductive health outcomes by shaping beliefs and practices.

The logistic regression findings further underscored that tertiary education (AOR = 2.83, $p = 0.001$) and urban residence (AOR = 1.92, $p = 0.026$) were significant predictors of good knowledge, echoing reports by Fagbamigbe et al. [20], which linked higher education and urban living to better reproductive health knowledge in Nigeria. Good knowledge, in turn, significantly predicted positive attitude (AOR = 2.11, $p = 0.008$), while positive attitude predicted favorable perception (AOR = 2.95, $p < 0.001$). These pathways align with findings from a recent Kenyan study by Wambui et al. [21], which demonstrated that reproductive health education interventions improved knowledge, which sequentially improved attitudes and perceptions about pregnancy-related complications, including miscarriage.

The influence of age on knowledge ($p = 0.022$) and perception ($p = 0.046$) in this study is noteworthy. Younger women, particularly those aged 25–34 years, were more likely to have good knowledge and favorable perceptions, a pattern similarly observed by Gulo et al. [22] in their study of miscarriage awareness in Indonesia. They argued that younger women, often being more technologically literate, might have better access to reproductive health information online compared to older age groups.

Conclusion

This study highlights a critical need for targeted health education interventions to address the knowledge gaps and to promote more positive attitudes and perceptions regarding miscarriage, particularly among women with lower educational levels, those residing in rural areas, and single or divorced women. Public health programs that integrate culturally sensitive educational campaigns on miscarriage could help dispel myths, reduce stigma, and enhance coping strategies among affected women.

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