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Research Article

Source of Information on Perceived Symptoms of STI and Challenges of Sexual and Reproductive Health (SRH) Among Adolescents in Rural Area, Oyo State Nigeria

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Abstract

Background: Adolescents in rural Nigeria often face limited access to accurate sexual and reproductive health (SRH) information and services due to cultural taboos, low parental involvement, and poor health infrastructure. Understanding sources of SRH information and the challenges faced is essential for designing effective interventions. *Method:* A mixed-method cross-sectional study was conducted among 240 adolescents aged 10–19 years in, Oyo State. Quantitative data were collected using structured, interviewer-administered questionnaires, while qualitative insights were gathered through 12 focus group discussions (FGDs). Data were analysed using SPSS Version 26 and thematic analysis for qualitative data. *Results:* Television, radio, and peers were the most common sources of SRH information (64.6%, 55.0%), while health workers (49.2%) and parents (40.0%) were less frequently reported. Over half of the respondents (55.0%) experienced high SRH-related challenges, such as lack of information, poor parental communication, and stigma. Adolescents aged 15–19 years (AOR=6.75, p=0.004) and those with tertiary education (AOR=35.24, p<0.001) were more likely to access good SRH information. Higher education (AOR=0.12, p=0.004) and condom use (AOR=0.15, p=0.021) were significantly associated with reduced SRH challenges. FGDs reinforced these findings, citing communication barriers, cultural norms, and limited support systems. *Conclusion:* Adolescents in rural Oyo State depend heavily on informal channels for SRH information and face multiple access barriers. Strengthening school-based SRH education, improving parental communication, and scaling youth-friendly services are critical to addressing these gaps.

Keywords

Adolescent Sexual Health, Information Sources, Perceived Symptoms of STI, SRH Challenges

1. Introduction

Adolescents, defined by the World Health Organization as individuals aged 10–19 years, represent a pivotal segment of the population whose health and well-being significantly influence national development and global health outcomes. [1, 2] In sub-Saharan Africa (SSA), including Nigeria, adolescents face critical SRH challenges such as early sexual debut, unintended pregnancies, unsafe abortions, sexually transmitted infections (STIs), and limited access to compre-

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hensive SRH information and services [3].

The sources of SRH information available to adolescents play a central role in shaping their knowledge, attitudes, and behaviours. In rural contexts, such as Oyo State, Nigeria, information dissemination is often hindered by socio-cultural taboos, parental silence, and under-resourced health and educational infrastructures. [4] Studies in SSA have shown that when adolescents lack access to trusted adults or institutions for SRH education, they often turn to mass media, peers, and digital tools-which may provide incomplete or inaccurate information. [5] Parental communication, while crucial, remains limited due to cultural discomfort and intergenerational norms. [6] highlight that in many SSA communities, parents (particularly fathers) are often absent from SRH dialogues, and fear-based messages predominate over informative discussions. [6] Similarly, religious and societal expectations tend to inhibit adolescents' openness and their willingness to seek accurate SRH guidance. [7].

Nigeria, the most populous country in Africa, continues to grapple with deeply entrenched socio-cultural norms that negatively influence adolescent health-seeking behaviours. Despite national policies promoting adolescent-friendly health services, gaps remain in the implementation of sexuality education programs and the integration of digital or community-based solutions. [8-10] Moreover, evidence from Agu et al. [11] in Southeastern Nigeria indicates significant regional and gender disparities in adolescents' access to SRH services and information, pointing to structural and systemic inequities. [11].

At the same time, innovative interventions leveraging schools, youth organizations, and digital platforms have shown promise. For instance, school-based comprehensive sexuality education (CSE) programs and the use of mobile phones and apps have been found to increase SRH awareness and behavioural change among adolescents across several SSA countries. [12] This study aims to assess the primary sources of SRH information, and the challenges faced by adolescents in rural Oyo State, Nigeria. It addresses a critical gap in the literature by providing localized data that reflect the realities of rural adolescents within a global discourse. Furthermore, it seeks to contribute to policy-relevant insights and identify opportunities for targeted interventions, particularly those that are youth-led, culturally sensitive, and digitally enabled. [9, 10].

2. Materials and Methods

2.1. Study Design

This study employed a mixed-methods, cross-sectional design to investigate the sources of information and perceived challenges related to SRH among adolescents in a rural Nigerian context. Quantitative data were collected through a structured, interviewer-administered questionnaire using Open Data Kit (ODK). At the same time, qualitative insights were gathered through FGDs to deepen the understanding of contextual barriers to SRH communication and access.

2.2. Study Settings and Population

The study was conducted in Irepo Local Government Area (LGA) in northern Oyo State, a predominantly agrarian region. With Kisi as its administrative centre, Irepo covers 1,010 km ^{2} and houses an estimated population of 173,300. The area is divided into ten wards and shares boundaries with local government areas in both Oyo and Kwara States. Farming is the main occupation, engaging over 88% of the population.

The study population focused on adolescents aged 10–19 years, both in-school and out-of-school, residing in selected communities across Irepo LGA.

2.3. Sampling Techniques

A four-stage multistage sampling strategy was employed:

1) Six wards were randomly selected from the LGA.
2) Three communities per ward were chosen through simple random sampling.
3) Five settlements were selected from each community.
4) In each selected settlement, systematic sampling was used to identify households, and one eligible adolescent was selected per household.

2.4. Sample Size

Using Fischer's formula for descriptive studies, a minimum sample size of 310 was estimated. To account for a 10% non-response rate, the total sample size was adjusted to 341 adolescents.

$$n = \frac{z^2 Pq}{d^2}$$

Where n = the desired sample size

z = the standard normal deviate set at 1.96 [95% confidence level (CI)]

P = the proportion of the target population estimated to be 28.0% of the total population (173,300) (NPC, 2022)

q = 1-p (1 - 0.28 = 0.72)

d = desired level of accuracy, set at 0.05

$n = 1.96^2 \times 0.28 \times 0.72 / 0.0025$

n = 310

Accounting for a 10% non-response rate, the total sample size was adjusted to 341 adolescents.

2.5. Data Collection Procedure

Quantitative Data Collection

Trained fieldworkers administered structured questionnaires face-to-face. The tool captured demographic details, types of SRH information sources (media, school, peers, health workers), and perceived SRH challenges, including

access barriers, stigma, and cultural taboos. Data collection for this study was carried out in March 2023.

Qualitative Data Collection

Twelve FGDs were held, six for females and six for males, across selected wards. Each session included eight adolescents and lasted approximately 45 minutes. Discussions explored the accessibility and credibility of SRH information sources, as well as perceived community-level obstacles to SRH communication and services.

2.6. Inclusion and Exclusion Criteria

Inclusion: Adolescents aged 10–19 years, residing in Irepo LGA, and who gave informed consent or assent.

Exclusion: Adolescents who were unwell or unwilling to participate at the time of the survey.

2.7. Instrument Validity and Reliability

Content validity was established through expert review by three specialists in adolescent sexual and reproductive health. Each expert assessed the questionnaire for clarity, relevance, and appropriateness using a four-point Likert scale. The degree of agreement among experts was high, with Item-Level Content Validity Index (I-CVI) values ranging from 0.83 to 1.00 and an overall Scale-Level Content Validity Index (S-CVI/Ave) of 0.92. A pilot test conducted with 31 adolescents from a neighbouring LGA produced a Cronbach's alpha of 0.71, confirming acceptable reliability of the instrument.

2.8. Data Analysis

Quantitative Data

Data from ODK were exported to SPSS version 26. Descriptive statistics summarized sources of SRH information and identified key barriers. Inferential analysis, using binary logistic regression, was employed to examine the associations between information access and demographic variables ($p \leq 0.05$).

Qualitative Data

FGD transcripts were analysed thematically. Codes were generated inductively and organized into themes such as Source of Information on Sexual and Reproductive Health (Parents as Primary Source, School and Teachers Media and Technology, Friends and Peers and Health Workers and Public Programs. Challenges include (Communication Barriers with Parents, Parental Attitudes and Cultural Norms, Limited Access to Accurate Information, Stigma and Shame Around SRH Topics, and Lack of Supportive Environment.

2.9. Ethical Considerations

Ethical approval was obtained from the Oyo State Research Ethics Review Committee. Informed consent (or assent for minors) was obtained. Confidentiality was maintained by anonymizing data and securing all records. Given the sensitivity of the topic, the study established an ethical response protocol to protect participants who might disclose experiences of abuse. Respondents who reported technology-facilitated or physical gender-based violence were provided with contact information for relevant support services, including counselling helplines and referral centres. In instances requiring further assistance, participants were referred to trained social welfare officers or gender desk units for psychosocial and legal support. All disclosures were treated confidentially, and field personnel were trained to handle such cases with empathy and professionalism in accordance with national research ethics guidelines.

2.10. Risks and Benefits Disclosure

Participation posed minimal risk, and respondents could opt out at any time. While no financial incentives were provided, participants contributed valuable insights toward improving adolescent SRH services in rural Nigeria.

3. Results

3.1. Sociodemographic Profile of the Study Respondents

Table 1 shows the socio-demographic and sexual health characteristics of adolescent respondents. Most of the respondents were female (65.4%) and aged 15–19 years (84.6%), with a dominant Yoruba ethnic background (87.5%). Most adolescents had attained at least secondary education (71.3%), and Islam was the most practiced religion (69.6%). About 47.9% of adolescents reported currently having a boyfriend/girlfriend or sexual partner, but only 18.8% had ever engaged in sexual intercourse. Among the 45 respondents who were sexually active, 34 participants reported using a condom during their last sexual encounter.

Table 1. *Socio-Demographic and Sexual Health Characteristics of Adolescents.*

Variables	Frequency (N=240)	\
Gender		
Male	83	34.6
Female	157	65.4
Age Category		
10 – 14 years	37	15.4
15 – 19 years	203	84.6
Ethnicity		
Hausa	9	3.8

Variables	Frequency (N=240)	\
Igbo	21	8.8
Yoruba	210	87.5
Level of Education		
No formal education/Primary	34	14.2
Secondary	171	71.3
Vocational	12	5.0
Tertiary	23	9.6
Religion		
Others	7	2.9
Christianity	66	27.5
Islam	167	69.6
Has a boyfriend/girlfriend or sexual partner		
No	125	52.1
Yes	115	47.9
Ever had sexual intercourse		
No	195	81.3
Yes	45	18.8
Used a condom during the last sexual intercourse		
No	206	85.8
Yes	34	14.2

3.2. Source of SRH Information and Perceived Symptoms of Sexually Transmitted Infections Among Adolescents

Table 2 presents the reported sources of sexual and reproductive health information and perceived symptoms of sexually transmitted infections among adolescents in the study. Mass media, such as television, radio, and magazines, were the most commonly reported source of SRH information (64.6%), followed by schoolteachers (60.0%), friends (55.0%), and health workers (49.2%). Fewer adolescents cited parents (40.0%) and religious leaders (25.0%) as sources, while youth organizations were the least reported at 6.7%. The most frequently recognized STI symptoms indicators were abdominal pain (54.9%), blood in urine (50.9%), genital itching (43.4%), and weight loss (36.4%). Less frequently identified symptoms included burning urination (24.9%), foul-smelling discharge (11.0%), and discharge from the penis (11.6%). Symptoms such as genital ulcers (2.3%), yellow eyes or skin (3.5%), and difficulty getting pregnant (7.5%) were less commonly acknowledged.

Table 2. *Source of SRH Information and Perceived Symptoms of Sexually Transmitted Infections among Adolescents.*

Variables	Frequency (N = 240)	Percentage (%)
Source of information about Sexual and Reproductive Health		
Friend	132	55.0
Television, Radio, Magazines	155	64.6
School Teachers	144	60.0
Youth Organization	16	6.7
Health workers	118	49.2
Parents	96	40.0
Religious Leaders	60	25.0
Perceived symptoms of sexually transmitted infection		
Abdominal pain	95	54.9
Green or curd-like vaginal discharge	13	7.5
Foul-smelling discharge	19	11.0
Burning pain during urination	43	24.9
Redness /inflammation in genital area	2	1.2
Genital ulcers / sores	4	2.3

Variables	Frequency (N = 240)	Percentage (%)
Genital itching	75	43.4
Blood in urine	88	50.9
Loss of weight	63	36.4
Yellow eyes / yellow skin	6	3.5
Hard to get pregnant or have a child	13	7.5
Discharge from the penis	20	11.6
Others	70	43.9

3.3. Source of Information About SRH

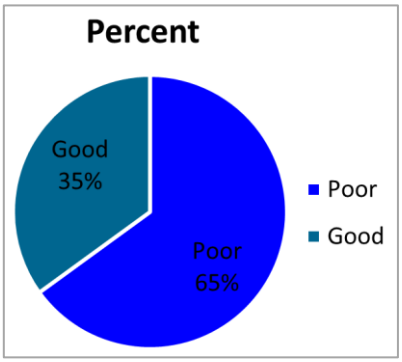

Figure 1. *Source of Information about SRH.*

Figure 1 illustrates the distribution of adolescents based on the quality of their sources of information on sexual and reproductive health (SRH). The chart shows that 156 (65.0%) had poor sources of SRH information, while only 84 (35.0%) had good sources.

3.4. Source of STI Treatment Among Adolescents

Figure 2 illustrates the various sources from which adolescents sought treatment for sexually transmitted infections (STIs). The most frequently reported source was hospitals, with 23 (9.6%) receiving treatment there. Health centers within the community were used by 14 (5.8%), while 13 (5.4%) reported seeking care from other unspecified sources. A smaller proportion sought help from pharmacists (1.3%) and local healers (0.8%). Only 1 adolescent (0.4%) received treatment from a health center located outside their community.

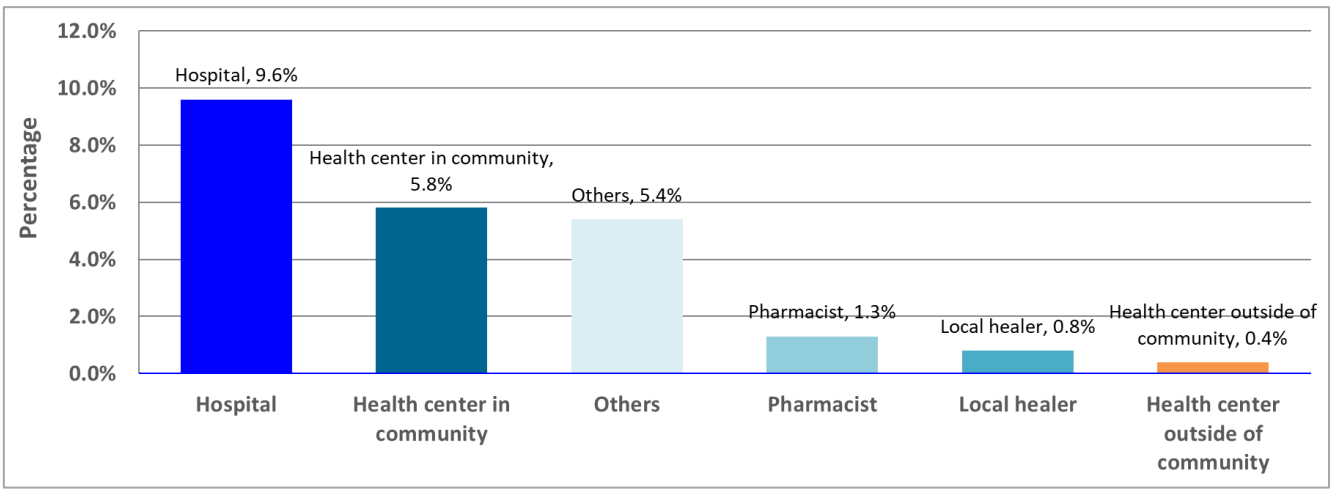

Figure 2. *Source of STI Treatment among Adolescents.*

3.5. Adolescents' SRH Challenges

Table 3 highlights the key sexual and reproductive health challenges faced by adolescents. The most frequently reported challenge was a lack of parental communication, with 48.3% of adolescents stating that their parents do not discuss SRH topics with them. This was followed by fear of discussing SRH concerns with healthcare providers (40.0%) and lack of access to SRH information (39.2%). Additionally, 34.6% of adolescents reported limited access to health services. Cultural and religious norms also played a role, with 26.3% and 25.0%, respectively, stating that it is not appropriate to discuss SRH at their age due to cultural or religious beliefs. More severe but less common challenges included sexual coercion (1.3%) and intimate partner violence (1.7%), which, while affecting a smaller proportion of respondents.

Table 3. *Adolescents' SRH challenges.*

Variables	Frequency (N=240)	Percentage (%)
Lack of access to SRH information	94	39.2
Lack of access to health services	83	34.6
My parents do not discuss SRH with me	116	48.3
Culturally, it is not right to talk about SRH at this age	63	26.3
Religiously, it is not right to talk about SRH at this age	60	25.0
I am afraid of discussing my SRH concerns with a doctor, a nurse, or another provider	96	40.0
Sometimes, I am pressured, tricked, or threatened to have sexual intercourse (Sexual coercion)	3	1.3
Sometimes, I am physically, sexually, or psychologically abused by my boyfriend/girlfriend or partner (intimate partner violence)	4	1.7

3.6. Association of Demographic Characteristics with SRH Information Source and Challenges Among Adolescents

Table 4 presents the distribution and associations between adolescents' socio-demographic characteristics and both the quality of SRH information sources and the level of SRH-related challenges. Out of 240 adolescents, 156 (65.0%) reported poor source of SRH information, while 84 (35.0%) had good information source. Pertaining to SRH challenges, 132 (55.0%) experienced high levels of SRH-related difficulties, while 108 (45.0%) had low levels. Adolescents aged 15–19 years were significantly more likely to report good source to SRH information (96.4%) compared to those aged 10–14 years (3.6%) ($p < 0.001$). Similarly, age showed a marginal relationship with SRH challenges, where older adolescents reported fewer challenges ($p = 0.095$). Ethnicity was significantly associated with both SRH information and challenges. Yoruba adolescents had greater access to good information (95.2%) and reported fewer SRH challenges (91.7%) than their Hausa/Igbo counterparts ($p = 0.008$ and $p = 0.031$, respectively). Educational attainment was also strongly linked to outcomes: those with tertiary education accounted for 22.6% of adolescents with good information access and only 6.8% of those with high SRH challenges ($p < 0.001$ and $p = 0.001$, respectively). Having a sexual partner was associated with lower SRH challenges ($p = 0.032$), while those who had never had sexual intercourse reported significantly more challenges ($p < 0.001$). Adolescents who did not use a condom during their last intercourse also reported more challenges (95.5%) compared to users (4.5%) ($p < 0.001$). No statistically significant differences were found about SRH information or challenges by gender or religion.

Table 4. *Association of Demographic Characteristics with SRH Information Source and Challenges among Adolescents.*

Variable	Poor Information Source	Good Information Source	X^2 (p-value)	Low SRH Challenge	High SRH Challenge	X^2 (p-value)
SRH Information source and challenge	156 (65.0%)	84 (35.0%)	-	108 (45.0%)	132 (55.0%)	-

Variable	Poor Information Source	Good Information Source	X^2 (p-value)	Low SRH Challenge	High SRH Challenge	X^2 (p-value)
Gender						
Male	50 (32.1%)	33 (39.3%)	1.263 (0.261)	35 (32.4%)	48 (36.4%)	0.411 (0.521)
Female	106 (67.9%)	51 (60.7%)		73 (67.6%)	84 (63.6%)	
Age Category						
10 – 14 years	34 (21.8%)	3 (3.6%)	13.905 (<0.001*)	12 (11.1%)	25 (18.9%)	0.792 (0.095)
15 _ 19 years	122 (78.2%)	81 (96.4%)		96 (88.9%)	107 (81.1%)	
Ethnicity						
Hausa/Igbo	26 (16.7%)	4 (4.8%)	7.075 (0.008*)	19 (17.6%)	11 (8.3%)	4.656 (0.031*)
Yoruba	130 (83.3%)	80 (95.2%)		89 (82.4%)	121 (91.7%)	
Level of Education						
No formal education/Primary	31 (19.9%)	3 (3.6%)	36.940 (<0.001*)	7 (6.5%)	27 (20.5%)	17.652 (0.001*)
Secondary	110 (70.5%)	61 (72.6%)		77 (71.3%)	94 (71.2%)	
Vocational	11 (7.1%)	1 (1.2%)		10 (9.3%)	2 (1.5%)	
Tertiary	4 (2.6%)	19 (22.6%)		14 (13.0%)	9 (6.8%)	
Religion						
Others	5 (3.2%)	2 (2.4%)	0.845 (0.655)	3 (2.8%)	4 (3.0%)	4.512 (0.105)
Christianity	40 (25.6%)	26 (31.0%)		37 (34.3%)	29 (22.0%)	
Islam	111 (71.2%)	56 (66.7%)		68 (63.0%)	99 (75.0%)	
Has a boyfriend/girlfriend or sexual partner						
No	84 (53.8%)	41 (48.8%)	0.555 (0.456)	48 (44.4%)	77 (58.3%)	4.591 (0.032*)
Yes	72 (46.2%)	43 (51.2%)		60 (55.6%)	55 (41.7%)	
Ever had sexual intercourse						
No	127 (81.4%)	68 (81.0%)	0.008 (0.931)	75 (69.4%)	120 (90.9%)	17.964 (<0.001*)
Yes	29 (18.6%)	16 (19.0%)		33 (30.6%)	12 (9.1%)	
Used a condom during last sexual intercourse						
No	135 (86.5%)	71 (84.5%)	0.182 (0.669)	80 (74.1%)	126 (95.5%)	22.330 (<0.001*)
Yes	21 (13.5%)	13 (15.5%)		28 (25.9%)	6 (4.5%)	

Source: Field Survey
Significant at $p < 0.05$

3.7. Univariate and Multivariate Analysis of Factors Associated with Sources of Information and Challenges of SRH Among Adolescents

Table 5 presents both univariate and multivariate logistic regression analyses identifying factors associated with adolescents' sources to good SRH information and the presence of high SRH challenges. Adolescents aged 15–19 years were significantly more likely to have access to good SRH information compared to those aged 10–14 years (AOR = 6.75; p = 0.004). Similarly, those of Yoruba ethnicity showed higher odds of having good source of SRH information than their Hausa/Igbo counterparts (COR = 4.00; p = 0.013), although this association was marginally significant in the adjusted model (AOR = 3.20; p = 0.052). Educational attainment was found to have a strong and significant association with sources to SRH information. Adolescents with tertiary edu-

cation were far more likely to have good sources SRH information compared to those with no formal education (AOR = 35.24; $p < 0.001$), and secondary education also showed positive but marginal effects (AOR = 3.66; $p = 0.051$). Interestingly, adolescents who had a boyfriend/girlfriend or sexual partner were significantly less likely to access good SRH information (AOR = 0.47; $p = 0.035$).

Regarding SRH challenges, adolescents with higher educational levels had significantly lower odds of reporting high SRH challenges. Secondary education (AOR = 0.20; $p = 0.004$) and tertiary education (AOR = 0.12; $p = 0.004$) were both protective factors. Condom use during the last sexual encounter was also associated with significantly lower odds of facing SRH challenges (AOR = 0.15; $p = 0.021$). Other factors, including age, ethnicity, and being in a relationship, did not show significant associations in the adjusted models.

Table 5. *Univariate and Multivariate Analysis of Factors Associated with Sources of Information and Challenges of SRH among Adolescents.*

Variable	Good Information Source	COR (95% CI)	p-value	AOR (95% CI)	p-value
SRH Information source and challenge	84 (35.0%)	-	-	-	-
Age Category					
10 – 14 years	3 (3.6%)	Ref.	-	-	-
15 _ 19 years	81 (96.4%)	7.525 [2.236-25.320]	0.001*	6.745 [1.851-24.575]	0.004*
Ethnicity					
Hausa/Igbo	4 (4.8%)	Ref.	-	-	-
Yoruba	80 (95.2%)	4.000 [1.346-11.884]	0.013*	3.204 [0.989-10.374]	0.052
Level of Education					
No formal education/Primary	3 (3.6%)	Ref.	-	-	-
Secondary	61 (72.6%)	5.730 [1.682-19.520]	0.005*	3.662 [0.993-13.510]	0.051
Vocational	1 (1.2%)	0.939 [0.088-10.003]	0.959	0.655 [0.055-7.837]	0.738
Tertiary	19 (22.6%)	49.083 [9.888-243.640]	<0.001*	35.240 [6.200-200.284]	<0.001*
Has a boyfriend/girlfriend or sexual partner					
No	41 (48.8%)	Ref.	-	-	-
Yes	43 (51.2%)	1.224 [0.719-2.081]	0.457	0.470 [0.233-0.947]	0.035*
Ever had sexual intercourse					
No	68 (81.0%)	Ref.	-	-	-
Yes	16 (19.0%)	1.030 [0.523-2.029]	0.931	0.756 [0.151-3.799]	0.735
Used a condom during last sexual intercourse					
No	71 (84.5%)	Ref.	-	-	-
Yes	13 (15.5%)	1.177 [0.557-2.489]	0.670	1.712 [0.299-9.791]	0.546

Variable	High SRH Challenge	COR (95% CI)	p-value	AOR (95% CI)	p-value
SRH Information source and challenge	132 (55.0%)	-	-	-	-
Age Category					
10 – 14 years	25 (18.9%)	Ref.	-	-	-
15 _ 19 years	107 (81.1%)	0.535 [0.255-1.123]	0.098	1.148 [0.471-2.798]	0.762
Ethnicity					

Variable	High SRH Challenge	COR (95% CI)	p-value	AOR (95% CI)	p-value
Hausa/Igbo	11 (8.3%)	Ref.	-	-	-
Yoruba	121 (91.7%)	2.348 [1.064-5.182]	0.034*	1.148 [0.471-2.798]	0.762
Level of Education					
No formal education/Primary	27 (20.5%)	Ref.	-	-	-
Secondary	94 (71.2%)	0.316 [0.131-0.766]	0.011*	0.199 [0.067-0.590]	0.004*
Vocational	2 (1.5%)	0.052 [0.009-0.293]	0.001*	0.059 [0.008-0.452]	0.006*
Tertiary	9 (6.8%)	0.167 [0.051-0.542]	0.003*	0.118 [0.028-0.497]	0.004*
Has a boyfriend/girlfriend or sexual partner					
No	77 (58.3%)	Ref.	-	-	-
Yes	55 (41.7%)	0.571 [0.342-0.955]	0.033*	1.199 [0.613-2.347]	0.596
Ever had sexual intercourse					
No	120 (90.9%)	Ref.	-	-	-
Yes	12 (9.1%)	0.227 [0.111-0.467]	<0.001*	1.179 [0.271-5.131]	0.826
Used a condom during last sexual intercourse					
No	126 (95.5%)	Ref.	-	-	-
Yes	6 (4.5%)	0.227 [0.111-0.467]	<0.001*	0.145 [0.028-0.747]	0.021*

Source: Field Survey
*Significant at $p < 0.05$

3.8. Qualitative Results

Source of Information on Sexual and Reproductive Health

Adolescents in the study reported receiving information on sexual and reproductive health (SRH) from diverse sources, highlighting the multifaceted nature of SRH communication in rural settings.

Parents as Primary Source

Many adolescents identified their parents as a primary source of SRH information, though other informal channels often supplemented this. A discussant reported: *"I got the information through parents, class teacher, and friends."* Another participant said: *"I got mine through my parents and through Television."*

School and Teachers

Formal education played a significant role in shaping SRH awareness, with teachers and school counsellors cited as trusted and consistent sources. A discussant observed: *"We learn about SRH in school through our class teacher."* Another participant added: *"Got it through counselling from my class teacher."*

Media and Technology

Social media, radio, and television emerged as alternative avenues for SRH knowledge, particularly where family communication was limited. A discussant mentioned, *"I got the SRH information from social media because my parents do not talk about this."* Another participant noted: *"Through radio and television."*

Friends and Peers

Peer influence was commonly reported, especially through informal group discussions. While helpful, peer-based information can sometimes be inaccurate, highlighting the need for peer education programs. A discussant shared: *"I got mine through friends when we make group discussions."* Another participant added: *"Through friends and parents."*

Health Workers and Public Programs

Although less frequently mentioned, health workers and community-based programs were acknowledged sources. A discussant reported: *"I got through health workers."* Another participant noted: *"Through public organization."*

3.9. Challenges of Sexual and Reproductive Health

Adolescents in rural Oyo State face several challenges that hinder their access to appropriate sexual and reproductive health (SRH) information and support:

Communication Barriers with Parents

Many adolescents are unable to freely communicate with their parents about SRH topics due to feelings of shyness, fear of judgment, or concerns about being considered too young. A discussant admitted, *"I feel shy to ask questions about SRH from my parents."* Another participant said: *"They might think*

I'm too young to ask about such things."

Parental Attitudes and Cultural Norms

Strict parenting styles, religious teachings, and prevailing cultural beliefs restrict adolescents from seeking or receiving SRH information, limiting their ability to make informed decisions. A discussant observed: *"Some parents are too threatening with their children."* Another participant noted: *"Religiously, I am not allowed to ask such questions."*

Limited Access to Accurate Information

A considerable number of adolescents have little or no access to accurate SRH information due to a lack of engagement from parents and sociocultural constraints. A discussant reported: *"Have no idea because my parents do not tell me such a thing."* Another participant added: *"No access to SRH information by religious and by cultural."*

Stigma and Shame Around SRH Topics

Widespread stigma and the perception that SRH is inappropriate for discussion among young people contribute to misinformation and silence on these issues. A discussant shared: *"I'm too small to ask questions on SRH."* Another participant said: *"I believed religiously that I should not ask such a question about SRH."*

Lack of Supportive Environment

The absence of dedicated time or attention from caregivers and adults in the home environment reduces the opportunities for adolescents to discuss SRH concerns or ask questions. A discussant mentioned, "They didn't give me time to discuss the *SHR issue together."* Another participant noted: *"They were so occupied."*

4. Discussion

Sources of SRH Information

The study found that adolescents predominantly receive SRH information from mass media and peer networks. This trend reflects findings across sub-Saharan Africa, where limited formal education and socio-cultural taboos restrict parent-child communication about sexuality. [11] Although these sources can offer some awareness, they often lack depth and accuracy, increasing the risk of misinformation. While peer groups and social media can offer relatable and accessible platforms, they also pose risks of misinformation, as observed in other African contexts. [13] Adolescents in the qualitative interviews reported relying on friends and online platforms, particularly when family discussions on SRH were culturally restricted or uncomfortable. This pattern aligns with findings from a 2025 systematic review by Alhassan et al., which highlights how digital tools are filling gaps left by limited formal SRH education across sub-Saharan Africa. [5] However, challenges persist due to unequal digital access, low health literacy, and lack of culturally appropriate content. Consistent with qualitative responses, many adolescents reported feeling too shy or afraid to discuss SRH with their parents. Cultural and religious beliefs often discourage such conversations, a finding echoed in similar Nigerian studies that emphasize how parental silence around SRH topics increases adolescents' vulnerability. [4].

While teachers and health workers were identified as valuable SRH information sources, their reach was limited. Qualitative findings confirm that schools serve as trusted venues for SRH learning, although integration of comprehensive sexuality education remains inconsistent. [14] The underutilization of health workers, despite their potential to provide reliable and confidential guidance, remains a missed opportunity, mirroring broader regional findings on low trust in health facilities due to perceived stigma and lack of youth-friendliness. [7].

SRH Challenges and Barriers

Barriers identified included limited parental engagement, fear of judgment, and socio-cultural norms that discourage open SRH discussions. These challenges mirror regional patterns in which religious and cultural constraints perpetuate stigma around adolescent sexuality. [15].

Many adolescents expressed feeling too embarrassed to ask SRH-related questions. This sense of shame limits their ability to seek accurate information or care and is well-documented as a key obstacle in adolescent SRH uptake across SSA. [3].

Influence of Education, Age, and Relationships

Findings revealed that adolescents aged 15–19 years were significantly more likely to access good SRH information than those aged. This echoes Ahmed et al. [9], who reported that younger adolescents in SSA are often overlooked in SRH programming despite being highly vulnerable. [9] Tertiary education had the strongest association with good SRH information, emphasizing education as a key determinant of SRH literacy. These findings align with international literature linking education with improved health knowledge and decision-making capacity. [8] This supports findings by Chipako et al. [12], who showed that school-based SRH interventions, when delivered effectively, improve both knowledge and service uptake. [12].

Qualitative responses further illustrated how cultural norms and parental attitudes (such as labeling adolescents as "too young" to discuss sexuality) result in suppressed communication and unmet information needs. These themes were reflected in similar findings across West and Central African region. [10].

Interestingly, having a sexual partner was associated with lower odds of accessing good SRH information, suggesting that involvement in romantic relationships may occur without sufficient knowledge or support. This reinforces the importance of timely and accessible SRH education before sexual debut. [16] This may be due to social stigma surrounding adolescent sexuality, where sexually active youths are reluctant to seek formal help or disclose their needs-a barrier also discussed by Hall et al. in Ghana. [17].

Factors Associated with SRH Challenges

Educational attainment again emerged as a protective factor against SRH challenges. Adolescents with secondary and ter-

tiary education were significantly less likely to experience high SRH challenges. Condom use during the last sexual encounter was also associated with fewer SRH challenges, highlighting the importance of both access and behavioral change.

These findings provide critical insights into the sources of sexual and reproductive health (SRH) information and the challenges faced by adolescents in rural Oyo State, Nigeria. The results offer valuable guidance for designing targeted, evidence-based interventions in low-resource settings and align with global priorities to improve adolescent SRH in sub-Saharan Africa. [8].

Implications for Policy and Interventions

The reliance of adolescents on informal sources of SRH information in rural areas may be attributed to the limited availability of adolescent-friendly services and the strong influence of sociocultural norms. Factors such as religious conservatism, fear of judgment, and social stigma discourage open dialogue about sexuality, often resulting in misinformation or silence on key SRH issues. These findings highlight the urgent need for context-sensitive, age-appropriate, and culturally relevant interventions that respond to the realities of rural adolescents.

A multi-sectoral approach is essential-one that combines school-based SRH education, youth-friendly health services, and parent-focused community programs. Strengthening school curricula and promoting peer-led education initiatives would equip young people with accurate information and decision-making skills. At the community level, sensitization efforts should be directed toward improving parent–adolescent communication and engaging traditional and religious leaders to reduce stigma and foster open discussion on SRH matters.

Furthermore, targeted strategies should address the persistent digital divide by enhancing access to online platforms and mobile-based SRH resources, particularly in rural areas where formal education and health infrastructure remain limited. Expanding access to adolescent-friendly services, both in health facilities and through outreach programs, will ensure that young people receive confidential and non-judgmental care. Finally, leveraging mass media and digital technologies to disseminate reliable SRH information can play a transformative role in improving awareness, shaping positive attitudes, and promoting healthy behaviors among adolescents.

Collectively, these policy and programmatic interventions would strengthen community-level support systems, promote inclusive SRH education, and create an enabling environment that empowers rural adolescents to make informed choices and improve their overall sexual and reproductive health outcomes.

Limitation

This study has several limitations that should be considered when interpreting the findings. First, its cross-sectional design restricts the ability to draw causal inferences between the variables studied. Additionally, because the data were self-reported, responses may have been influenced by social desirability bias, with some participants potentially providing answers they perceived as more acceptable. To minimize this risk, confidentiality was assured throughout the process, and data collection was conducted by trained interviewers who created a supportive and non-judgmental environment. It is noteworthy that female respondents were nearly twice the number of males, which may reflect gender differences in accessibility or willingness to participate in SRH studies. Future studies should aim for more balanced participation across genders. Finally, the findings are context-specific to rural settings in Oyo State and may not be fully generalizable to other regions with different socio-cultural or infrastructural contexts. Despite these limitations, the study provides valuable insights into the sources, challenges, and potential policy directions for improving adolescent sexual and reproductive health in rural Nigeria.

5. Conclusions

This study highlights the diverse and often informal sources through which adolescents in rural Oyo State access SRH information, with mass media, peers, and schools playing prominent roles. Despite these channels, many adolescents still face significant barriers, including poor parental communication, cultural and religious taboos, limited access to youth-friendly health services, and misinformation.

Findings from this study point out the influence of educational attainment and age on adolescents' ability to access reliable SRH information and navigate related challenges. Adolescents with higher education levels were significantly more likely to access accurate SRH information and less likely to experience high SRH-related difficulties. Qualitative data further emphasized the need for supportive environments where adolescents can engage in open dialogue and receive accurate information.

Addressing these gaps requires a multi-level approach: expanding school-based and digital SRH education, empowering parents and community leaders to communicate more openly, and improving access to adolescent-friendly services. Targeted interventions must be culturally sensitive, age-appropriate, and inclusive of the unique needs of rural adolescents to improve overall SRH outcomes and well-being.

Abbreviations

SRH	Sexual and Reproductive Health
FGDs	Focus Group Discussions
SPSS	Statistical Package for the Social Sciences
AOR	Adjusted Odds Ratio
SSA	Sub-Saharan Africa
STIs	Sexually Transmitted Infections
CSE	Comprehensive Sexuality Education
ODK	Open Data Kit
LGA	Local Government Area
CI	Confidence Interval

NPC National Population Commission

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Author Contributions

Kelvin Kelechi Emenike: Conceptualization, Funding acquisition, Project administration, Resources, Supervision.

Musibau Ayoade Titiloye: Funding acquisition, Investigation, Resources, Writing – review & editing.

Felix Olaniyi Sanni: Data curation, Formal Analysis, Methodology, Resources, Software, Supervision, Writing – original draft.

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Data Availability Statement

The data supporting the outcome of this research work was obtained from the Oyo State Research Ethics Review Committee. Approval for the study was granted under the reference number NHREC/OYOSHRIEC/10/11/22.

Conflicts of Interest

The authors declare no conflicts of interest.

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