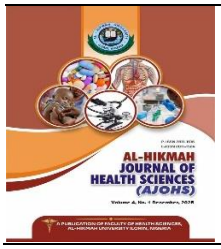
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Original Article

Barriers and Socio-Demographic Factors Associated with Acceptance of Caesarean Section Among Women of Childbearing Age in Ilorin West, Kwara State: A Cross-Sectional Study

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ABSTRACT

Introduction: Caesarean section (CS) can be life-saving when medically indicated, but fear, financial concerns and sociocultural factors may influence acceptance. This study assessed barriers to CS acceptance and examined the associations between selected socio-demographic characteristics and acceptance among women of childbearing age in Ilorin West Local Government Area, Kwara State, Nigeria.

Methods: A descriptive cross-sectional study was conducted within a period of six months among women aged 15–49 years using multistage sampling technique. Data were collected with an interviewer-administered questionnaire and analysed using IBM SPSS version 27. Descriptive and inferential (chi-square test) statistics were used. Statistical significance was set at $p<0.05$.

Results: Of 420 questionnaires administered, 398 were analysed. Fear of complications was the most reported barrier (183; 46.0%), followed by fear of death (159; 39.9%), pain (143; 35.9%) and cost (123; 30.9%). Acceptance was significantly associated with age ($p=0.002$), marital status ($p<0.001$), religion ($p<0.001$), educational level ($p<0.001$), number of living children ($p=0.004$) and household income ($p=0.003$), but not ethnicity ($p=0.191$).

Conclusion: Acceptance of CS in Ilorin West is influenced by procedural fears and socioeconomic circumstances, alongside socio-demographic differences. Maternal health interventions should provide counselling that addresses fears, misconceptions and financial concerns while supporting informed decision-making when CS is medically indicated.

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Introduction

Caesarean section (CS) is an important obstetric intervention that can prevent maternal and perinatal morbidity and mortality when vaginal birth is not possible or is considered unsafe. Its appropriate use is therefore an important component of safe maternity care (Bubpawong et al., 2025). However, women's knowledge, perceptions, previous experiences, beliefs, preferences and the social environment in which childbirth decisions are made can influence their willingness to accept the procedure (Mazzoni et al., 2011; Elom et al., 2023).

Several factors have been reported in relation to women's views of CS. Fear of complications, concerns

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about the safety of the mother or baby, pain, cost and misconceptions about the procedure have been identified in Nigerian and international literature (Omotayo *et al.*, 2022; Olaoye *et al.*, 2026).

Understanding the specific barriers identified by women is therefore important for developing interventions that support informed decision-making regarding medically indicated CS. The present study therefore aimed to examine the barriers that women identified as potentially preventing acceptance of Caesarean section and assessed the association between selected socio-demographic characteristics and acceptance among women of childbearing age in Ilorin West Local Government Area, Kwara State.

Materials and Methods

Study design and Area

This study adopted a descriptive cross-sectional study design and was conducted in Ilorin West Local Government of Ilorin, (Kwara State) with a projected population of approximately 548,300 and an area of 105 km² (Adewuyi et al., 2021). Data collection was conducted from 6th April to 24th June, 2026.

Study population

The study population comprised women aged 15–49 years residing in Ilorin West Local Government Area.

Sample size and sampling

The sample size was determined using the Cochran (1977) formula, with a prevalence estimate of 50.5% (Afolabi *et al.*, 2025), at a 95% confidence level. A minimum sample size of 384 was obtained, and an additional 10% was added to account for non-response, which brought the total sample size to approximately 420 respondents.

A multistage sampling technique was used. Seven wards were selected to represent urban and semi-urban areas. Within the selected wards, communities/enumeration areas were identified and selected. Households within the selected enumeration areas were subsequently visited, and eligible women were recruited. Where more than one eligible woman was present in a household, one respondent was selected by simple random selection/balloting.

Data collection instrument

Data were collected using a structured, interviewer-administered questionnaire which was reviewed for validity by experts in maternal and child health, public health and research methodology. A pretest was conducted among 35 women of childbearing age in Ilorin South Local Government Area.

Data analysis

Data were cleaned, coded and entered into IBM SPSS Statistics Version 27. Frequencies, percentages, means and standard deviations were used for descriptive analysis, while the Chi-square test assessed associations between selected socio-demographic characteristics and acceptance of Caesarean section. Statistical significance was set at $p < 0.05$.

Ethical considerations

Ethical approval was obtained from the Kwara State Ministry of Health Ethical Review Committee prior to data collection (ERC/MOH/2026/05/661). Participants' informed consent was obtained, anonymity maintained, and confidentiality assured.

Results

Socio-demographic Characteristics of Respondents

A total of 420 questionnaires were administered. Of these, 414 questionnaires were retrieved, 398 of them were completed, and found suitable for analysis while the remaining 16 questionnaires were invalid.

The socio-demographic characteristics indicate that most were young adult women, with 145 (36.4%) aged 25–29 years. Most were married (221; 55.5%), practised Islam (303; 76.1%), and belonged to the Yoruba ethnic group (341; 85.7%).

The findings further revealed that most respondents had attained tertiary (227; 57.04%) or postgraduate (152; 38.19%) education. This concentration of highly educated participants is important when interpreting the findings and limits the extent to which the results can be generalized to women with lower levels of formal education in the wider community.

Table 1: Socio-demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	Below 20	8	2.0
	20 - 24	64	16.1
	25 - 29	145	36.4
	30 - 34	103	25.9
	35 - 39	41	10.3
	40 - 49	37	9.3
Marital Status	Single	154	38.7
	Married	221	55.5
	Divorced	21	5.3
	Widowed	2	0.5
Religion	Islam	303	76.1

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	Christianity	90	22.6
	Traditional	5	1.3
Ethnic Group	Hausa	5	1.3
	Yoruba	341	85.7
	Igbo	26	6.5
	Fulani	3	0.8
	Nupe	5	1.3
	Other	18	4.5
Number of Living Children	None	175	43.97
	1 - 2	134	33.67
	3 - 4	74	18.59
	5 and above	15	3.77
Highest Level of Education	No Formal Education	3	0.75
	Primary	2	0.50
	Secondary	14	3.52
	Tertiary	227	57.04
	Postgraduate	152	38.19
Average Monthly Income	< 50,000	71	17.8
	50,000 - 100,000	108	27.1
	101,000 - 200,000	85	21.4
	201,000 - 500,000	96	24.1
	Above 500,000	38	9.5

Source: Field Survey (2026)

Reported barriers to acceptance of Caesarean section

Fear of complications, fear of death, pain and cost were the most frequently reported barriers to acceptance, accounting for 183 (46.0%), 159 (39.9%), 143 (35.9%) and 123 (30.9%), respectively.

Table 2: Factors Preventing the Acceptance of Caesarean Section

Factors Preventing Acceptance	Yes	No
Fear of death	159 (39.9%)	239 (60.1%)
Pain	143 (35.9%)	255 (64.1%)
Cost	123 (30.9%)	275 (69.1%)
Cultural belief	24 (6.0%)	374 (94.0%)
Religious belief	15 (3.8%)	383 (96.2%)
Family influence	30 (7.5%)	368 (92.5%)
Stigma	25 (6.3%)	373 (93.7%)
Fear of complications	183 (46.0%)	215 (54.0%)
Other	7 (1.8%)	391 (98.2%)

Association between socio-demographic characteristics and acceptance

Chi-square analysis showed statistically significant associations between acceptance of Caesarean section and age, marital status, religion, highest educational level, number of living children and average monthly household income (all $p < 0.05$).

Table 3: Association Between Socio-demographic Characteristics and Acceptance of Caesarean Section

Socio-demographic Factors/Categories	Accepted n (%)	Rejected n (%)	Not Sure n (%)	χ^2 Value	df	P - value
Age Below 20 20 - 24 25 - 29 30 - 34 35 - 39 40 - 49	6 (1.7) 60 (16.9) 122 (34.4) 98 (27.6) 37 (10.4) 32 (9.0)	0 (0.0) 0 (0.0) 3 (30.0) 1 (10.0) 2 (20.0) 4 (40.0)	2 (6.1) 4 (12.1) 20 (60.6) 4 (12.1) 2 (6.1) 1 (3.0)	27.832	10	0.002*

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Marital Status Single Married Divorced Widowed	139 (39.2) 198 (55.8) 18 (5.1) 0 (0.0)	1 (10.0) 5 (50.0) 2 (20.0) 2 (20.0)	14 (42.4) 18 (54.5) 1 (3.0) 0 (0.0)	84.383	6	< 0.001*
Religion Islam Christianity Traditional	275 (77.5) 78 (22.0) 2 (0.6)	4 (40.0) 3 (30.0) 3 (30.0)	24 (72.7) 9 (27.3) 0 (0.0)	70.008	4	< 0.001*
Ethnic Group Hausa Yoruba Igbo Fulani Nupe Other	5 (1.4) 306 (86.2) 24 (6.8) 3 (0.8) 3 (0.8) 14 (3.9)	0 (0.0) 9 (90.0) 1 (10.0) 0 (0.0) 0 (0.0) 0 (0.0)	0 (0.0) 26 (78.8) 1 (3.0) 0 (0.0) 2 (6.1) 4 (12.1)	13.612	10	0.191
Highest Educational Level No Formal Primary Secondary Tertiary Postgraduate	3 (0.8) 1 (0.3) 12 (3.4) 199 (56.1) 140 (39.4)	0 (0.0) 1 (10.0) 2 (20.0) 3 (30.0) 4 (40.0)	0 (0.0) 0 (0.0) 0 (0.0) 25 (75.8) 8 (24.2)	32.930	8	<0.001*
Number of Living Children None 1 - 2 3 - 4 5 and Above	151 (42.5) 123 (34.6) 67 (18.9) 14 (3.9)	3 (30.0) 1 (10.0) 6 (60.0) 0 (0.0)	21 (63.6) 10 (30.3) 1 (3.0) 1 (3.0)	19.377	6	0.004*
Average Monthly Houshold Income < 50,000 50,000 - 100,000 101,000 - 200,000 201,000 - 500,000 Above 500,000	58 (16.3) 95 (26.8) 78 (22.0) 93 (26.2) 31 (8.7)	6 (60.0) 3 (30.0) 1 (10.0) 0 (0.0) 0 (0.0)	7 (21.2) 10 (30.3) 6 (18.2) 3 (9.1) 7 (21.2)	23.658	8	0.003*

* statistical significance = $p < 0.05$

Discussion

The present study found that the most prominent reported barriers to acceptance of Caesarean section were fear of complications, fear of death, pain and cost. The prominence of fear is consistent with findings from other Nigerian settings (Panti et al., 2018; Omotayo et al., 2022). Therefore, within this population, practical and emotional concerns relating to safety, pain and affordability were more frequently identified as direct barriers than cultural or religious beliefs.

Also, a recent Ilorin study by Sulyman (2026) provides local evidence that fear of surgery, cost, recovery time and cultural beliefs are major factors influencing acceptance. Among the 109 pregnant respondents, 89.2% were aware and 66.7% were willing to accept Caesarean section if medically indicated.

In this study, pain was also identified as a barrier by 35.9% of respondents. Concerns about pain may reflect expectations about postoperative experience rather than rejection of the medical indication itself. Cost was identified as a barrier by 30.9% of respondents, and household income was significantly associated with acceptance. This finding is consistent with Omotayo *et al.* (2022) and Sulyman (2026), suggesting that improving knowledge alone may not be sufficient when women remain concerned about the affordability of Caesarean delivery and associated costs.

In assessing perception and awareness of CS, cultural and religious factors require a careful interpretation. Only 6.0% of respondents identified cultural belief and 3.8% identified religious belief as direct factors that could prevent acceptance. However, religion was significantly associated with acceptance in the present study. This apparent difference between the low

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proportion identifying religion as a direct barrier and the statistically significant association suggests that religious affiliation may be related to acceptance through broader social norms, values, family expectations or other contextual influences.

The present study also found statistically significant associations between acceptance of Caesarean section and age, marital status, religion, highest educational level, number of living children and average monthly household income with ethnicity not significantly associated with acceptance.

The significant association between educational level and acceptance is supported by some Nigerian evidence (Omotayo et al., 2022; Afolabi et al., 2025). However, the educational distribution in the present sample requires cautious interpretation. The vast majority of respondents (95.23%) had tertiary or postgraduate education. Therefore, the observed association should not be interpreted as representative of the educational distribution of all women of childbearing age in Ilorin West. The finding may reflect the characteristics of the women reached through the study's sampling process. The cross-sectional design also cannot establish that higher formal education causes acceptance.

Edward *et al.* (2023) found that awareness and acceptance of Caesarean section increased after guided education, suggesting that the quality and content of health information may be more actionable than educational qualifications alone.

Age, marital status and number of living children were also significantly associated with acceptance. These relationships may reflect differences in reproductive experience, exposure to childbirth information and family involvement, although the cross-sectional design cannot establish the mechanisms responsible.

Consequently, improving informed acceptance of medically indicated Caesarean section in Ilorin West is unlikely to be achieved through awareness campaigns alone. Maternal health education should address fear of complications, death and pain, while providing clear information on indications, benefits, risks, recovery, costs and possible implications for future pregnancies. Counselling should also allow women to discuss cultural, religious and family concerns without assuming that these are the dominant reasons for non-acceptance.

Conclusion

Fear of complications, fear of death, pain and cost were the most frequently reported barriers, while cultural and religious beliefs were less frequently reported as direct reasons for non-acceptance. In addition, acceptance was significantly associated with age, marital status, religion, educational level, number of living children and household income, while ethnicity was not significantly associated.

Limitations of the study

The cross-sectional design does not permit conclusions about causal relationships between socio-demographic characteristics and acceptance of Caesarean section.

The study relied on self-reported responses, which may have been affected by recall bias or social desirability bias, particularly because childbirth preferences and beliefs may be sensitive issues.

The study revealed a disproportionately high number of respondents with tertiary or postgraduate education, limiting representation of women with lower levels of formal education in the wider community.

Recommendations

Routine health education on Caesarean section should be strengthened and balanced.

Counselling should address fear and misconceptions directly rather than limiting health education to general information about Caesarean section.

Counselling on the financial implications of caesarean section and access to financing should be improved

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