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ORIGINAL RESEARCH

Sexual and Reproductive Health Practices of In–School Adolescents in an Urban Community in Southwest Nigeria

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Abstract

Background: Adolescents in developing countries such as Nigeria are confronted with numerous reproductive health issues; however, their expertise and reproductive health practices continue to be inadequate. Therefore, it is crucial to conduct a contextual analysis of the factors affecting the sexual and reproductive health practices of Nigerian adolescents.
Objective: To assess adolescents' sexual and reproductive health knowledge and practices in Ogbomoso, Oyo State, Nigeria.
Methods: The study employed a descriptive cross-sectional design among 400 adolescents selected using a multi-stage sampling method. Data were collected using a pre-tested semi-structured interviewer-administered questionnaire.
Results: The mean age of the respondents was 16.0 ± 1.5 years. In this study, 40.2% of the participants have good knowledge of sexual and reproductive health. Respondents with safe reproductive health practices were 91.8%. Factors associated with good, safe reproductive health practices were age group ($p = 0.024$), gender ($p < 0.001$), ethnicity ($p = 0.029$), and overall scoring of knowledge about reproductive health issues ($p < 0.001$). The predictors of safe reproductive practices were respondents' gender (OR = 0.23, 95% CI = 0.090- 0.577) and knowledge on reproductive issues (OR = 0.16, 95% CI = 1.047-0.556)
Conclusion: Two-fifths of respondents have good knowledge of sexual and reproductive health. Factors identified as influencing respondents' good sexual and reproductive health practices include gender and level of knowledge. Policy

makers urgently need to focus on activities that enhance understanding of sexual and reproductive issues, followed by promoting safe reproductive health practices, particularly among men.

Keywords: Adolescence, Reproductive health, Sexual behaviour, Sexually Transmitted Infections, Unsafe sex.

Introduction

Adolescence is the transitional phase of growth and development between childhood and adulthood. [1] The World Health Organization (WHO) defines an adolescent as any person between the ages of 10 and 19 years. [2] Interactions between prenatal and early childhood development often determine adolescent health. Also, specific biological and social–role changes that accompany puberty, with social determinants, risk, and protective factors, affect their uptake of health–related behaviours. [3]

Studies have shown that adolescents are prone to several health problems. These health challenges can be physical, mental, social, and reproductive health problems. [4,5] Specifically, some of adolescents' reproductive health problems include child marriage, teenage pregnancy and motherhood, unwanted pregnancy, unsafe induced abortion, Sexually Transmitted Infections (STIs), including Human Immunodeficiency Virus (HIV), and transactional sexual interaction, amongst others. [6] Empirical evidence shows that Nigerian adolescents are particularly prone to Reproductive Health (RH) problems, such as unintended pregnancy, STIs such as gonorrhoea, or HIV infection, due to the high prevalence of unsafe sexual practices amongst them. [7,8] For instance, Alukagberie et al. revealed the prevalence of adolescent pregnancy as 7.5 – 49.5%. [7] In comparison, another study conducted by Isa and Abednigo revealed the prevalence of unsafe abortion amongst Nigerian adolescents to be as high as 53.8%.[8]

Despite the numerous reproductive health issues in adolescents, studies have also shown that Nigerian adolescents have poor access to age-appropriate Reproductive Health (RH) information and Reproductive Health Services (RHS). A survey conducted by Isara and Nwaogwugwu revealed that only 19.1% of Nigerian adolescents possessed good knowledge about sexual and reproductive health (SRH). [9] The same study also indicated that poor health-seeking behavior is related to SRH among sexually active respondents. [9] The sexual behavior of adolescents in Nigeria has exposed them to the risk of unintended pregnancy and STIs. Studies have shown that most pregnancies among adolescents in Nigeria are unintended as a result of inconsistent and incorrect contraceptive use, which may eventually end with unsafe abortion. [10, 11]

According to the United Nations Children's Fund (UNICEF), globally, the adolescent population is about 16%. [12] Also in Nigeria, adolescents constitute about 23% of the population. [13] Poor reproductive health practices among these adolescents can lead to pregnancy, and most in-school adolescents are unmarried, hence pregnancies will be unintended and can end up with induced abortion (which are mostly unsafe as abortion services are currently illegal in Nigeria) and with other harmful consequences that may even lead to death. [14] This study assessed adolescents' sexual and reproductive health knowledge and practices in Ogbomoso metropolis, Oyo State, Nigeria. The findings of this study aim to promote safe sexual and reproductive health practices among adolescents in Ogbomoso metropolis.

Methods

Study Setting

This study was carried out in Ogbomoso, Oyo State. The community is considered one of Nigeria's largest semi-urban areas. It is made up of five Local Government Areas (LGAs), of which two are in the metropolis and account for a significant part of the population. The town has two tertiary hospitals and one general hospital, with many private hospitals and primary health centres that cater to the health needs of the community. The estimated population of private and public secondary schools in Ogbomoso metropolis is 25,000 (Oyo State Education Board records).

Study population

The study population was adolescents (10 to 19 years) attending registered public and private secondary schools in Ogbomoso, Oyo State. The inclusion criteria for this study were adolescents (13 to 19 years) who provided consent to participate and had spent at least one term at the school. Adolescents who were in junior secondary classes, those acutely sick, or those considered to be mentally unfit were exempted from the study.

Ethical approval

The researchers obtained ethical approval (UERC/ASN/2019/1903) from the Ethics Review Committee of the Faculty of Clinical Sciences of the University of Ilorin, Ilorin. Permission to conduct the study was also obtained from the Oyo State Education Board, and prospective participants gave informed consent.

Sample size determination:

The minimum sample size was calculated using Fisher's formula for populations greater than 10,000, as shown below.

Where:

n = desired sample size (when population is greater than 10,000)

z = standard normal deviate, corresponding to the 95% confidence interval = 1.96

P = proportion of adolescents who have initiated sex, in a previous study [15] = 36.6%

q = 1.0 – p = 1 – 36.6% = 63.4%

d = degree of accuracy, set at 0.05 for this study

Therefore:

$n = (1.96)^2 (0.366) (0.634) / (0.05)^2 = 357$

The minimum sample size calculated was 357 respondents, but this was increased to 393 to allow 10% of the calculated minimum for non-response rate. However, 400 respondents were interviewed.

Sampling technique

The multistage sampling technique was adapted.

First stage (Selection of schools): The list of all public and private secondary schools in the two LGAs in Ogbomoso metropolis (Ogbomoso North and Ogbomoso South) was obtained from the local government education council headquarters/offices. Two public schools and two private schools were selected from the two LGAs using simple random sampling (simple balloting), yielding a total of eight schools. The number of respondents selected from each school was proportional to enrolment.

Second stage (Determination of desired sample size per school): This was achieved using stratified random sampling with proportional allocation of respondents from the different classes in the selected secondary schools; stratification was along the lines of classes (SSS 1 to SSS 3). Fifty respondents were proportionally allocated to the different classes of each of the selected schools.

Third stage (Selection of Respondents): The respondents were chosen using a systematic random sampling technique (with the sampling fraction calculated based on the number of students present in the class and the number of respondents to be selected) with the aid of the teacher's class register. The first respondent from

each class was selected by simple random sampling, and subsequent respondents were selected using a sampling fraction (systematic random sampling).

Data collection method

A semi-structured pretested questionnaire that was adapted from the tenets and instruments of the UNDP/UNFPA/WHO and World Bank [16] with questions on adolescent reproductive health practices was used to collect information from 400 selected students using an interviewer-administered method with the help of two trained research assistants (Community Health Extension Workers).

Measurement of outcome variables

Respondents' knowledge on sexual and reproductive health issues: To estimate this variable, knowledge regarding reproductive health definition, identification of reproductive organs, changes during puberty in boys and girls, risks associated with early sexual intercourse, likely time to get pregnant, and sexually transmitted infections was evaluated. A correct response to each statement attracted 1 point, while an incorrect statement attracted 0 points. Respondents' mean scores were 0.40. Scores above 0.40 indicated good knowledge, while scores below 0.40 indicated poor knowledge.

Respondents' Sexual and Reproductive Health Practices: This assessed practices regarding sexual intercourse, usage of contraceptives, current number of sexual partners, unintended pregnancy, commercial sex, sexually transmitted infections, and discussion of sexual issues with parent(s). A correct response to each statement attracted 1 point, while an incorrect statement attracted 0 points. Respondents' mean scores were 0.92. Those who scored above 0.92 were graded as having good practices, while those below it were classified as having poor practices.

Data analysis

The data collection instrument was edited daily in the field for accuracy before being entered into the Statistical Package for the Social Sciences (SPSS) version 22 for data analysis. Categorical data were presented in tables and charts and summarized using percentages. Continuous data were summarized using mean and standard deviation. The Student's t-test was used to compare continuous variables. The Chi-square test was used for bivariate analysis at the 5% level of statistical significance, while multivariate analysis was conducted using binary logistic regression. Odds ratios (ORs) and Confidence Intervals (CIs) were calculated to identify factors significantly associated with good RH practices among respondents.

Results

The mean age of the respondents was 16.0 ± 1.5 years, with a male-to-female ratio of approximately 1:1. Most respondents were Yoruba, accounting for 388 (97.0%), 398 were single (99.5%), 341 lived with parents (85.2%), 330 were from monogamous households (82.5%), and 276 identified as Christians, comprising 69.0%. A majority of the respondents' parents were married, totaling 347 (86.8%). The primary education level of 164 respondents' fathers was secondary (41.0%), while 176 respondents' mothers had primarily secondary education (44.0%). Half of the fathers were self-employed (202; 50.5%), whereas most mothers were traders (257; 64.2%), as shown in Table I.

The overall knowledge scores show that 161 participants (40.2%) had a good understanding of sexual and reproductive issues. In comparison, 239 (59.8%) had poor knowledge, while 54 (13.5%) had had sexual encounters.

Table Ia: Socio-demographic characteristics of the respondents

Variables	*Frequency n = 400*	*Percentage*
Age group (in years)		
13-15	172	43.0
16-18	209	52.2
19	19	4.8
Mean±S.D (years)	16.0±1.5	
School class		
S.S. 1	135	33.8
S.S. 2	154	38.5
S.S. 3	111	27.7
Gender		
Male	204	51.0
Female	196	49.0
Religion		
Christianity	276	69.0
Islam	124	31.0
Ethnicity		
Yoruba	388	97.0
Hausa/Fulani	7	1.8
Igbo	5	1.2
Marital Status		
Single	398	99.5
Married	2	0.5
Family Structure		
Monogamous	330	82.5
Polygamous	70	17.5
Marital status of the parents		
Married	347	86.8
Widowed	24	6.0
Separated	21	5.2
Divorced	8	2.0

Among those who have ever had a sexual encounter, 32 (59.3%) did so between the ages of 14 and 17. Of the sexually active respondents, 28 (51.9%) did not use a condom at their first sexual experience. The main reason given by 5 (17.9%) for not using a condom was fear of stigmatization. Most sexually active individuals, 40 (74.1%), reported having multiple sexual partners, which means that 10% of the entire study population had more than one partner. Additionally, 18 (33.3%) of the sexually active participants have engaged in sex for commercial purposes or favors (Table II).

Table Ib: Socio-demographic characteristics of the respondents

Variables	*Frequency n = 400*	*Percentage*
Father Educational Level		
No Formal Education	11	2.8
Primary	47	11.8
Secondary	164	41.0
Tertiary	114	28.4
Post-graduate	64	16.0
Mother Educational Level		
No Formal Education	17	4.3
Primary	49	12.2
Secondary	176	44.0
Tertiary	117	29.2
Post-graduate	41	10.3
Father occupation		
Self-employed	202	50.5
Government worker	94	23.5
Trading	75	18.8
Religious leader	27	6.7
Unemployed	2	0.5
Mother occupation		
Trading	257	64.2
Self-employ	69	17.3
Government worker	68	17.0
Religious leader	4	1.0
Unemployed/Housewife	2	0.5

Only 21 (38.9%) use a condom in all their sexual encounters. Forty-four (81.5%) respondents, among those who are sexually active, have been previously diagnosed with STIs. The most common symptoms of sexually transmitted infections reported by the respondents were painful urination, experienced by 24 (44.4%), and itching in the private part, reported by 14 (25.9%). Among those who have ever had a sexually transmitted infection, only 23 (42.6%) received treatment for it. Most respondents, 287 (71.8%), do not discuss sexual issues with their parents (Table III).

Table IIa: Sexual and reproductive health practices of the respondents

Variables	*Frequency (n= 400)*	*Percentage*
Age at sexual debut (years) (n = 54)		
9 – 13	17	31.5
14 – 17	32	59.3
≥ 18	5	9.2
Mean± S.D = 14.7±2.4		
Use of condom/protection during first sexual experience (n = 54)		
Yes	26	48.1
No	28	51.9
Reason for not using condom/protection during first sex experience (n=28)		
Don't feel like	12	42.9
Non availability	6	21.4
Fear of stigmatization	5	17.9
Affect sexual pleasure	5	17.9
First sexual partner (n = 54)		
Friend/Peers	37	68.5
Family member/Relative	4	7.4
Neighbour	13	24.1

Table IIb: Sexual and reproductive health practices of the respondents

Variables	*Frequency (n = 400)*	*Percentage*
Most recent sexual intercourse encounter (n = 54)		
Within a week	16	29.6
Within a month	5	9.3
Within three month	10	18.5
More than a year ago	23	42.6
Current number of sexual partner(s)		
None	346	86.5
1	14	3.5
> 1	40	10
Self or Sexual partner had unintended pregnancy		
Yes	27	6.7
No	373	93.3
Frequency of unintended pregnancy (n= 27)		
Once	15	55.6
Twice	4	14.8
≥Thrice	8	29.6
Dealings with the latest unintended pregnancy (n= 27)		
Retaining the pregnancy	13	48.2
Medical abortion (Use of drugs)	7	25.9
Surgical abortion (D&C or Evacuation)	7	25.9
Ever had sex because of money(commercial) or any other favour		
Yes	18	4.5
No	36	9.0
Never	346	86.5

Factors associated with good SRH practices among respondents included age group (p = 0.024), gender (p < 0.001), ethnicity (p = 0.029), and overall reproductive health knowledge score (p < 0.001) (Table IV).

Male respondents had significantly lower odds (77%) of engaging in good sexual and reproductive health practices compared with females (OR = 0.23; 95% CI = 0.090–0.577). Additionally, respondents with poor knowledge about reproductive health issues had significantly lower odds (84%) of engaging in safe sexual and reproductive health practices compared to those with good knowledge of reproductive health issues (OR = 0.16; 95% CI = 0.047–0.556) (Table V).

Discussion

This study assessed the sexual and reproductive health knowledge and practices among in-school adolescents in Ogbomoso, Nigeria. The findings of this study show the extent of respondents' knowledge about sexual and reproductive health, most of whom did not have comprehensive knowledge about reproductive health issues. Respondents' overall knowledge of

reproductive health issues in this study was poor, with about three out of five respondents lacking knowledge. This finding was similar to another study among adolescents in Benin City, Edo State, Nigeria, in which 80.9% of the respondents had poor knowledge about reproductive issues. [9] The low level of knowledge observed in this study could be attributed to the fact that most respondents have their SRH influenced by friends and peers, who may not always provide accurate information about SRH.

Table IIIa: Sexual and reproductive health practices of the respondents

Variables	*Frequency (n= 400)*	*Percentage*
Used condom for every sexual act (n = 54)		
Yes	21	38.9
No	33	61.1
Frequency of condom use		
Always	21	38.9
Never	20	37.0
Sometimes	7	13.0
Occasionally	6	11.1
Reason for non- use of condom ** (n = 20)		
Did not know how to use	6	30.0
Unplanned sex	5	25.0
Occasional sex could not lead to pregnancy	4	20.0
It is expensive	3	15.0
Partner didn't want it	2	10.0
Worried about side effects	2	10.0
Inconvenient to buy	1	5.0
Sexual delight would be affected	0	0.0
Ever used other forms of contraceptives apart from condom (n = 54)		
Yes	8	14.8
No	46	85.2
Other forms of contraceptives/material ever used (n = 8)		
Drugs (contraceptive pills)	7	87.5
Nylon	1	12.5

The study revealed that about one-eighth of respondents had ever had sex. This finding was similar to a survey of risky sexual behavior in Delta State in which one-seventh have ever had sexual intercourse. [17] This finding is also consistent with reports from studies in other states in southwest Nigeria. [14, 15] Similar studies conducted in south-south Nigeria (Port Harcourt) [18] and north-central Nigeria, [10] however, found higher sexual exposures among adolescents, with more than two out of five and one-quarter adolescents, respectively, having had sexual experiences/ encounters at one time or another. This is of public health concern, as most of the sexual contacts are unprotected because unprotected sex has been linked to unplanned pregnancy, unsafe abortion or school dropout among girls. [19] Also, a lot of STIs can be contracted through unprotected sex, with their short and long-term effects. [20]

Table IIIb: Sexual and reproductive health practices of the respondents

Variables	*Frequency (n = 400)*	*Percentage*
Other forms of contraceptives/material ever used (n = 8)		
Drugs (contraceptive pills)	7	87.5
Nylon	1	12.5
Ever diagnosed of Sexually Transmitted Infection (n = 54)		
Yes	44	81.5
No	10	18.5
Sexually Transmitted Infection symptoms ever had (n = 54)**		
Painful urination	24	44.4
Itching in the private parts	14	25.9
Abnormal vagina/Urethra discharge	12	22.2
None	10	18.5
Symptoms treated	**(n = 54)**	
Yes	23	42.6
No	21	38.9
Not applicable	10	18.5
Ever discussed sexual issues with parents		
Yes	113	28.2
No	287	71.8
**People that influenced most on sexual behavior ** **		
Friends	156	39.0
Classmates	118	29.5
Parents	81	20.3
Teachers	62	15.5
Relatives	33	8.3
Others+	59	14.8
Overall scoring of practice		
Safe	367	91.8
Unsafe	33	8.2

** Multiple responses allowed + Others include – role models, film stars

The mean age at sexual debut was 14.7±2.4 years, which was similar to the reported age of between 14.5 years and 15 years by different authors within Nigeria [21,22] and Ethiopia. [17] The finding of this study, however, was higher than the 12.7 years reported by Adeomi and colleagues in Osun State [23] and the 11.0 years reported by Ofori *et al*. from Ghana. [24] These categories fell into early sexual debut, which is the first sexual intercourse before the age of 15 years. There are several influencing factors identified as the cause of early sexual debut, among which are poor knowledge about sex, peer pressure, poverty, mobile usage, and alcohol usage, among others. [25] This early sexual debut has been reported as one of the risky sexual behaviours that are the main drivers of multiple sexual partners, STIs, and unplanned pregnancies. [26, 27] This might be

because the first sexual debut in young adolescents is unplanned primarily, experimental in nature, and mainly without protection.

Table IVa: Socio-demographic parameters and other factors associated with sexual and reproductive health practices

Parameters	*Safe (n = 367)*	*Unsafe (n= 33)*	*Total (n = 400)*	*Statistics*
Age group (in years)				
13 – 15	165 (45.0)	7 (21.2)	172 (43.0)	$\chi^2 = 7.493$
16 – 18	186 (50.7)	23 (69.7)	209 (52.3)	p = 0.024*
19	16 (4.4)	3 (9.1)	19 (4.8)	
Class of respondents				
S.S. 1	123 (33.5)	12 (36.4)	135 (33.8)	$\chi^2 = 0.118$
S.S. 2	142 (38.7)	12 (36.4)	154 (38.5)	p = 0.943
S.S. 3	102 (27.8)	9 (27.3)	111 (27.8)	
Gender				
Male	177 (48.2)	27 (81.8)	204 (51.0)	$\chi^2 = 13.670$
Female	190 (51.8)	6 (18.2)	196 (49.0)	p < 0.001*
Religion				
Christianity	255 (69.5)	21 (63.6)	276 (69.0)	$\chi^2 = 0.484$
Islam	112 (30.5)	12 (36.4)	124 (31.0)	$^+p = 0.556$
Ethnicity				
Yoruba	358 (97.5)	30 (90.9)	388 (97.0)	$+\chi^2 = 11.663$
Hausa / Fulani	4 (1.1)	3 (9.1)	7 (1.8)	p = 0.029*
Igbo	5 (1.4)	0 (0.0)	5 (1.2)	
Marital status				
Single	366 (99.7)	32 (97.0)	398 (99.5)	$+\chi^2 = 2.413$
Married	1 (0.3)	1 (3.0)	2 (0.5)	$^+p = 0.158$
Family structure				
Monogamous	307 (83.7)	23 (69.7)	330 (82.5)	$\chi^2 = 4.084$
Polygamous	60 (16.3)	10 (30.3)	70 (17.5)	$^+p = 0.055$

About half of the respondents used condoms during their first sexual intercourse. This was higher than some previously conducted studies. In a survey conducted in Port Harcourt, only one-fifth used, [18] and another study in Osun State had about one-third of the respondents. [28] The reason for the higher condom use rate in the current study may be due to fear of getting pregnant from unprotected sexual intercourse, evidenced by the fact that two-thirds of our respondents knew the risks associated with early pregnancy. The main reason for non-use of condoms among two out of five of the respondents was that they don't feel like using them. This was consistent with some other earlier studies [11,13,21] in which more than half of the respondents did not use contraceptives. There were different reasons for non-use of condoms among sexually active adolescents, such as negative feelings about their use, embarrassment from the source of purchase, fear of parents, financial implications, among others. Previous studies had also identified these reasons as contributory factors for poor use of condoms among adolescents. [29,30] Hence, there is a need for reproductive health experts to invest more in creating awareness regarding adolescents' reproductive health services in Nigeria. The awareness campaigns should engage all relevant stakeholders, such as owners of chemist/pharmacy stores and community and religious leaders, to destigmatise the use of ASRH services.

Table IVa: Socio-demographic parameters and other factors associated with sexual and reproductive health practices

Parameters	*Safe (n = 367)*	*Unsafe (n= 33)*	*Total (n = 400)*	*Statistics*
Marital status of the parents				
Married	321 (87.5)	26 (78.8)	347 (86.8)	$+\chi^2 = 6.998$
Separated	18 (4.9)	3 (9.1)	21 (5.3)	p = 0.072
Divorced	5 (1.4)	3 (9.1)	8 (2.0)	
Widowed	23 (6.3)	1 (3.0)	24 (6.0)	
Father level of education				
No formal education	9 (2.5)	2 (6.1)	11 (2.8)	$+\chi^2 = 5.059$
Primary	41 (11.2)	6 (18.2)	47 (11.8)	p = 0.281
Secondary	149 (40.6)	15 (45.5)	164 (41.0)	
Tertiary	109 (29.7)	5 (15.2)	114 (28.5)	
Postgraduate	59 (16.1)	5 (15.2)	64 (16.0)	
Mother level of education				
No formal education	13 (3.5)	4 (12.1)	17 (4.3)	$+\chi^2 = 6.431$
Primary	43 (11.7)	6 (18.2)	49 (12.3)	p = 0.169
Secondary	166 (45.2)	10 (30.3)	176 (44.0)	
Tertiary	108 (29.4)	9 (27.3)	117 (29.3)	
Postgraduate	37 (10.1)	4 (12.1)	41 (10.3)	
Father occupation				
Trading	68 (18.5)	7 (21.2)	75 (18.8)	$+\chi^2 = 3.263$
Self-employ	186 (50.7)	16 (48.5)	202 (50.5)	p = 0.515
Government employee	88 (24.0)	6 (18.2)	94 (23.5)	
Religious leader	1 (0.3)	1 (3.0)	2 (0.5)	
Unemployed	24 (6.5)	3 (9.1)	27 (6.8)	
Mother occupation				
Trading	235 (64.0)	22 (66.7)	257 (64.3)	$+\chi^2 = 1.928$
Self-employ	62 (16.9)	7 (21.2)	69 (17.3)	p = 0.749
Government employee	64 (17.4)	4 (12.1)	68 (17.0)	
Religious leader	4 (1.1)	0 (0.0)	4 (1.0)	
Unemployed	2 (0.5)	0 (0.0)	2 (0.5)	
Overall scoring of knowledge				
Good	158 (43.1)	3 (9.1)	161 (40.3)	$\chi^2 = 14.520$
Poor	209 (56.9)	30 (90.9)	239 (59.8)	p < 0.001

+ Likelihood ratio

About one out of ten respondents has been pregnant before. This was consistent with the finding of a study in Oyo State, southwest Nigeria (12.4%). [31] Our finding was, however, lower than 19.5% in a survey carried out in Ilorin, where respondents had ever been pregnant or impregnated someone before, [32] and 36.1% recorded in the city of Kapiri Mposhi in Zambia. [33] In our study, more than half of the pregnancies were aborted, and this was consistent with many earlier studies conducted across Nigeria at 75.0%, [31] 75.9%, [34] and 88.9%. [15] Three-quarters (75.3%) of pregnant females had aborted, and 24.7% male had helped their girlfriends to abort the pregnancy, [18] while less than half (41.9%) in the Zambia study. [33] The observed difference may be due to the negative

perception of the Zambia respondents about abortion. [33]

About one out of twenty respondents had been involved in transactional sexual interactions. This finding was much lower than those of similar studies. [35,36] A survey of STI and risky behaviour among adolescents in a north-central state in Nigeria revealed that about one-quarter of the respondents were involved in transactional sex, [35] and another study in Akwa Ibom (south-south) showed about one-eighth of respondents had engaged in transactional sex. [36] The observed difference may be due to the engagement of most parents in our study in occupations that enable them to provide for their children's financial needs. However, transactional sex should be discouraged because of the risks associated with it. The Ministry of Women Affairs should work in partnership with the Ministry of Education to improve girl-child school enrollment nationwide. Also, social safety nets such as "trader money," a conditional transfer programme for financially vulnerable households, should be invested in. Those trafficking Nigerian adolescents for transactional sex should be promptly identified and punished in line with the provisions of the 2015 Violence Against Persons' Prohibition Act (VAPPA).

Table V: Predictors of sexual and reproductive health practices

Predictors	*Adjusted Odds Ratio*	*95% Confidence Interval*	*p-value*
Age group (years)			
13 – 15 (*Reference value*)			
16 – 18	0.54	0.108 – 2.727	0.458
19	0.52	0.207 – 1.283	0.155
Gender			
Male	0.23	0.090 – 0.577	0.002
Female (*Reference value*)			
Ethnicity			
Yoruba (*Reference value*)			
Hausa / Fulani	0.21	0.039 – 1.112	0.067
Igbo	0	0.000 –	0.999
Overall knowledge score			
Good (*Reference value*)			
Poor	0.16	0.047 – 0.556	0.004

There were different symptoms of sexually transmitted infections experienced by more than four out of five respondents in this study. Still, the primary symptom reported by almost half of the respondents was painful urination. The high prevalence of sexually transmitted infections may be due to poor use of condoms for every sexual act in this study, which has a dual function of preventing pregnancy and sexually transmitted infections if correctly used. Likewise, multiple sexual partners can be a risk factor. Another study documented different symptoms and prevalence. [34] The observed difference might be due to differences in the settings in which the study was carried out. Also, only half of adolescents with previous episodes of STI were actually treated for the infection. This finding was comparable to the result of another study conducted in Southwest Nigeria. [15] This might be due to limited knowledge of likely complications from untreated or poorly treated STIs. Thus, there is a need to reorganize and re-strategize STI prevention interventions among Nigerian adolescents. Non-discriminatory and non-stigmatizing STI detection and treatment services should be provided at close proximities

to where adolescents often gather, such as schools, coaching, and viewing centers, which focus on the prevention of STIs among Nigerian adolescents.

About three-quarters of the respondents don't discuss reproductive issues with their parents. The finding was similar to a study done in rural Southwest Nigeria on adolescent sexual education, in which the majority deliberately don't discuss sexual issues with their parents. [37] Discussions about sex with adolescents are considered taboo in many Nigerian homes. Most parents assume that sexuality education for young adolescents is a means to corrupt them and to encourage them to be promiscuous. Thus, parents of adolescents should be included in any interventions to improve the use of ARHS in Nigeria.

The current study revealed that about ten percent of respondents still have unsafe sexual and reproductive health practices. This effect stems from the cumulative practices observed in this study; hence, there is a need to support adolescents through health promotion to adopt safer sexual practices in schools. A similar survey in Plateau State also reported unsafe sexual and reproductive health practices among in-school adolescents.[38]

Factors associated with the respondent's safe practices about reproductive issues were female gender and good knowledge about sexual and reproductive health issues. A similar Nigerian study is also congruent with our study findings, where males engaged more in unsafe SRH practices compared to females. [39] Another study also identified that the knowledge of girls was higher than that of boys on SRH issues. [40] It can then be inferred from this that the practice of girls on SRH issues will be safe because good knowledge of SRH is associated with safe SRH practices. It is therefore recommended that policymakers should prioritize activities that will promote good expertise on sexual and reproductive issues and thereafter promote safe sexual and reproductive health practices, especially among males.

Conclusion

There is an urgent need for policymakers to prioritize activities that promote sound knowledge of sexual and reproductive issues and then encourage safe reproductive health practices, especially among males.

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References

1. Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezeh AC, *et al.* Adolescence: A foundation for future health. Lancet 2012;379:1630–1640. https://doi.org/10.1016/S0140-6736(12)60072-5.
2. World Health Organization. The Second decade: improving adolescent health and development. 2001;20. https://doi.org/10.5860/crl_09_04_295.
3. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Nicholas B, *et al.* Our future: a Lancet Commission on Adolescent Health and Wellbeing 2018;387:2423–278. https://doi.org/10.1016/S0140-6736(16)00579-1.

4. Adolescent Health: Problems and Management - Public Health Notes [Internet]. [cited 26 June 2025]. Available from: https://publichealthnotes.com/adolescent-health-problems-and-management/
5. Anuja T, Sathyamurthi K. A Systematic Review on Challenges and Problems Faced by Adolescents. Int J Res Publ Rev 2023;4:2174–2178.
6. Gatheru PM, Wao H, Alamdo A, Kwarteng PG, Kwashie M, Kabiru CW, *et al.* The role of parent-adolescent communication interventions in improving sexual and reproductive health outcomes in sub-Saharan Africa: protocol for a systematic review and meta-analysis. Reprod Heal [Internet] 2024;21:4–9. https://doi.org/10.1186/s12978-024-01912-z.
7. Alukagberie ME, Elmusharaf K, Ibrahim N, Poix S. Factors associated with adolescent pregnancy and public health interventions to address in Nigeria: a scoping review. Reprod Health 2023;20:1–24. https://doi.org/10.1186/s12978-023-01629-5.
8. Isa IA, Abednigo AO. Maternal Mortality from Unsafe Abortion in the Niger Delta. A Five-Year Review. Int J Contemp Med Res 2016;3:1068–1070.
9. Isara AR, Nwaogwugwu JC. Sexual and Reproductive Health Knowledge, Attitude and Behaviours of in-School Adolescents in Benin City, Nigeria. Afr J Biomed Res 2022;25:121–127. https://doi.org/10.4314/ajbr.v25i2.2
10. Aderibigbe SA, Araoye MO, Akande TM, Musa OI, Monehin JO, Oluwole Adeyemi Babatunde. Teenage pregnancy and prevalence of abortion among in-school adolescents in North Central, Nigeria. Asian Soc Sci 2011;7:122–125. https://doi.org/10.5539/ass.v7n1p122.
11. Hindin M, Fatusi A. Adolescent Sexual and Reproductive Health in Developing Countries: An Overview of Trends and Interventions. Int Persp Sexual Reprod Health J Int Fam Plan Perspect 2009;35:58–62.https://doi.org/10.1363/3505809.
12. United Nations Children's Fund (UNICEF). Progress for Children: A report card on adolescents. 2012;10:1- 92. Retrieved from www.unicef.org/publications
13. UNICEF. The state of the world's children 2016: A fair chance for every child. 2016. https://doi.org/10.1016/0167-577X(84)90080-6.
14. Morris JL, Rushwan H. Adolescent sexual and reproductive health: The global challenges. Int J Gynecol Obstet 2015;131:S40–S42. https://doi.org/10.1016/j.ijgo.2015.02.006.
15. Olugbenga-Bello AI, Adebimpe WO, Akande RO, Oke OS. Health risk behaviors and sexual initiation among in-school adolescents in rural communities in southwestern Nigeria. Int J Adolesc Med Health 2014;26:503–510. https://doi.org/10.1515/ijamh-2013-0326.
16. Cleland J. Illustrative Questionnaire for interview-Surveys with Young People. Geneva: World Health Organization, 2001; 1–55.
17. Akpobome E, Moore BM, Anyiam FE. A Comparative Study of Selected Risky Behaviours among Adolescents of Private and Public Secondary Schools in Ughelli, Delta State, Nigeria. Asian J Med Health 2018;13:1–12. https://doi.org/10.9734/AJMAH/2018/45218.
18. Alex-Hart BA, Okagua J, Opara PI. Sexual Behaviours of Secondary School Students in Port Harcourt. Br J Med Med Res 2015;6:325–334. https://doi.org/10.9734/BJMMR/2015/14539.
19. Mumah JN, Mulupi S, Id YDW, Ushie BA, Nai D, Id CWK, *et al.* Adolescents ' narratives of coping with unintended pregnancy in Nairobi's informal settlements. PLoS One 2020;15:e0240797. http://dx.doi.org/10.1371/journal.pone.0240797.
20. Mbizvo MT, Kasonda K, Muntalima NC, Rosen JG, Inambwae S, Namukonda ES, *et al.* Comprehensive sexuality education linked to sexual and reproductive health services reduces early and unintended pregnancies among in-school adolescent girls in Zambia. BMC Public Health 2023;23:1–13.

https://doi.org/10.1186/s12889-023-15023-0.

21. Funmito OF, Akintunde OF, Olumuyiwa AO, Samuel EA, Timothy OA, Idowu PO, *et al.* Prevalence and Predictors of Early Sexual Debut among Adolescents in Ogbomoso, Nigeria. Am J Public Health Res 2018;6:148–154. https://doi.org/10.12691/ajphr-6-3-4.
22. Adimora DE, Onwu AO. Socio-demographic factors of early sexual debut and depression among adolescents. Afr Health Sci 2019;19:2634–2644. https://doi.org/10.4314/ahs.v19i3.39.
23. Adeomi A, Adeoye O, Adewole A, Israel O, Temitayo-Oboh A. Sexual Risk Behaviours among Adolescents attending Secondary Schools in a Southwestern State in Nigeria. J Behav Health 2014;3:176–80. https://doi.org/10.5455/ jbh. 20140815092416.
24. Ofori R, Boampong MS, Sekyi D, Arthur AN, Yeboah EH, Appiah SCY. Experiences and Predictors of First Sex Initiation among Early Adolescents in Koforidua Municipality, Ghana: A Convergent Parallel Mixed-Method Study. J Psychosexual Health 2024;6:328–337. https://doi/full/10.1177/26318318241306188.
25. Ogutu GM, Chege SM. Early Sexual Debut and the Associated Factors among School-Going Adolescents in Selected Schools in Kenya. East Afr Health Res J 2023;7:219–227. https://doi.org/10.24248/eahrj.v7i2.734.
26. Durowade KA, Babatunde OA, Omokanye LO, Elegbede OE, Ayodele LM, Adewoye KR, *et al.* Early sexual debut: prevalence and risk factors among secondary school students. Afri Health Sci 2017;17:614–22. https://doi.org/10.4314/ahs.v17i3.3.
27. Alawode OA, Ogunwemimo H, Bolorunduro M Eunice, Awoleye AF. Age at Sexual Debut and Multiple Sexual Partnerships among Adolescents in Nigeria: An Assessment of the Mediating Role of the Knowledge of Sexually Transmitted Infections. Adolescents 2021;1:421–432. https://doi.org/10.3390/adolescents1040032.
28. Sabageh AO, Fatusi AO, Sabageh D, Babatunde OA. Condom use: prevalence among rural and urban sexually active adolescents in Osun State, Nigeria. Sci J Public Health 2014;2:270–274. https://doi.org/10.11648/j.sjph.20140204.14.
29. James PB, Osborne A, Babawo LS, Bah AJ, Margao EK. The use of condoms and other birth control methods among sexually active school-going adolescents in nine sub-Saharan African countries. BMC Public Health 2022;22.
30. Huda NN, Raziur Rouf R, Shawon MSR. Condom non-use among adolescents: Prevalence and associated factors among school-going adolescents from 58 countries. Sex Reprod Health 2024;42:101035. https://doi.org/10.1016/j.srhc.2024.101035.
31. Idowu A, Ayodele AO, Omotade PG, Anu OS, Omolola FF. Risky Sexual Behavior of Senior Secondary School Students in an Urban Community of Oyo State, South West Nigeria. Int Q Community Health Educ 2017;37:173–180. https://doi.org/10.1177/0272684X17736154.
32. Babatunde OA, Aderibigbe SA, Jaja IC, Babatunde OO, Adewoye KR, Durowade KA, *et al.* Sexual activities and practice of abortion among public secondary school students in Ilorin, Kwara. Int J Sci Environ 2014;3:1472–1479. https://doi. org/6cf78b0d-78d3-3625-aa13-13101ed255b2.
33. Lombe K. Unsafe Abortion; Knowledge and Perceptions Among in-School Female Adolescents in Kapiri Requir, Mposhi 2014; 1 -74. https://doi. org/97b329f4-5639-3bd6-8a21-090cf3f7f315.
34. Chimah UC, Lawoyin TO, Ilika AL, Nnebue CC. Contraceptive knowledge and practice among senior secondary school students in military barracks in Nigeria. Niger J Clin Pract 2016;19:182–188. https://doi.org/10.4103/1119-3077.175970.
35. Asuke S, Kurya JM, Olusanmi BT, Hikon YA, Eseigbe P. Knowledge of sexually transmitted infections and practice of risky sexual behaviours among senior secondary school students in Jos North local government area, Plateau State, Nigeria. Port Harcourt Med J 2020;13:87–92. https://doi.org/10.4103/phmj.phmj.
36. Bamgboye EA, Badru T, Bamgboye A. Transactional Sex between Men and Its

Implications on HIV and Sexually Transmitted Infections in Nigeria. J Sexually Transmitted Dis 2017;(2017): 1 -7. https://doi. org/10.1155/2017/1810346.

37. Asekun-Olarinmoye EO, Dairo MD, Abodurin OL, Asekun-Olarinmoye IO. Practice and content of sex education among adolescents in a family setting in rural southwest Nigeria. Appl Res Eval 2011;32:57–71. https://doi. org/10.2190/IQ.32.1.f.
38. Afolaranmi TO, Hassan ZI, Ofakunrin AOD, Onyinye OD, Maduneme C, Anionwe SJ, *et al.* Knowledge and Practice of Safe Sex among In-School and Out-of-School. Int J Heal Sci Res 2018;8:8–16. https://doi. org/2c44e12c-e664-3b07-afb9-5235c574abd5.
39. Kanmodi K, Fagbule O, Ogunniyi K, Ogbeide M, Samuel V, Aliemeke E, *et al.* Determinants of sexual practices among secondary school students in Nigeria: Focusing on socio-cultural and school-related factors. Rwanda Med J 2020;77:32–37. https://doi. org/4e130007-8236-331b-ac0f-e295e47889b5.
40. Iqbal M. The Level of Knowledge and Awareness About Sex and Reproductive Health Among Adolescents in Kashmir. J Psychosexual Health 2021;3:51–56. https://doi. org/10.1177/2631831821989927.