



ORIGINAL ARTICLE

An Assessment of Parents' Knowledge, Attitudes, and Practices in Delivering Sex Education to Adolescent Children in A Rural Community, South-West, Nigeria

Akanbi IM,¹ Aremu AO,¹ Idowu A,¹Ogunlaja OA,²Eribewe OF,¹ Olamide BB,¹Emikpe FO,¹Jesse KD,¹Ezeanowai NH¹, Ajila OC,¹Aboloye JS,¹Onaniyi BO,¹Odunaro SK,¹ Oluwole JO,¹ Bello T,¹ Lawrence-Hart, T¹ Olajide T,¹ George OE.¹

¹Department of Community Medicine, Bowen University, Iwo, Osun State

²Department of Obstetrics and Gynaecology, Bowen University, Iwo, Osun State

Keywords

Adolescents,
Attitude,
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Knowledge,
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ABSTRACT

Background: In Nigeria, the persistent “culture of silence” surrounding sex education contributes to rising rates of teenage pregnancies, school dropouts and sexually transmitted infections (STIs) among adolescents. This study assessed parents' knowledge, attitudes, and practices in delivering sex education to adolescent children in a rural community, south-west, Nigeria

METHODS: A cross-sectional study was conducted between December 2024 and February 2025 among 400 consenting parents or guardians of adolescents using a multistage sampling method. Data was collected using a pre-tested questionnaire. Data were entered into IBM SPSS version 25. Univariate, bivariate, and multivariate analyses were conducted at a 5% level of statistical significance. Ethical approval was obtained to conduct the study.

RESULTS: The mean age ($\pm$ SD) of respondents was 44.0 ± 8.8 years. Two hundred and fifty-five (63.7%) had good knowledge about sex education, while 369 (92.2%) had a positive attitude toward sex education. Two hundred and fifty-five (80.4%) parents started sex education with their children between the ages of 10 and 19 years. Predictors of sex education practice among respondents were age (AOR = 0.20, 95% C.I 0.077 - 0.533), gender (AOR = 0.47, 95% C.I 0.272 - 0.827), knowledge (AOR = 0.29, 95% C.I 0.165 - 0.492), and attitude (AOR = 0.11, 95% C.I 0.045 - 0.249).

CONCLUSION: The findings highlight strong parental support for sex education and a growing awareness of its importance. However, enhancing parental education through community-based interventions and training programs could improve the effectiveness of sex education, fostering open discussions and informed decision-making among adolescents.

Correspondence to:

Ibukun Mary Akanbi

Email: ibukunakanbi95@gmail.com

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INTRODUCTION

It has been established in literature that the social and cultural environment of most African communities is governed by the "culture of silence" when it comes to discussing sexual issues, because sex-related topics are considered taboo.¹ This cultural constraint limits access to essential sexual and reproductive health (SRH) education, particularly for adolescents. According to the World Health Organization, adolescence spans the ages of 10 to 19, a critical period that shapes lifelong health behaviors.²

Globally, there are an estimated 1.2 billion adolescents, with Nigeria accounting for a significant portion of those in developing countries.² Inadequate sex education has been linked to high rates of sexually transmitted infections (STIs), unintended pregnancies, school dropouts, and unsafe abortions.^{3,4} A study reported that over one-third of adolescents in Nigeria engage in abortions.⁵ According to the 2018 Nigeria Demographic and Health Survey (NDHS), approximately 1 in 5 adolescent females had commenced childbearing. This rate varied considerably across geopolitical zones, with the North-West recording a rate of 28.5 births per 1,000 adolescent females aged 15 to 19 years, in contrast to the South-West, which registered a notably lower rate of 5.5 per 1,000.⁶ A study among adolescents in South-South Nigeria revealed that 75% of aborted pregnancies had abortion-related complications.⁷

A major contributor to these adverse health outcomes among adolescents is the lack of communication between parents and adolescents regarding SRH. Poor parental guidance increases the risks of early pregnancy, school dropout, and economic hardship.^{8,9}

Studies have shown that most adolescents' sources of sex education are peers, media, and other channels, with few receiving sex education from their parents.^{10 - 12} Parental involvement is critical in ensuring adolescents make informed and responsible sexual health choices. However, cultural taboos discourage open discussions, leading many parents to either avoid the topic or instill fear rather than education. Many parents also struggle with how to approach sex education, fearing it may encourage sexual activity.^{13, 14}

Understanding the parental perspectives about sex education in rural settings is essential to bridging the gap between cultural practices and the need for the provision of comprehensive and practical sex education. This study is necessary in a rural community, where longstanding socio-cultural beliefs about sex education remain prevalent.¹⁵ Also, previous studies have focused more on the parental attitude and practice of providing sex education among adolescents in urban areas. Still, there is a paucity of data on parental attitudes and practices regarding the provision of sex education among adolescents in rural communities.^{14, 16, 17} Furthermore, this study is particularly timely and relevant, aligning with broader national and global health priorities, including the United Nations' Sustainable Development Goals (SDGs). In particular, it supports Goal 3, which focuses on ensuring good health and well-being. To fill existing gaps, the study explored parental knowledge, attitudes and practices related to sex education within a rural community of Osun State, Nigeria.

TABLES AND FIGURES

Table 1: Socio-demographic characteristics of the respondents.

Variable	Frequency (n = 400)	Percentage (%)
Age as at last birthday (in years)		
≤ 30 (Young Adults)	28	7.0
31 – 45 (Middle-aged Adults)	210	52.5
> 45 (Old Adults)	162	40.5
<i>Mean ± SD = 44.0 ± 8.8</i>		
Gender		
Female	222	55.5
Male	178	44.5
Religion		
Islam	204	51.0
Christianity	193	48.2
Traditional	3	0.8
Ethnicity		
Yoruba	378	94.5
Igbo	13	3.3
Others*	9	2.2
Marital status		
Married	376	94.0
Widow	16	4.0
Separated/ Divorced	8	2.0
Family structure		
Monogamous	292	73.0
Polygamous	108	27.0
Level of Education		
No formal education	36	9.0
Primary	69	17.2
Secondary	179	44.8
Tertiary	116	29.0
Occupation		
Trading	201	50.2
Artisan	101	25.2
Civil service	59	14.8
Farming	22	5.5
Unemployed	17	4.3
Frequency of children aged 10 – 19 years (adolescent)		
1	203	50.7
2	133	33.3
≥ 3	64	16.0
<i>Mean ± SD = 1.7 ± 0.8</i>		

Others – Hausa / Fulani (7), Iteskiri (1), Foreigner (1)*

METHODOLOGY

The study was carried out in the Ejigbo community, Ejigbo LGA, Osun State, in the South Western part of Nigeria. Ejigbo LGA has a projected population of approximately 182,500.¹⁸

Study Design: This community-based study employed a cross-sectional design, with data collection conducted in January 2025.

Study Population: The study population consisted of 400 parents or guardians of adolescents (10-19 years) residing in the Ejigbo community, Osun State

Selection criteria: In this study, inclusion criteria were parents or guardians of children aged 10-19 years who provided consent and were permanent or long-term residents of the community. Parents or guardians who were unfit to give valid responses due to significant physical or mental handicaps were excluded

from the study.

Sample size determination: The minimum sample size for the study was calculated using the Leslie Kish formula for a single proportion. A 95% confidence level was established with a standard normal deviate of 1.96, and a tolerable margin of error was set at 5%. The proportion of parents in a rural community from a previous study who exhibited a positive attitude towards sex education was 74.5%.¹⁷ A 10% non-response rate was anticipated and accounted for.

Therefore, the initial minimum sample size was calculated as 321, which was then increased by 1.2% to adjust for potential cluster effects. This resulted in a revised estimated sample size of 385. Ultimately, 400 respondents participated in the study.

Sampling techniques: A multi-stage sampling technique was used to recruit respondents in four stages.

Stage 1: Ejigbo was purposefully chosen.

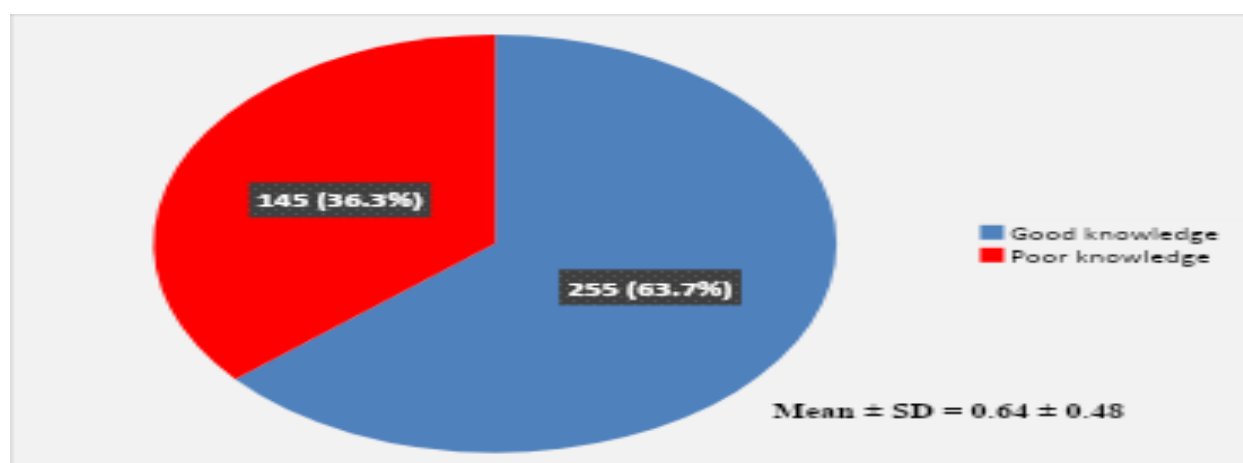


Figure 1: Categorised Knowledge Score of Respondents about Sex Education.

Stage 2: Four enumeration areas were randomly picked from a list provided by the Local Government Authority.

Stage 3: A comprehensive list of all households within each designated enumeration area was compiled, and systematic random sampling was employed to select households from which eligible respondents were subsequently chosen.

Stage 4: Consenting adult men and women in selected houses were interviewed until the target sample size was reached. If no eligible adult was found, the next house was selected.

Data collection method and instrument: A pre-tested, semi-structured and interviewer-administered questionnaire was employed for

data collection. The questionnaire was developed after reviewing relevant literature related to the research topic. The questionnaire was translated into the Yoruba language for respondents who preferred to communicate in their native language; a back-translation into English was performed to preserve the original meanings of the questions asked. A group of fourteen medical students who were on a rural posting during the study implementation were trained by the principal investigator and assisted with data collection. Pretesting involved forty respondents in another (Oko) community, Oyo State, employing convenience sampling to enhance the instrument's validity. Two public

health experts reviewed the questionnaire for

face and content validity.

Table 2: Respondent's attitudes to sex education.

Variable	Frequency (n = 400)	Percentage (%)
Sex education is necessary for adolescents		
Agreed	371	82.8
Neutral	9	2.2
Disagreed	20	5.0
Importance of sex education to adolescent development		
Important	354	88.5
Neutral	32	8.0
Not important	14	3.5
Discussing sex education with adolescents will encourage bad behaviour		
Agreed	92	23.0
Neutral	53	13.3
Disagreed	255	63.7
Cultural and religious beliefs should influence attitude towards sex education		
Agreed	207	51.7
Neutral	9	2.3
Disagreed	184	46.0

Data management: This involved verifying data completeness and accuracy, followed by assigning serial numbers to each entry for easy identification. Open-ended responses were coded using a specially developed guide, and all data were entered into a computer. Analysis was performed with SPSS version 25. Initially, a descriptive analysis of all variables was conducted. Categorical variables were summarized as frequencies and percentages, while continuous data were presented as means with standard deviations.

Bivariate analysis used the Chi-square test, and logistic regression was applied as appropriate, with significance set at $p < 0.05$.

Measurement of outcome variables

i. Respondents' knowledge on sex education: nine questions were asked to estimate the overall respondents' knowledge about sex education. The correct response was scored 1, and a wrong

answer was scored 0. Respondents who scored below the calculated mean score of 0.64 ± 0.48 were considered to have poor knowledge, while those who scored up to or above the mean score were classified as having good knowledge.

ii. Attitude towards sex education: Six statements were formulated positively to evaluate this variable. Responses were measured using a Likert scale, ranging from 'Agreed/Important' (5 points) to 'Disagreed/Not important' (1 point). Participants who achieved at least 50% of the maximum score were classified as having a negative attitude, indicating disapproval of sex education. Conversely, those with lower scores were identified as having a positive attitude, signifying approval of sex education.

iii. Practice of sex education: This was estimated by calculating the proportion of respondents who had discussed sexual issues with their adolescents before the survey.

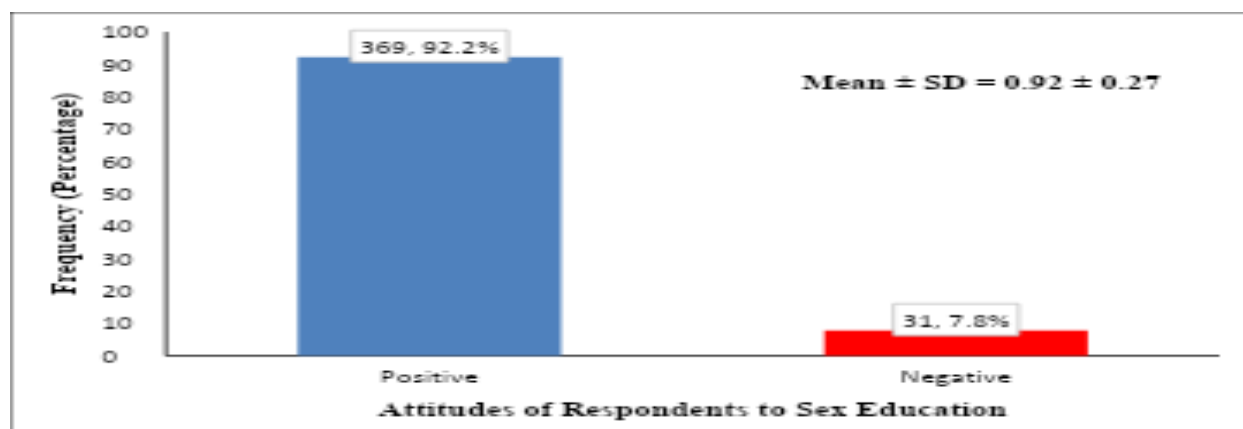


Figure 2: Overall Attitude Score of Respondents about Sex Education.

Ethical consideration: An ethical approval was obtained from the Ethical Review Committee of the Bowen University Teaching Hospital, Ogbomoso, Oyo State (NHREC/12/04/2012; BUTH/REC-2378) before commencement of the Study. Permission to carry out the research was obtained from the community head. Written informed consent was obtained from study participants after they were adequately informed about the study objectives. Participation was entirely voluntary; participants were assured of this and allowed to opt out at any stage when they no longer felt comfortable with the interview process. Responses from the study participants were kept strictly confidential, and questionnaires were made anonymous through

coding rather than the use of names as personal identifiers. Data were entered into a computer, which was accessible only to the researchers.

RESULTS

The mean age of the respondents is 44.0 $\pm$ 8.8 years, with the majority (210; 52.5%) within the 31–45 years age group. Most of the respondents are female (222, 55.5%), Muslim (204, 51.0%), from the Yoruba ethnic group (378, 94.5%), married (376, 94.0%), and from a monogamous family (292, 73.0%). Almost half (44.8%) of the respondents had a secondary level of education, 201 (50.2%) of the respondents were traders, and 203 (50.7%) of the respondents had one child aged 10–19 years (Table 1).

Table 3: Practices of sex education among respondents.

Variable	Frequency (n = 400)	Percentage (%)
Starts sex education with adolescent children at age:	(n = 317)	
< 10 years	58	18.3
10 – 19 years	255	80.4
> 19 years	4	1.3
<i>Mean ± SD = 11.6 ± 3.5 years</i>		
Often discuss sex-related topics with adolescent children	(n = 317)	
Frequently	157	49.5
Occasionally	147	46.4
Rarely	13	4.1
Discussing sex-related topics with adolescent children is:	(n = 317)	
Comfortable	274	86.4
Not comfortable	43	13.6
Methods used to communicate with child about sex-related topics**	(n = 317)	
Open conversations	302	95.3
Healthcare providers	63	19.9
Books or educational materials	41	12.9
Online resources	27	8.5
Others (<i>Religious teachings</i>)	1	0.3
Challenges faced in discussing sex education with children**	(n = 317)	
Lack of confidence	66	20.8
Fear of encouraging promiscuity	80	25.2
Inadequate knowledge about sex education	36	11.4
Cultural or religious constraints	35	11.0
No challenges/ barriers faced	167	52.7
Others*	16	5.0
Has adequate resources to educate children about sexual health		
Yes	246	61.5
No	154	38.5
Support(s) needed to make sex education easier for adolescent children**		
Training or workshops	171	42.8
Books or educational materials	172	43.0
Support from schools or community leaders	243	60.8
Others**	47	11.8

** Multiple responses allowed Others* – Time constraint, Poor communication skill, Lack of knowledge, Lack of concentration by the child Others** – Don't know, Support from religious centres, Media support

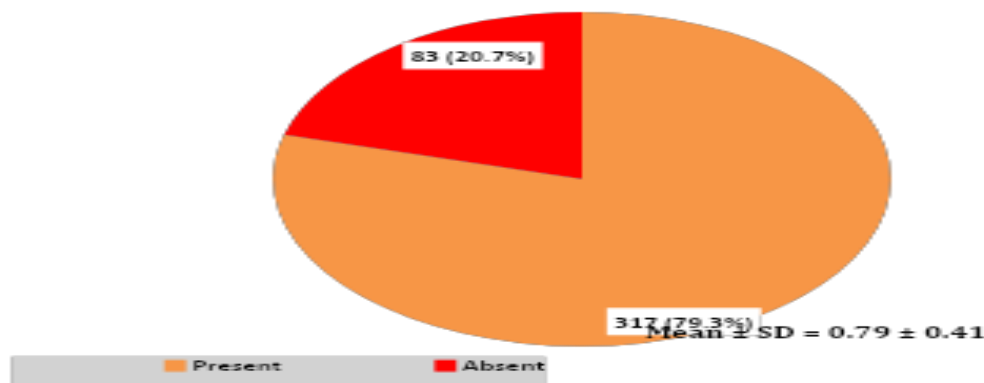


Figure 3: Practices of Sex Education among Respondents.

Three hundred and seventeen (79.3%) of the respondents provided sex education to their adolescents (see Figure 3). Among 317 respondents who discussed sexual issues with adolescents, the mean age at which sex education commenced was 11.6 ± 3.5 years, predominantly within the age range of 10 to 19 years. Approximately 157 respondents (49.5%) regularly engage in discussions on sex-related topics, 274 respondents (86.4%) report feeling comfortable, 302 respondents (95.3%) maintain open conversations, and 167 respondents (52.7%) encounter no barriers when discussing sex with adolescents. Among the surveyed individuals, 246 respondents (61.5%) believe they have adequate resources to educate adolescents about sexual health. Meanwhile, 243 respondents (60.8%) expressed the need for support from educational institutions and community leadership to improve the effectiveness of sex education for adolescents (Table 3).

Factors associated with the practice of providing sex education include the respondents' age ($p = 0.011$), gender ($p = 0.045$), knowledge about sex education ($p < 0.001$) and their attitude towards sex education ($p < 0.001$) (Table 4a and 4b). Respondents' age, gender, knowledge about sex education, and attitude towards sex education were predictors of the provision of sex education practices. Respondents 30 years and below were 80% less likely to practice sex education compared with those above 45 years (AOR = 0.20, 95% C.I. 0.077 - 0.533). Male respondents were 53% less likely to practice adolescent sex education compared to females (AOR = 0.47, 95% CI 0.27-0.82). Respondents with poor knowledge about adolescent sex education were 71% less likely to engage in providing adolescent sex education compared with those with good knowledge (AOR = 0.29, 95% C.I. 0.165 - 0.492).

Table 4a: Socio-demographic and other factors associated with the sex education practices

Socio-Demographic	Practices of sex education		Total n = 400	Statistics
	Good n = 317	Poor n = 83	(%)	
Age as at last birthday (in years)				
≤ 30 (Young Adults)	17 (5.4)	11 (13.3)	28 (7.0)	$\chi^2 = 8.976$ df = 2 p = 0.011*
31 – 45 (Middle-aged Adults)	163 (51.4)	47 (56.6)	210 (52.5)	
> 45 (Old Adults)	137 (43.2)	25 (30.1)	162 (40.5)	
Gender				
Male	133 (42.0)	45 (54.2)	178 (44.5)	$\chi^2 = 4.004$ df = 1 p = 0.045*
Female	184 (58.0)	38 (45.8)	222 (55.5)	
Religion				
Christianity	157 (49.5)	36 (43.4)	193 (48.3)	$\chi^2 = 2.559$ df = 2 p = 0.278
Islam	157 (49.5)	47 (56.6)	204 (51.0)	
Traditional	3 (0.9)	0 (0.0)	3 (0.8)	
Ethnicity				
Yoruba	300 (94.6)	78 (94.0)	378 (94.5)	$\chi^2 = 4.220$ df = 2 p = 0.121
Igbo	12 (3.8)	1 (1.2)	13 (3.3)	
Others*	5 (1.6)	4 (4.8)	9 (2.3)	
Marital status				
Married	300 (94.6)	76 (91.6)	376 (94.0)	$\chi^2 = 2.792$ df = 2 p = 0.248
Widow	10 (3.2)	6 (7.2)	16 (4.0)	
Separated/ Divorced	7 (2.2)	1 (1.2)	8 (2.0)	
Family structure				
Monogamous	226 (71.3)	66 (79.5)	292 (73.0)	$\chi^2 = 2.258$ df = 1 p = 0.133
Polygamous	91 (28.7)	17 (20.5)	108 (27.0)	
Level of Education				
No formal education	29 (9.1)	7 (8.4)	36 (9.0)	$\chi^2 = 2.231$ df = 3 p = 0.526
Primary	59 (18.6)	10 (12.0)	69 (17.3)	
Secondary	138 (43.5)	41 (49.4)	179 (44.8)	
Tertiary	91 (28.7)	25 (30.1)	116 (29.0)	

- Likelihood ratio

* - Statistically significant Others* – Hausa / Fulani, Iteskiri, Foreigner

Additionally, respondents with a poor attitude towards adolescent sex education were 89% less likely to engage in providing adolescent sex education compared with those with a positive attitude (AOR = 0.11, 95% C.I. 0.045 - 0.249) (Table 5).

DISCUSSION

This study was conducted to assess parental knowledge, attitudes and practices regarding providing sex education among adolescent

children in a rural community of Nigeria. About two-thirds of parents in this study had good knowledge scores about sex education. Despite this finding, misconceptions still persist about sex education, such as the belief that avoiding communication with the opposite sex should be part of sex education. This suggests that cultural beliefs may shape parental perspectives, aligning with a similar study that highlighted the influence of societal norms on sex education discussions in Nigeria.¹⁸

Table 4b: Socio-demographic and other factors associated with the Sex Education practices.

Socio-Demographic	Practices of sex education			Statistics
	Good n = 317 (%)	Poor n = 83 (%)	Total n = 400 (%)	
Occupation				
Unemployed	12 (3.8)	5 (6.0)	17 (4.3)	$\chi^2 = 2.556$ df = 4 p = 0.635
Artisan	77 (24.3)	24 (28.9)	101 (25.3)	
Trader	161 (50.8)	40 (48.2)	201 (50.2)	
Farmer	17 (5.4)	5 (6.0)	22 (5.5)	
Civil servant	50 (15.8)	9 (10.8)	59 (14.8)	
Frequency of children aged 10 – 19 years (adolescent)				
1	153 (48.3)	50 (60.2)	203 (50.7)	$\chi^2 = 5.723$ df = 2 p = 0.057
2	107 (33.8)	26 (31.3)	133 (33.3)	
≥ 3	57 (18.0)	7 (8.4)	64 (16.0)	
Categorised Knowledge Score				
Good	223 (70.3)	32 (38.6)	255 (63.7)	$\chi^2 = 28.770$ df = 1 p < 0.001*
Poor	94 (29.7)	51 (61.4)	145 (36.3)	
Categorised Attitude Score				
Good	307 (96.8)	62 (74.7)	369 (92.3)	$\chi^2 = 45.126$ df = 1 p < 0.001*
Poor	10 (3.2)	21 (25.3)	31 (7.8)	

- Likelihood ratio * - Statistically significant

It is encouraging to note that approximately two-thirds of respondents rejected the assertion that sex education fosters inappropriate behavior, indicating a notable departure from conventional perspectives that associate such discourse with moral decline.²² This is consistent with studies suggesting that sex education does not lead to increased sexual activity but rather promotes informed decision-making among adolescents.¹⁰ The majority (nine out of ten respondents) had a positive attitude towards sex education.

Moreover, about three-quarters of the respondents recognized that sex education ought to start between the ages of 10 and 19. Also, nearly all respondents believed that parents should take primary responsibility for delivering sex education. This aligns with findings from a comparable study conducted in two Nigerian states (Ekiti and Kaduna States) on the perception of parents of high school students about adolescent sexual and reproductive needs. This study revealed that 90% of parents also acknowledged their significant role in educating their children about sexuality.¹⁹ Nevertheless,

this belief differed from the findings of a study conducted in Australia, where 65% of the respondents felt that parents and schools should be responsible for sex education.²⁰ This disparity may be ascribed to the fact that, in early childhood, a substantial portion of time is customarily spent at home or in school settings.

The World Health Organization (WHO) recommends the initiation of sex education from the age of five.²¹ Nevertheless, findings from

this study reveal that only approximately one-fifth of respondents commenced sex education for their children before reaching the age of ten—a proportion that is markedly low within this population. Hence, all tiers of healthcare delivery systems must implement targeted interventions aimed at sensitizing parents to the critical importance of early sexual education for their children.

Table 5: Predictors of the Practices of Sex Education among Respondents.

Socio-Demographic	Practices of sex education			Statistics
	Good n = 317 (%)	Poor n = 83 (%)	Total n = 400 (%)	
Occupation				
Unemployed	12 (3.8)	5 (6.0)	17 (4.3)	$\chi^2 = 2.556$ df = 4 p = 0.635
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Categorised Attitude Score				
Good	307 (96.8)	62 (74.7)	369 (92.3)	$\chi^2 = 45.126$ df = 1 p < 0.001*
Poor	10 (3.2)	21 (25.3)	31 (7.8)	

* - Statistically significant

Although most parents held a positive attitude toward sex education, their actual practices varied widely. Approximately 80% engaged in some form of sex education with their children,

yet fewer than half discussed sexual matters frequently, and nearly half did so only occasionally.

The average age at which sex education was initiated was 11.6 years, but this was not a surprise because most respondents in this study started sex education after 10 years. Open dialogue was the primary approach employed; however, expert resources were largely underutilized, with only one in five parents consulting healthcare professionals and just over one in ten referring to books or educational materials. Several challenges made these conversations difficult, such as fears of encouraging promiscuity, low self-esteem, and limited knowledge about the topic. These findings align with studies indicating that parental discomfort and misinformation hinder effective sex education in Nigeria.^{14, 16}

Age was recognized as a significant predictor of parental engagement with sex education. Parents aged 30 years or younger demonstrated a lower likelihood of participating in discussions regarding sexual health with their children. This might be attributed to limited experience and knowledge. Moreover, female respondents exhibited a greater propensity for involvement in adolescent sex education compared to their male counterparts. This disparity may be attributed to the tendency of women to spend more time at home, thereby affording increased opportunities for addressing critical issues such as sex education with their children.

This study elucidates parental attitudes as a predictor of adolescent sex education practices. Specifically, parents who hold negative dispositions toward sex education were found to be less engaged and less effective in educating their adolescent children on matters related to sexual health. These results corroborate the findings of a previous study conducted in Yaba, Lagos, which demonstrated a robust association

between positive parental attitudes and proficient implementation of adolescent sex education.¹⁶ Another study conducted in China also corroborates this finding, indicating that parental attitudes serve as a predictor of adolescent sex education practices.²³

Conclusion

This study highlights the importance of parental involvement in sex education. While the level of awareness among respondents was high, and most had a positive attitude toward sex education, their knowledge of sex education is not complete. Given the gaps in knowledge and practice, improving sex education remains crucial. Therefore, community-based interventions and professional training for parents are recommended to address misconceptions and promote healthier, more open discussions on sexual health. These efforts will ultimately empower adolescents to make better-informed decisions regarding their sexual and reproductive health.

Limitations: This study has some constraints. We did not gather viewpoints from adolescents or other stakeholders, such as healthcare providers, educators, and community members. Their perspectives are essential and could improve our understanding of culturally appropriate methods for delivering accurate SRH education to adolescents, whether in school or at home, thereby benefiting future research. Additionally, the sample consisted solely of the rural population, so the results may not be generalizable to the broader population.

Strengths: Despite these limitations, this study's strength lies in its conduct among parents in a rural community, where few related studies have been conducted.

Implications for policy and future research

The government should implement training programs to assist parents in overcoming barriers to discussing sexual health and

communicating effectively with their children. Addressing socio-cultural norms and religious beliefs can facilitate this process. Policies prioritizing comprehensive sex education should

be developed and enforced. Additionally, further research focusing on parents and their children is necessary. Encouraging qualitative studies will provide a deeper understanding of this issue among various community stakeholders.

Authors' contributions: AIM conceptualized the research idea, AAO coordinated data collection and data analysis, OOA reviewed the initial manuscript for important intellectual content. EOF, OBB, EFO, JKD, ENH, AOC, AJS, OBO, OSK, OJO, BT, L-HT, OT and GOE participated in data collection as well as drafting of the manuscript. All authors read and approved the final version of the manuscript for publication.

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Conflicts of interest: None

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