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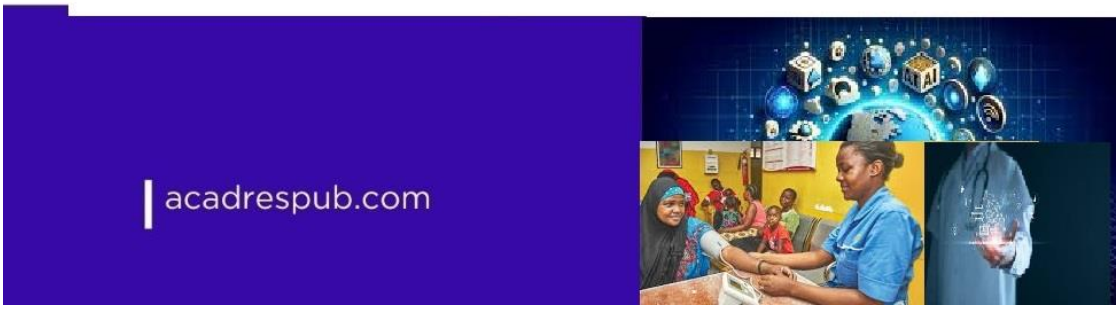

Vol. 3, Issue I, Pp. 13-33; NOV., 2025

AWARENESS AND ATTITUDES TOWARD MATERNAL HEALTH SERVICES AMONG REPRODUCTIVE AGED WOMEN IN EDO STATE, NIGERIA

[1]Hendrith ESENE (MBBS,MPH,FMCPH); [2]Bodeno EHIS (MBBS,MPH,FMCPH,FIPHMD); [3]Godwill AGBON-OJEME (MBBS,FWAcgyn). & [4]Vincent ADAM (MBBS.MPH, FMCPH)

[1-2]Department of Community Medicine, Igbinedion University Okada, Edo State, Nigeria; Department of Obstetrics and Gynaecology, IUO & Department of Community Health, IUO

hendrith.esene@iuokada.edu.ng; bodeno.ehis@iuokada.edu.ng; godwill.agbon-ojeme@iuokada.edu.ng &vincent.adam@uniben.edu.ng

+2348036504942; +2348065472148; +2348035896017 &+2348023327951

Corresponding Author: Bodeno Ehis; bodeno.ehis@iuokada.edu.ng

ARTICLE INFO

Received Date: 27th Sept 2025
Date Revised Received: 30th Sept, 2025
Accepted Date: 30th Oct, 2025
Published Date: 4th Nov., 2025

Citation: Esene, H. et al (2025);Awareness and Attitudes towards maternal Health Services Among Reproductive-Aged Women in Edo State, Nig. OMANAP INT.J.HEALTH; Vol.3, Issues I Pp.13-33 Nov..2025.

ABSTRACT

Maternal health remains a major global concern, with low- and middle-income countries accounting for over 95% of maternal deaths. Sub-Saharan Africa contributes nearly 70% of these deaths, mainly due to poor awareness, socio-cultural barriers, and underutilization of skilled care. In Nigeria, despite the availability of maternal health services, the maternal mortality ratio remains high at 512 per 100,000 live births, largely due to poor utilization and negative attitudes towards health services. This study assessed the awareness and attitudes of reproductive-aged women in Edo State, Nigeria, toward maternal health services.

Methodology: A community-based cross-sectional analytical study was conducted among 322 women of reproductive age (15–49 years) in Usen, Ovia South-West LGA, Edo State. Data were collected using a semi-structured interviewer-administered questionnaire and analyzed with IBM SPSS version 27. Descriptive statistics were used to summarize data, while chi-square tests assessed associations between awareness, attitudes, and sociodemographic factors. Logistic regression identified predictors of awareness and positive attitudes. Statistical significance was set at $p < 0.05$.

Results: Most respondents were aged 25–34 years (35.4%) with a mean age of 32.7 ± 9.8 years. Awareness of maternal health services was high (71.7%), with family and friends, primary health centres, and hospitals as main information sources. Education, income, and socioeconomic status showed strong associations with awareness ($p < 0.001$). Logistic regression identified age (25–34 years) and spouse's education as independent predictors of awareness ($p = 0.005$ and $p = 0.003$ respectively). Among those aware, only 26.4% had a positive attitude. Age, marital status, spouse's education, and socioeconomic status were significantly associated with attitude, but only age 25–34 years independently predicted positivity ($p = 0.013$).

Conclusion: Although awareness of maternal health services was high, positive attitudes toward their utilization were low. Educational status, income, and partner involvement influenced awareness, whereas behavioural and experiential factors appeared to shape attitude. Improving service quality, provider client relations, and community engagement remains essential for promoting favourable maternal health behaviours.

Keywords: Maternal Health Services, Awareness, Attitude, Reproductive-Aged Women, Socioeconomic **Status,** Immunization Services.

Background

Maternal health is a fundamental component of global health priorities, reflecting the overall wellbeing and development status of any nation. The World Health Organization (WHO, 2023) defines maternal health as the health of women during pregnancy, childbirth, and the postnatal period.[1] Despite significant global improvements over the past decades, maternal mortality remains a major public health challenge, especially in low- and middle-income countries. The global maternal mortality ratio (MMR) was estimated at 197 deaths per 100,000 live births in 2023, with 95% of all maternal deaths occurring in developing regions.[2,3] Many of these deaths are preventable through effective utilization of maternal health services, including antenatal, delivery, and postnatal care provided by skilled health professionals.[4]

In many parts of the world, particularly in Africa, the gap between availability and utilization of maternal health services continues to widen. Sub-Saharan Africa accounts for approximately 70% of global maternal deaths, translating to about 200,000 deaths annually.[5,6] Factors such as poor access to healthcare facilities, shortage of skilled birth attendants, poverty, cultural barriers, and limited awareness contribute to these high mortality figures.[7] Although some countries in the region have implemented national maternal health programmes, including free antenatal care and community outreach initiatives, the level of awareness and positive attitude toward these services among reproductive-aged women remains inconsistent. Studies from Ghana, South Africa, and Kenya show that misconceptions, religious beliefs, and negative experiences with healthcare providers often deter women from accessing skilled maternal care.[8–10]

In Nigeria, maternal health continues to be a pressing public health issue. The Nigeria Demographic and Health Survey (NDHS, 2021) reported a maternal mortality ratio of 512 deaths per 100,000 live births, one of the highest in the world.[11] Although most urban areas have better access to health facilities than rural settings, utilization of maternal health services remains suboptimal across the country, with several interrelated factors being identified, including low educational attainment, poor awareness of available services, socio-cultural norms, economic hardship, and limited autonomy of women in decision-making.[12,13] A study revealed that even when maternal health services are available, negative attitudes towards healthcare workers, distrust of hospital care, and cultural preferences for traditional birth attendants persist.[14] These attitudes often lead to delayed or complete avoidance of skilled care, increasing the risk of maternal and neonatal complications.

Edo State, located in southern Nigeria, reflects these national trends. Although the state has several functional health facilities and trained personnel, many women, especially those in semi-urban and rural communities, do not fully utilize antenatal and delivery services, due to barriers such as cost, distance to facilities, cultural perceptions, and inadequate awareness.[15] Understanding women's awareness and attitudes toward maternal health services within this setting is therefore essential for improving service delivery and reducing maternal morbidity and mortality.

This study, therefore, seeks to assess the awareness and attitudes of reproductive-aged women in Edo State toward maternal health services. Findings from this work are expected to provide evidence that will inform policymakers, healthcare providers,

and community health educators on the key behavioural and informational gaps hindering the effective utilization of maternal health services in the state.

Methodology

Study Design and Area

This study employed a cross-sectional analytical design to assess the awareness and attitudes of reproductive-aged women towards maternal health services in Edo State, Nigeria. The study was conducted in Usen community, located within Ovia South-West Local Government Area in the South-South geopolitical zone of Nigeria. Usen is a semi-urban community inhabited by ethnically diverse groups such as the Bini, Yoruba, Igbo, Urhobo, and Isoko. The community is served by several educational institutions and health facilities, including Usen General Hospital, which provides both primary and secondary healthcare services. Maternal health services available in the area include antenatal care, skilled delivery, postnatal services, immunization, and family planning.

Study Population

The study population comprised women of reproductive age (15–49 years) residing in Usen community for a minimum of six months prior to the study. These women were selected because they represent the demographic group most vulnerable to pregnancy-related morbidity and mortality, and they are directly involved in decisions regarding the utilization of maternal health services. Both indigenes and non-indigenes were included, provided they met the residency and age criteria.

Sample Size Determination

The minimum sample size was calculated using the single population proportion formula. The parameters applied were a 95% confidence interval (Z = 1.96), a margin of error (d) of 5%, and an expected prevalence (p) of 74.3%, representing the proportion of women who had attended at least one antenatal clinic in a rural district of Ethiopia. The calculation yielded a minimum sample size of 293, which was adjusted for a 10% non-response rate, resulting in a final sample size of 322 participants.

Sampling Technique

A cluster sampling technique was adopted. Usen community is composed of fourteen villages forming a single political ward. Each village was assigned a letter code, and six villages Arere, Ogidigbo, Ajegunle, Obome, Aghakpo, and Ofaran were randomly selected using a computer-generated randomisation method. Within each selected cluster, eligible women were approached systematically from one household to another until the required sample size was obtained.

Data Collection Instrument

Data were collected using a semi-structured, interviewer-administered questionnaire adapted from previously validated tools and refined to reflect the local context. The questionnaire was divided into sections addressing socio-demographic characteristics, awareness of maternal health services, attitudes towards these services, and determinants of awareness and attitude. The awareness section assessed respondents' knowledge of antenatal, delivery, and postnatal care, as well as their sources of information and understanding of available services. The attitude section employed a five-point Likert scale ranging from "strongly agree" to "strongly disagree" to measure perceptions regarding the use of healthcare facilities, healthcare personnel, and the perceived importance of maternal health care.

Validity and Reliability

To ensure validity and reliability, the questionnaire was pre-tested in Okada community, located in Ovia North-East Local Government Area of Edo State, which shares similar socio-demographic characteristics with Usen. Ten percent of the calculated sample size, representing thirty-three respondents, participated in the pre-test. Feedback from the exercise was used to improve the clarity, flow, and internal consistency of the questions. The final instrument was further reviewed by academic supervisors and experts in community health to ensure that it accurately captured the intended constructs of awareness and attitude.

Data Analysis

Data collected were checked for completeness and coded before entry into the Statistical Package for Social Sciences (IBM SPSS) version 27 for analysis. Descriptive statistics such as frequencies, percentages, and means were generated to summarize respondents' socio-demographic characteristics, levels of awareness, and attitudes toward maternal health services. Bivariate analysis using the chi-square test was performed to determine associations between awareness, attitudes, and socio-demographic variables. To further identify predictors of awareness and positive attitudes, binary logistic regression analysis was conducted. A p-value of less than 0.05 was considered statistically significant.

Ethical Considerations

Ethical approval for the study was obtained from the Ethics and Research Committee of Igbinedion University Teaching Hospital, Okada, Edo State. Permission was also granted by local community leaders prior to data collection. Verbal and written informed consent were obtained from all participants after the study objectives, procedures, and potential risks were clearly explained. Participation was entirely voluntary, and respondents were informed that they could withdraw at any stage without any consequence. Anonymity and confidentiality were strictly maintained, as no identifying information was recorded, and completed questionnaires were securely stored and accessible only to the research team.

Results

Sociodemographic characteristics of respondents (Table 1)

Respondents were mostly aged 25–34 years, accounting for 114 (35.4%), followed by 90 (28.0%) aged 35–44 years, 74 (23.0%) aged 24 years or below, and 44 (13.6%) aged 45 years and above. The mean age of respondents was 32.73 ± 9.8 years. Most of the women, 175 (54.3%), had attained tertiary education, while 73 (22.7%) had secondary education, 33 (10.2%) had primary education, and 41 (12.7%) had no formal education. Among respondents whose spouses' education was recorded (n = 214), the majority, 131 (61.2%), had tertiary education, 21 (9.8%) had secondary education, and 31 (14.5%) each had primary or no formal education.

A total of 214 (66.5%) respondents were married, 42 (13.0%) were separated or divorced, 39 (12.1%) were single, 15 (4.7%) were cohabiting, and 12 (3.7%) were widowed. The predominant religion was Christianity, reported by 247 (76.7%) respondents, followed by Islam with 63 (19.6%), and African Traditional Religion with 12 (3.7%).

Most respondents, 133 (41.3%), reported a monthly income between ₦50,000 and ₦100,000, while 81 (25.2%) earned ₦100,001–₦150,000, 56 (17.4%) earned less than ₦50,000, and 52 (16.1%) earned above ₦150,000. Based on socioeconomic classification, 193 (59.9%) were in the

middle class, 85 (26.4%) in the high class, and 44 (13.7%) in the low class. With regard to parity, the majority, 223 (69.3%), had one to four children, 63 (19.6%) had more than four children, while 36 (11.2%) had no children.

Awareness of Maternal Health Services (Table 2 and Figure 1)

Most respondents, 231 (71.7%), had heard of maternal healthcare services, while 91 (28.3%) reported that they had not. Among those who were aware, the main sources of information were family and friends, cited by 60 (26.0%), followed by primary health centres (49; 21.2%) and hospitals (48; 20.8%). Other sources included community meetings (44; 19.0%) and the media (39; 16.9%), indicating that interpersonal and community-based communication channels remained the dominant sources of maternal health information.

With respect to specific services known by respondents, delivery services were the most frequently mentioned (100; 43.3%), followed by family planning and immunization services, each reported by 78 (33.8%) of the women. Awareness of antenatal care was noted by 71 (30.7%), while postnatal care was recognized by 54 (23.4%).

When asked to rate their overall knowledge of maternal health services, 56 (24.2%) described it as excellent, 52 (22.5%) as very good, and 61 (26.4%) as good. In contrast, 30 (13.0%) rated their knowledge as fair, and 32 (13.9%) as poor.

Only 27 (11.7%) of the respondents were aware of government or non-governmental organizations that promote maternal healthcare, while 204 (88.3%) had no such awareness.

Regarding the frequency of receiving maternal health information, 40 (17.3%) reported receiving such information very often, 31 (13.4%) said often, and 83 (35.9%) received information sometimes. However, 68 (29.4%) stated that they rarely received maternal health messages, 9 (3.9%) had never received any, and only 24 (7.5%) could not recall their frequency. Association between Sociodemographic Characteristics and Awareness of Maternal Health Services (Table 3)

Awareness was generally high across all age groups, with respondents aged 35–44 years recording the highest proportion of awareness (71; 79.8%) and those aged 25–34 years the lowest (73; 64.0%). However, the relationship between age and awareness was not statistically significant ($\chi^2 = 7.352$; $p = 0.061$).

A strong and statistically significant relationship was observed between respondents' level of education and their awareness of maternal health services ($\chi^2 = 40.413$; $p < 0.001$). Awareness increased steadily with higher educational attainment, ranging from 15 (36.6%) among women with no formal education to 142 (81.1%) among those with tertiary education. Similarly, the spouses' level of education showed a significant association with awareness ($\chi^2 = 18.846$; $p < 0.001$), with women whose spouses attained tertiary education being more likely to be aware of maternal health services compared to those whose spouses had no formal education.

Marital status also showed a significant relationship with awareness ($\chi^2 = 11.840$; $p = 0.016$). Awareness was highest among cohabiting women (86.7%) and single women (84.6%), while lower proportions were recorded among separated/divorced (57.1%) and widowed (50.0%) respondents. Religion demonstrated a highly significant association with awareness ($\chi^2 = 36.712$; $p <$

0.001). Awareness was most common among Christians (80.5%), whereas it was considerably lower among Muslims (43.5%) and adherents of African Traditional Religion (50.0%).

A significant relationship was also found between monthly income and awareness (χ^2 = 14.453; p < 0.001). Awareness increased with income level, from 45 (80.4%) among those earning below ₦50,000 to 46 (88.5%) among those earning above ₦150,000. Similarly, socioeconomic status was significantly associated with awareness (χ^2 = 35.549; p < 0.001). Awareness was highest among women in the high socioeconomic group (83.5%), followed by those in the middle group (75.4%), and lowest among those in the low group (36.4%).

Although awareness appeared slightly higher among women with children compared to those without, the relationship between number of children and awareness was not statistically significant (χ^2 = 1.454; p = 0.483).

Predictors of Awareness of Maternal Health Services (Table 4)
Binary logistic regression analysis was performed to identify independent predictors of awareness of maternal health services among reproductive-aged women. The model explained between 25.9% and 37.1% of the variation in awareness (R^2 = 25.9–37.1%), indicating a moderate explanatory power.

Among all the variables included in the model, age group and spouse's level of education showed statistically significant associations with awareness. Respondents aged 25–34 years were significantly more likely to be aware of maternal health services compared with those aged 45 years and above, who served as the reference group (β = 0.211; 95% CI: 0.071–0.626; p = 0.005). This suggests that women in early adulthood had higher exposure and engagement with reproductive health information than their older counterparts.

Similarly, women whose spouses had primary education were significantly more likely to be aware of maternal health services than those whose spouses had tertiary education (β = 0.210; 95% CI: 0.076–0.584; p = 0.003). This finding implies that partners' basic education may still facilitate awareness through communication, shared health decisions, or exposure to primary health facilities.

Although respondents with Christian religious affiliation appeared more likely to be aware of maternal health services compared with those practicing African Traditional Religion (β = 4.561; 95% CI: 0.912–22.814; p = 0.065), the association did not reach statistical significance. Likewise, level of education, marital status, monthly income, and socioeconomic status were not independently significant after adjustment in the regression model, though each had shown significant associations at the bivariate level.

Attitude towards Maternal Health Services (Table 5 and Figure 2)
Of the 231 respondents who were aware of maternal health services, 61 (26.4%) had a positive attitude, while 170 (73.6%) had a negative attitude towards their utilization. Most respondents, 215 (93.1%), agreed that maternal healthcare supports women's and children's wellbeing, with a mean score of 3.67 ± 0.7. A total of 179 (77.5%) agreed that maternal care was easily accessible in their community (mean = 3.06 ± 0.9). About 144 (62.3%) agreed that most women sought maternal care only when complications arose (mean = 2.66 ± 1.1). A similar

proportion, 147 (63.7%), agreed that healthcare workers treated women respectfully and provided proper support (mean = 2.65 ± 1.3).

Long waiting time was considered a barrier by 144 (62.3%) of respondents who agreed that delays deterred them from seeking maternal care (mean = 2.64 ± 1.2). A total of 144 (62.3%) also agreed that women in their area preferred traditional birth attendants over hospital care (mean = 2.62 ± 1.2). Regarding cost, 145 (62.8%) of respondents agreed that maternal healthcare was affordable (mean = 2.61 ± 1.3), while 145 (62.8%) also agreed that local facilities offered adequate maternal care (mean = 2.60 ± 1.0).

A total of 129 (56.0%) of respondents agreed that traditional birth services were more effective than hospital care (mean = 2.44 ± 1.5). Similarly, 121 (52.4%) agreed that mistreatment and poor attitudes of healthcare workers discouraged them from using maternal health services (mean = 2.30 ± 1.4). Association between Attitude towards Maternal Health Services and Sociodemographic Characteristics (Table 6)

A significant relationship was observed between age group and attitude (χ^2 = 8.838; p = 0.032). Positive attitude was most common among respondents aged 45 years and above 13 (38.2%), followed by those aged ≤ 24 years 18 (34.0%), 35–44 years 19 (26.8%), and least among those aged 25–34 years 11 (15.1%).

There was no statistically significant association between level of education and attitude (χ^2 = 7.383; p = 0.058). Among respondents with no formal education, 8 (53.3%) had positive attitude, compared with 6 (35.3%) among those with primary education, 15 (26.3%) with secondary education, and 32 (22.5%) with tertiary education.

A significant association was found between spouse's level of education and attitude (χ^2 = 21.891; p < 0.001). Positive attitude was highest among respondents whose spouses had secondary education 10 (62.5%), followed by 6 (40.0%) whose spouses had no formal education, and lowest among those whose spouses had primary education 0 (0.0%). Among those whose spouses had tertiary education, 21 (19.8%) had positive attitude.

Marital status also showed a significant association with attitude (χ^2 = 18.389; p = 0.002). Positive attitude was observed among 37 (23.9%) of married respondents, 4 (16.7%) of separated or divorced respondents, 14 (42.4%) of single respondents, 1 (7.7%) of cohabiting respondents, and 5 (83.3%) of widowed respondents.

There was no significant association between religion and attitude (χ^2 = 1.887; p = 0.301). Among Christians, 49 (24.7%) had positive attitude compared with 10 (37.0%) among Muslims and 2 (33.3%) among those practicing African Traditional Religion.

A significant relationship was recorded between monthly income and attitude (χ^2 = 8.641; p = 0.036). Positive attitude was highest among respondents earning less than ₦50,000 – 16 (35.6%), followed by 25 (30.1%) among those earning ₦50,000–₦100,000, 13 (28.3%) among those earning above ₦150,000, and lowest among those earning ₦100,001–₦150,000 – 7 (12.3%).

Socioeconomic status was also significantly associated with attitude (χ^2 = 8.200; p = 0.016). Positive attitude was reported by 8 (50.0%) respondents in the low

socioeconomic group, 41 (28.5%) in the middle group, and 12 (16.9%) in the high group.

There was no significant association between number of children and attitude (χ^2 = 4.244; p = 0.120). Positive attitude was found among 12 (41.4%) of respondents with no children, 40 (25.3%) of those with one to four children, and 9 (20.5%) of those with more than four.

Predictors of Positive Attitude towards Maternal Health Services (Table 7)

Binary logistic regression showed that the model explained 1.7%–17.7% of the variation in attitude (R^2 = 1.7–17.7%). Only age group 25–34 years was significantly associated with positive attitude (β = 0.243; 95% CI: 0.080–0.740; p = 0.013), indicating that women in this age group were less likely to have a positive attitude toward maternal health services compared with those aged 45 years and above.

No significant associations were found for respondents' education, spouse's education, marital status, religion, monthly income, or socioeconomic status (p > 0.05).

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency (n = 322)	Percentage (%)
Age group (years)		
≤24	74	23.0
25 – 34	114	35.4
35 – 44	90	28.0
≥45	44	13.6
Mean ± SD	32.73 ± 9.8	
Level of Education		
None	41	12.7
Primary	33	10.2
Secondary	73	22.7
Tertiary	175	54.3
Spouses level of education (n =214)		
None	31	14.5
Primary	31	14.5
Secondary	21	9.8
Tertiary	131	61.2
Marital Status		
Married	214	66.5
Separated/Divorced	42	13.0
Single	39	12.1
Cohabiting	15	4.7
Widowed	12	3.7
Religion		
Christianity	247	76.7
Islam	63	19.6
African tradition	12	3.7
Monthly income (₦)		

< 50,000	56	17.4
50,000 – 100,000	133	41.3
100,001 – 150,000	81	25.2
>150,000	52	16.1
Socioeconomic Status		
Low	44	13.7
Middle	193	59.9
High	85	26.4
Number of children		
None	36	11.2
1 – 4	223	69.3
>4	63	19.6

Table 2: Awareness of Maternal Health Services among Respondents

Variable	Frequency (n = 322)	Percentage (%)
Heard of maternal healthcare services		
Yes	231	71.7
No	91	28.3
Source of information on maternal healthcare services* (n=231)		
Family and friends	60	26.0
Primary health centres	49	21.2
Hospitals	48	20.8
Community meetings	44	19.0
Media	39	16.9
Known maternal health services * (n = 231)		
Antenatal care	71	30.7
Delivery services	100	43.3
Postnatal care	54	23.4
Family planning	78	33.8
Immunization	78	33.8
Self-rating of knowledge of maternal health services (n = 231)		
Poor	32	13.9
Fair	30	13.0
Good	61	26.4
Very good	52	22.5
Excellent	56	24.2
Awareness of government or non-governmental organizations promoting maternal healthcare (n=231)		
Yes	27	11.7

No	204	88.3
Frequency of receiving maternal healthcare information (n)	24	7.5
Never	9	3.9
Rarely	68	29.4
Sometimes	83	35.9
Often	31	13.4
Very often	40	17.3

*Multiple answer question

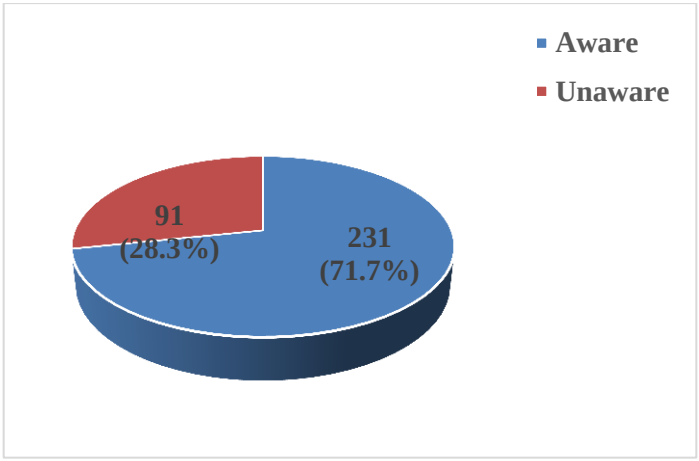

Figure 1: Pie chart showing awareness of respondents about maternal health services

Table 3: Association between sociodemographic characteristics and awareness of Maternal Health Services

Sociodemographics	Awareness of Maternal Health Services		χ^2	p-value
	Aware (n = 231) n (%)	Unaware (n = 91) n (%)		
Age group (years)				
≤24	53 (71.6)	21 (28.4)	7.352	0.061
25 – 34	73 (64.0)	41 (36.0)		
35 – 44	71 (79.8)	18 (20.2)		
≥45	34 (79.1)	9 (20.9)		
Level of Education				
None	15 (36.6)	26 (63.4)	40.413	<0.001*
Primary	17 (53.1)	15 (46.9)		
Secondary	57 (79.2)	15 (20.8)		
Tertiary	142 (81.1)	33 (18.9)		
Spouses level of education (n =214)	169 (71.3)	68 (28.7)		
None	12 (42.9)	16 (57.1)	18.846	<0.001*
Primary	10 (62.5)	6 (37.5)		
Secondary	39 (86.7)	6 (13.3)		
Tertiary	95 (76.4)	30 (23.6)		
Marital Status				
Married	155 (73.1)	57 (26.9)	11.840[a]	0.016*
Separated/Divorced	25 (57.1)	18 (42.9)		
Single	33 (84.6)	6 (15.4)		
Cohabiting	13 (86.7)	2 (13.3)		
Widowed	6 (50.0)	6 (50.0)		
Religion				
Christianity	198 (80.5)	48 (19.5)	36.712	<0.001*
Islam	27 (43.5)	35 (56.5)		
African tradition	6 (50.0)	6 (50.0)		
Monthly income (₦)				
< 50,000	45 (80.4)	11 (19.6)	14.453	<0.001*
50,000 – 100,000	83 (62.9)	49 (37.1)		
100,001 – 150,000	57 (71.3)	23 (28.7)		
>150,000	46 (88.5)	6 (11.5)		
Socioeconomic Status				
Low	16 (36.4)	28 (63.6)	35.549	<0.001*
Middle	144 (75.4)	47 (24.6)		

High	71 (83.5)	14 (16.5)		
Number of children				
None	29 (80.6)	7 (19.4)	1.454	0.483
1 – 4	158 (70.9)	65 (29.1)		
>4	44 (72.1)	17 (27.9)		

***Statistically significant, [a] Fishers' test**

Table 4: Predictors of awareness of Maternal Health Services

Variables	β co-efficient	95% CI		p-value
		Lower	Upper	
Age group (years)				
≤24	-0.539	0.179	1.899	0.371
25 – 34	0.211	0.071	0.626	0.005**
35 – 44	0.926	0.306	2.809	0.893
≥45*	1			
Level of Education				
None	0.712	0.075	6.735	0.767
Primary	0.935	0.256	3.413	0.918
Secondary	1.237	0.444	3.444	0.684
Tertiary*	1			
Spouses level of education				
None	1.130	0.141	9.035	0.909
Primary	0.210	0.076	0.584	0.003**
Secondary	0.642	0.195	2.117	0.467
Tertiary*	1			
Marital Status				
Never married	0.505	0.118	2.149	0.355
Ever married*	1			
Religion				
Christianity	4.561	0.912	22.814	0.065
Islam	1.281	0.266	6.180	0.757
African tradition	1			
Monthly income (₦)				
< 50,000	2.893	0.639	13.085	0.168
50,000 – 100,000	0.718	0.220	2.340	0.582
100,001 – 150,000	0.589	0.194	1.791	0.351
>150,000*	1			
Socioeconomic Status				

Low	0.116	0.010	1.384	0.089
Middle	0.904	0.335	2.441	0.843
High*	1			

*** Reference category ** Statistically significant R^2 = 25.9% - 37.1%**

Table 5: Attitude towards maternal health services among respondents

Variable	SD n (%)	D n (%)	N n (%)	A n (%)	SA n (%)	Mean ± S.D
Maternal healthcare supports women's and children's well-being.	1 (0.4)	3 (1.3)	12 (5.2)	39 (16.9)	176 (76.2)	3.67 ± 0.7
Maternal care is easily accessible in my community.	3 (1.3)	17 (7.4)	32 (13.9)	89 (38.5)	90 (39.0)	3.06 ± 0.9
Most women seek maternal care only when complications arise.	17 (7.4)	23 (10.0)	47 (20.3)	79 (34.2)	65 (28.1)	2.66 ± 1.1
Healthcare workers treat women respectfully and offer proper support.	20 (8.7)	31 (13.4)	33 (14.3)	72 (31.2)	75 (32.5)	2.65 ±1.3
Long wait times deter me from seeking maternal care.	16 (6.9)	29 (12.6)	42 (18.2)	79 (34.2)	65 (28.1)	2.64 ± 1.2
Women here prefer traditional birth attendants over hospital care.	18 (7.8)	29 (12.6)	40 (17.3)	80 (34.6)	64 (27.7)	2.62 ± 1.2
Maternal healthcare is affordable.	23 (10.0)	23 (10.0)	40 (17.3)	81 (35.1)	64 (27.7)	2.61 ± 1.3
Local facilities offer adequate maternal care.	10 (4.3)	27 (11.7)	49 (21.2)	105 (45.5)	40 (17.3)	2.60 ± 1.0
Traditional birth services are more effective than hospital care.	42 (18.2)	24 (10.4)	36 (15.6)	48 (20.8)	81 (35.1)	2.44 ± 1.5
Mistreatment and poor attitudes discourage me from using maternal	33 (14.3)	44 (19.0)	33 (14.3)	63 (27.3)	58 (25.1)	2.30 ± 1.4

services.

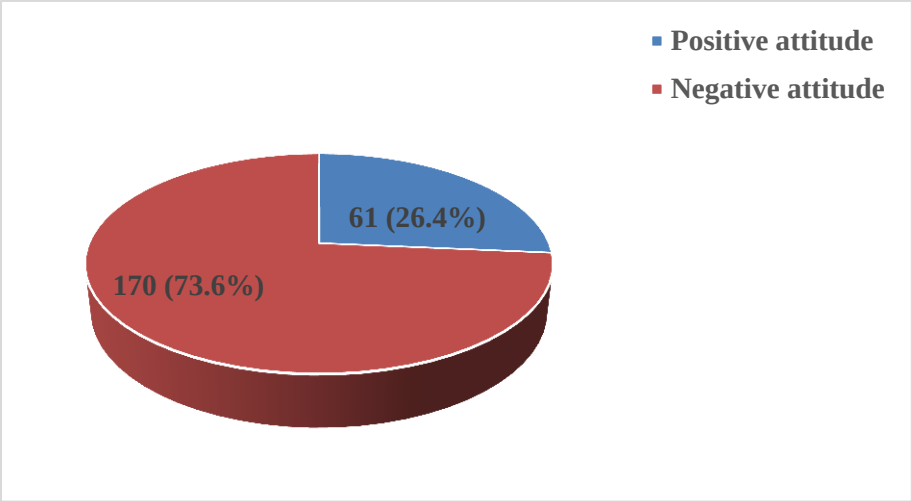

Figure 2: Attitude towards maternal health services

Table 6: Association between attitude towards maternal health services and sociodemographics

Sociodemographics	Attitude towards Maternal Health Services		χ^2	p-value
	Positive (n = 61) n (%)	Negative (n = 170) n (%)		
Age group (years)				
≤24	18 (34.0)	35 (66.0)	8.838	0.032*
25 – 34	11 (15.1)	62 (84.9)		
35 – 44	19 (26.8)	52 (73.2)		
≥45	13 (38.2)	21 (61.8)		
Level of Education				
None	8 (53.3)	7 (46.7)	7.383	0.058
Primary	6 (35.3)	11 (64.7)		
Secondary	15 (26.3)	42 (73.7)		
Tertiary	32 (22.5)	110 (77.5)		
Spouses level of education (n =155)				
None	6 (40.0)	9 (60.0)	21.891	<0.001*
Primary	0 (0.0)	18 (100.0)		
Secondary	10 (62.5)	6 (37.5)		
Tertiary	21 (19.8)	85 (80.2)		
Marital Status				
Married	37 (23.9)	118 (76.1)	18.389[a]	0.002*

Separated/Divorced	4 (16.7)	20 (83.3)		
Single	14 (42.4)	19 (57.6)		
Cohabiting	1 (7.7)	12 (92.3)		
Widowed	5 (83.3)	1 (16.7)		
Religion				
Christianity	49 (24.7)	149 (75.3)	1.887[a]	0.301
Islam	10 (37.0)	17 (63.0)		
African tradition	2 (33.3)	4 (66.7)		
Monthly income (₦)				
< 50,000	16 (35.6)	29 (64.4)	8.641	0.036*
50,000 – 100,000	25 (30.1)	58 (69.9)		
100,001 – 150,000	7 (12.3)	50 (87.7)		
>150,000	13 (28.3)	33 (71.7)		
Socioeconomic Status				
Low	8 (50.0)	8 (50.0)	8.200	0.016*
Middle	41 (28.5)	103 (71.5)		
High	12 (16.9)	59 (83.1)		
Number of children				
None	12 (41.4)	17 (58.6)	4.244	0.120
1 – 4	40 (25.3)	118 (74.7)		
>4	9 (20.5)	35 (79.5)		

*Statistically significant, [a] Fishers' test

Table 7: Predictors of positive attitude towards maternal health services among respondents

Variables	β co-efficient	95% CI		p-value
		Lower	Upper	
Age group (years)				
≤24	0.426	0.121	1.498	0.184
25 – 34	0.243	0.080	0.740	0.013**
35 – 44	0.586	0.220	1.564	0.286
≥45*	1			
Level of Education				
None	2.979	0.253	35.042	0.385
Primary	1.185	0.257	5.467	0.828
Secondary	0.859	0.312	2.366	0.769
Tertiary*	1			
Spouses level of education				
None	0.347	0.038	3.210	0.351
Primary	0.188	0.035	1.007	0.051

Secondary	2.60	0.755	9.373	0.128
Tertiary*	1			
Marital Status				
Never married	0.505	0.118	2.149	0.355
Ever married*	1			
Religion				
Christianity	4.561	0.912	22.814	0.065
Islam	1.281	0.266	6.180	0.757
African tradition	1			
Monthly income (₦)				
< 50,000	2.893	0.639	13.085	0.168
50,000 – 100,000	0.718	0.220	2.340	0.582
100,001 – 150,000	0.589	0.194	1.791	0.351
>150,000*	1			
Socioeconomic Status				
Low	0.116	0.010	1.384	0.089
Middle	0.904	0.335	2.441	0.843
High	1			

Reference category Statistically significant R^2 = 1.7% - 17.7%

Discussion

The present study assessed the awareness and attitudes towards maternal health services among reproductive-aged women in Edo State. The findings revealed that respondents were predominantly within the 25–34-year age group, with a mean age of 32.7 years, reflecting a relatively young and active reproductive population. Similar age distribution patterns have been observed in studies conducted in Nigeria and several sub-Saharan countries, where women in their twenties and early thirties constitute the largest group accessing reproductive health care.[16,17] The high proportion of tertiary-educated women (54.3%) indicates a relatively well-educated population, which is favourable for health literacy and decision-making. This pattern aligns with findings from an Ethiopian study, which showed that educational attainment significantly enhances knowledge and utilization of maternal services.[18] The predominance of married women (66.5%) also reflects the social structure of reproductive health behaviour in Nigeria, where marriage strongly influences maternal healthcare utilization.[19]

The overall awareness of maternal health services was high, as about 71.7% of respondents had heard of these services. This finding is comparable to a study conducted in Osun state, where awareness levels exceeded 80%.[20] The predominant sources of information were family, friends, health facilities, and community gatherings. This finding demonstrates that interpersonal and community-based communication still play a major role in health information dissemination in sub-Saharan Africa, especially in settings where media coverage is limited. Awareness of specific maternal

health components such as antenatal, delivery, postnatal, and immunization services was also substantial, however, the low awareness of government or non-governmental interventions suggests that formal outreach and advocacy remain weak.

The study found significant associations between awareness and several sociodemographic characteristics, including education, spouse's education, marital status, religion, income, and socioeconomic status. Awareness increased with higher educational attainment and income levels, consistent with previous research which shows that education and higher levels of income enhances women's health-seeking capacity and comprehension of health messages.[21,22] The significant role of the spouse's education in influencing awareness emphasizes the interdependence of household decision-making in reproductive health, where male partners often determine healthcare utilization. The association between religion and awareness, which showed lower awareness among Muslims and adherents of traditional faiths, mirrors patterns reported in a Ghanaian study, highlighting how religious norms may affect access to health information.[23]

Age group and spouse's education were identified as significant predictors of awareness. Younger women (25–34 years) were more likely to be aware, possibly due to greater exposure to health information via social media and routine maternal visits. Interestingly, women whose spouses had only primary education demonstrated higher awareness than those whose spouses had tertiary education, suggesting that lower-educated spouses may rely more on public health facilities where health education is routinely integrated. Although education and income were significant at the bivariate level, they lost significance in the multivariate model, indicating potential overlap among socioeconomic variables.

Regarding attitude, less than one-third of the women (26.4%) exhibited a positive attitude towards maternal health services despite relatively high awareness. This finding indicates a disconnect between knowledge and service perception, a pattern also observed in an Ethiopian study.[24] While most respondents recognized the benefits of maternal healthcare, many expressed dissatisfaction with accessibility, affordability, and staff attitudes. Perceived delays and preference for traditional birth attendants further highlight system-level barriers, consistent with previous reports of poor service delivery and mistrust of public facilities in Nigeria.[25]

A significant relationship was found between attitude and variables such as age, spouse's education, marital status, income, and socioeconomic status. Older women and widows displayed more favourable attitudes, possibly due to accumulated experience and increased perception of risk. Conversely, younger and middle-aged women were more critical of service delivery, which may reflect their higher expectations and exposure to alternative care models. Women in lower socioeconomic groups tended to show more positive attitudes, which may arise from appreciation of subsidized public health services compared to their higher-income counterparts, who may prefer private facilities.

These findings collectively point to the need for improved health education, strengthened community engagement, and better client–provider relations to enhance trust and utilization.

Conclusion

The study demonstrated that awareness of maternal health services among reproductive-aged women in Usen, Edo State was high, yet attitudes towards their utilization were largely unfavorable. Education, income, and socioeconomic class showed strong associations with awareness, while younger age and spouse's education independently predicted it. The persistence of negative attitudes despite good awareness highlights service-related and interpersonal barriers such as long waiting times, inadequate communication, and perceived disrespect from providers. These factors suggest that improving awareness alone may not translate into greater utilization without improvements in service quality and client experience.

Recommendations

Efforts should be directed toward intensifying community health education through primary health centres and local networks to sustain awareness and promote informed use of maternal services. Health workers should prioritize respectful care, reduce waiting time, and communicate effectively to strengthen client confidence. Partner involvement should be encouraged through household and community education to support shared decision-making in maternal health. Additionally, public health campaigns using local media and digital platforms can broaden outreach, particularly among older and low-income women with limited access to formal health information.

Limitations

Being a cross-sectional study, the findings cannot infer causality between awareness, attitude, and associated factors. Self-reported data may have introduced recall or social desirability bias, and the study's focus on Edo State limits generalizability to other populations. Nonetheless, the research provides useful evidence for policy and programme planning aimed at improving maternal health awareness and service perception among women in similar contexts.

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