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ORIGINAL RESEARCH

Knowledge, Attitude, Practices and associated factors of HIV/AIDS among adolescents in Ora Community, Edo State

Obarisiagbon OE*, Ofili AN, Isara AR, Ighedosa SU

Department of Community Health, University of Benin/University of Benin Teaching Hospital, Benin City, Edo State, Nigeria

***Correspondence: Dr OE Obarisiagbon, Department of Community Health, University of Benin/University of Benin Teaching Hospital, Benin City, Edo State, Nigeria;**
Email: Otaniyenuwa.obarisiagbon@uniben.edu, obasotas@gmail.com; ORCID: https://orcid.org/0000-0002-2781-8350

Abstract

Background: Adolescents constitute a significant proportion of the vulnerable group in the society and often engage in risky sexual behaviours which predispose to HIV/AIDS.
Objective: To assess the knowledge, attitude, preventive practices of HIV/AIDS and its associated factors among adolescents in Ora community, Edo State.
Methods: A descriptive cross-sectional study was carried out among 440 secondary school students selected by stratified sampling technique. Data was obtained with pretested interviewer-administered questionnaires.
Results: Two hundred and forty-two (242; 55.0%) of the respondents were aged 10 – 14 years. Two hundred and seventy-one 271 (61.6%) of the respondents had good knowledge of HIV/AIDS, while 291 (59.3%) had a positive attitude towards HIV/AIDS. Age 15 – 19 years (p = 0.001) male sex (p = 0.049) and respondents in SS2 class (p = 0.005) were significantly associated with knowledge. A negative attitude was recorded among 139 (51.3%) students who had good knowledge. The relationship between knowledge and attitude towards HIV/AIDS was statistically significant (p = 0.01). Twenty-five (73.5%) of the sexually active respondents had poor preventive practice regarding HIV/AIDS.
Conclusion: More than half of the students had good knowledge and positive attitude towards HIV/AIDS while a majority of them who were sexually active had poor preventive practices. Respondents aged 15 – 19 years, males and in SS2 class significantly had good knowledge of HIV/AIDS. Health education intervention programs targeted on the prevention of HIV/AIDS should be designed for Secondary School Students.

Keywords: Adolescents, Attitude, HIV/AIDS, Knowledge, Preventive practices, Reproductive Health, Sexual practices.``

Introduction

Adolescents are a peculiar group as the biological and psychosocial changes that take place during this period affect every aspect of their lives. There are an estimated 1.2 billion adolescents worldwide, and this constitutes over 16.0% of the world's population. [1] Adolescents comprise a significant proportion of the vulnerable group in the society, and they often engage in risky sexual behaviours, which predispose them to HIV/AIDS. Therefore, they represent a growing proportion of people living with HIV. [2]

Mother-to-child transmission of HIV is the most common mode of acquisition of the virus by children. Thirty-three per cent of HIV infected infants not commenced on treatment become slow progressors with a median survival of more than ten years. This adds to the proportion of adolescents with HIV/AIDS. [3, 4]

The "ALL IN to End Adolescent AIDS" agenda was launched in early 2015 by UNICEF and UNAIDS in partnership with other developmental partners. This agenda established targets to end the AIDS epidemic among adolescents by 2030. [2] However, in 2016, 2.1 million adolescents were living with HIV/AIDS worldwide. Of this population, about 1.7 million live in Sub-Saharan Africa. Adolescents accounted for 6.0% of People Living With HIV/AIDS (PLWHA) and 15.0% of new HIV infections; 84.0% of HIV infections among adolescents occurred in Africa and estimates suggest that as many as 740,000 additional adolescents will become infected with HIV between 2016 and 2030. [2]

In 2017, there were 1.8 million adolescents between the ages of 10 and 19 years living with HIV worldwide, with 250,000 new infections recorded. [5] In Nigeria, approximately 200,000 adolescents are living with HIV/AIDS, and this represents 10.0% of the global burden of the disease. [6]As a result of the increase in HIV infection, a resolution was adopted by the United Nations General Assembly in 2016, on HIV and AIDS which stated as follows: On The Fast Track to Accelerating the Fight against and to Ending the AIDS Epidemic by 2030 (including targets to reduce new HIV infections among adolescents by 95%). [7] This resolution pursues a transformative AIDS response to contribute to gender equality and the empowerment of all women and girls. It also commits to reducing the number of adolescent girls and young women aged 15 to 24 years newly infected with HIV globally each year to below100, 000 by the year 2020.

Adolescents have misconceptions about HIV/AIDS, and this varies from one place to another. In Sub-Saharan Africa, only 26.0% of adolescent girls and 33.0% of boys aged 15-19 years had comprehensive and correct knowledge of HIV. [8] This low level of knowledge of HIV/AIDS and high levels of misconception puts adolescents at increased risk of contracting HIV. HIV stigmatization and discrimination remains very high among young people in Nigeria as only 9.1% of males, and 7.8% of females had a good attitude towards PLWHA in the 2012 National Reproductive Health Survey (NARHS) conducted among young people. This calls for concern as stigma and discrimination weakens prevention efforts by discouraging individuals from getting tested, disclosing their serostatus, or taking antiretroviral drugs, thereby facilitating the spread of HIV. [9]

Adolescents are susceptible to peer pressure and opt to engage in risky behaviours like unprotected sex, non-use or inconsistent use of condoms. According to the 2015 data from Youth Risk Behaviour Surveillance System, nearly half (43%) of all sexually active high school students aged 10 to 24 years did not use condoms during their last sexual experience. [10] These risky behaviours predispose them to HIV infection. Furthermore, the average age of sexual debut among adolescents in Nigeria is 15 years for girls and 16 years for boys; this early onset of sexual activity, their low level of HIV knowledge and their increased vulnerability put them at risk of contracting HIV infection. [11]

In a cross-sectional study carried out in 2013 to assess the knowledge, attitude and practices of HIV infection among 1,839 secondary school students selected by multistage sampling technique from 8 secondary schools in Kuala Terengganu, Malaysia, 62.6% of the students had good knowledge of HIV while 37.4% students had poor knowledge. [12]A similar study done in 2014 in Edo State, revealed that 18.3% of the students had good knowledge of

HIV/AIDS, 28.3% had fair knowledge while 53.3% of them had poor knowledge. [13] Another study conducted to determine the knowledge of HIV/AIDS, and sexual practices among 852 adolescents in Benin City also revealed poor knowledge of HIV. [14] Regarding attitude to HIV/AIDS, a study conducted among 464 secondary school students in Cameroon, showed that 52.5% of the students had a positive attitude towards people living with HIV/AIDS (PLWHA) while 47.5% had a negative attitude.[15] Similarly, another study conducted in 2016 among 450 secondary school students, in 4 different high schools in Eastern Cape, South Africa, showed that 58.9% of the students had a positive attitude towards PLWHA while 41.1% had a negative attitude. [16]

In 2013 a study to assess the preventive practices of HIV/AIDS among 380 secondary school students in Uganda revealed that 45.9% were sexually active, the age of sexual debut of 80.4% students was 16 years and below. Ninety-five (56.2%) of them have had sex with more than one person since sexual debut. In the prior 12 months, 59.0% of students have had sex, and of these, 51.0% did not use condoms during sexual contact. [17] In a study among 358 secondary school students in Delta State, Nigeria, 22.0% were sexually active; of these, 12.0% had multiple partners, and 23.0% never used condoms. [18]

The assessment of the knowledge, attitudes and practices regarding HIV/AIDS are some of the cornerstones in the fight against HIV/AIDS. [15] Youths are most vulnerable to the infection because they engage in unsafe practices due to a lack of adequate information. Therefore, evaluating their knowledge, attitude and preventive practices will be useful in the design of appropriate prevention strategies. Findings from this study will provide current data on the knowledge, attitude and preventive practices of adolescents attending secondary schools regarding HIV/AIDS. These data can be used as a tool for advocacy by stakeholders and for the design of intervention programmes. The objective of this study was to assess the knowledge, attitude, preventive practices and associated factors of HIV/AIDS among adolescents attending secondary schools in Ora Community in Edo State, Nigeria.

Methods

This descriptive cross-sectional study was carried out among 440 students of Ezomo Secondary School spanning classes JSS 1 to SSS2. Ezomo Secondary School is the only Secondary School in Ora community, Ovia North-East Local Government Area (LGA), Edo State. The total student population was over 695. This consisted of Junior Secondary School (JSS) and Senior Secondary School (SSS) students. Ovia North East LGA is located in Edo South senatorial district. The headquarters is located at Okada and Ora is a community within Adolor town in Ovia North East LGA. [19, 20] The community is bordered to the West by Oluku, to the East by Iyowa, to the North by Ovbiogie and the South by Otofure communities.

The health facilities located in Adolor town include Ekiadolor Primary Healthcare Centre (PHC), Utokon PHC and Ovbiogie PHC. [21] This study was carried out between April and November 2017, among students aged 10 – 19 years. Students who were too ill to participate were excluded from this study because they may not be in the best frame of mind to give correct information. The SS3 class was also excluded as the students were writing their final exams at the time of the study.

The sample size was calculated using the Cochran formula: [22] $n = Z^2pq/d^2$.
Where:
n = desired minimum sample size
Z = standard normal deviate (1.96 at $\alpha = 0.05$)
p = prevalence rate of 51.6% obtained in a similar study carried out in Calabar in 2005[23]

q = 1 – p
d = degree of accuracy (5% = 0.05).
The calculated minimum sample size was 384. The addition of 10% non-response rate (38) increased the sample size to 422. However, 440 students eventually participated in this survey.

Stratified sampling technique was used to select the students recruited for this study. The students were stratified based on the classes. The total number of students present in the school at the time of the survey was obtained by doing a total headcount (551). The number of respondents to be selected from each already existing stratum (JSS 1-3, SSS 1 and 2) were proportionally allocated based on the size of the various strata. The sampling fraction was calculated by dividing the sample size by the total population (= 440/551= 0.8). The sample size of each stratum (class) was calculated using the formula;
Sample size = sampling fraction × population of the student in each stratum.
Proportional allocation of students: JSS 1 = 0.8 x 178 = 142; JSS 2 = 0.8 x 104 = 83;JSS 3 = 0.8 x 101 = 81; SS 1 = 0.8 x 110 = 88; SSS 2 = 0.8 x 52 = 48. Systematic random sampling was used to select the respondents. The sampling interval was determined as (total number of students / sample size) = 551/440 = 1.25, which was approximately 1. Therefore, in each class, every other student who met the inclusion criteria was invited to participate in the study.

Data were obtained using structured, pretested, interviewer-administered questionnaire. The questionnaires covered the set objectives which were broadly divided into sections as follows:
Section A - Socio-demographic data; Section B - Knowledge of HIV/AIDS; Section C - Attitude towards HIV/AIDS; Section D - Preventive practices in HIV/AIDS. Forty questionnaires were pretested in Oba Akenzua Secondary School, Oredo Local Government Area, Benin City, Edo State to ensure the validity and reliability of the questions as well as the time taken to complete it.

Data Management
The International Standard Classification of Occupations (ISCO-08) was adapted and modified to group the occupation of the parents/caregivers of the respondents into skill levels 1 to 4 or unemployed. [24]
For this study, "sexually active" was defined as an engagement in sexual relations. Correct knowledge of HIV/AIDS was defined as accurate identification of the cause of HIV/AIDS, knowledge of at least two ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner). Knowledge of HIV/AIDS was assessed using a total of 15 questions; these questions were reorganized into six categories of HIV/AIDS knowledge - HIV/AIDS definition (one question), symptoms of HIV/AIDS (three questions), cause of HIV/AIDS (one question), transmission modes (two questions), Treatment/outcomes (three questions) and preventive measures (five questions). One mark was allotted to every correct answer. The minimum score attainable was 0 while the maximum possible score was 15. The scores were computed into percentages and scores of 50%, and above were categorized as "Good knowledge" while a score below 50% was classified as "Poor knowledge".
The attitude was assessed with six questions using the Likert scale (Agree, Disagree, or I do not know). Positive attitude was identified if respondents agreed with the following: (i) share clothes with PLWHA, (ii) sleep on the same bed with PLWHA, (iii) desire to know their HIV status, (iv) will tell their parents/caregivers about their HIV status, (v) will not avoid PLWHA and (vi) agreed that being HIV/AIDS positive does not mean a death sentence. Scores of 1, 0 and 0 were allotted to the responses 'Agree, Disagree and I do not know' respectively. The minimum attitude score attainable was 0, and the

maximum possible score was 6. The recorded scores were computed into percentages and scores of 50%, and above were categorized as "Positive attitude" while scores below 50% were classified as "Negative attitude".

The preventive practices were identified among the sexually active respondents using six questions. The minimum score attainable was 0, and the maximum possible score was 6. The scores were computed into percentages and scores of 50% and above-defined "Good preventive practices" while scores below 50% were classified as "Poor preventive practices" towards HIV/AIDS.

The questionnaires retrieved were screened for completeness, coded and entered into IBM SPSS Version 21.0. The results obtained were then presented using frequency tables and a multiple bar chart. Univariate analysis was done to assess the distribution of the variables. Bivariate analysis was carried out to determine the association between the knowledge, attitude, preventive practices and associated factors of HIV/AIDS among the respondents such as the sex, age, school class and primary caregivers of the respondents. Bivariate analysis was also carried out to determine the association between knowledge of HIV/AIDS and attitude towards HIV/AIDS. Test of association between categorical variables was done using Chi-Square test and Fisher's Exact test. A p-value of less than 0.05 was considered to be statistically significant.

Ethical Considerations

Ethical clearance was obtained from the University of Benin Ethics and Research Committee. Permission to conduct the survey was obtained from the Head of Ora community and the School Principal of Ezomo Secondary School. Consent and assent were also obtained from the parents and students, respectively, while confidentiality was assured. Health Education was carried out on an individual basis after data collection.

Results

General Characteristics

Overall, 440 respondents participated in this survey. Over half of the respondents (242; 55.0%) were aged 10 – 14 years, while 198 (45.0%) were aged 15 – 19 years. The mean age (SD) was 14 (3.6) years. Female students represented 229 (52.0%) of the total population of respondents while there were 211 (48.0%) male students. One hundred and forty-two (32.3%) of the students were in JSS1 class, and 426 (96.8%) of the respondents were Christians. Benin was the dominant ethnic group (182; 41.4%) (Table I). Three hundred and forty (77.3%) students lived with both parents. There were 351 (79.8%) respondents from nuclear families, while 365 (83.0%) of the respondents belonged to monogamous families. The respondents' primary caregivers were mainly in skill level 1(331; 75.2%). Two hundred and eighteen (49.5%) of the respondents' fathers had a secondary level of education, while 216 (49.1%) of the mothers also had a secondary level of education.

Knowledge of HIV/AIDS

Four hundred and thirty-two (98.2%) respondents had heard about HIV/AIDS, and of these, 360 (81.8%) identified schools as their source of information. Of the respondents that knew about HIV/AIDS, 280 (64.8%) knew the cause of HIV/AIDS, and 257 (91.8%) of them identified the virus as the causative agent of HIV/AIDS. Three hundred and sixty-two (83.8%) and 337 (78.0%) of the respondents identified sharp objects and unprotected sex, respectively as modes of transmission of HIV/AIDS, as shown in Table II.

Three hundred and thirty-six (84.7%) respondents knew that HIV/AIDS was preventable**.** Two hundred and eighty-five (77.9%) students identified abstinence as a preventive measure of HIV/AIDS, while 238 (54.1%) knew that there was no vaccine for HIV/AIDS**.** Overall, the composite knowledge

score showed that 271 (61.6%) students had good knowledge of HIV/AIDS (Table III).

Table IV shows that 132 (54.5%) of the 242 students within the ages of 10 – 14years had good knowledge of HIV/AIDS. The association between age and knowledge of HIV/AIDS was statistically significant (p = 0.004). More males had good knowledge of HIV 140/211 (66.4%) compared with the females 131/229 (57.2%), and this difference was statistically significant (p = 0.049). Knowledge scores of HIV were observed to increase with the class of the students, and this was highest among students in the SS2 class (34; 73.9%). However, the association between knowledge of HIV/AIDS and the class of respondents was statistically significant (p = 0.005).

Attitude towards HIV/AIDS

Two hundred and seventy-two (61.8%) students will not share clothes with People Living with HIV/AIDS (PLWHA), and 114 (51.2%) will not sleep on the same bed with PLWHA. Three hundred and forty-two (77.8%) respondents will want to know their HIV status and 390 (88.7%) will tell their parents about their HIV status. One hundred and seventy-eight (40.5%) respondents will avoid people living with HIV/AIDS (PLWHA), and 272 (61.8%) believed that death from HIV/AIDS is inevitable. (Figure 1)

Table I: Socio-demographic characteristics of the respondents

Variables	Frequency n = 440	Percentage
Age Group (Years)		
10-14	242	55.0
15-19	198	45.0
Mean age (SD)14 (3.6)		
Sex		
Male	211	48.0
Female	229	52.0
Class		
JSS 1	142	32.3
JSS 2	83	18.9
JSS 3	81	18.4
SS 1	88	20.0
SS 2	46	10.4
Religion		
Christianity	426	96.8
Islam	13	3.0
African Traditional Religion	1	0.2
Ethnicity		
Benin	182	41.4
Urhobo	74	16.8
Yoruba	58	13.2
Igbo	42	9.5
Isoko	27	6.1
Esan	24	5.5
Etsako	7	1.6
Others*	26	5.9

*** Otuo, Ora, Ibibio, Owan, Igbira, Ghana, Ekpon, Itsekiri, Ijaw**

Eighty-six (43.4%) of the 198 students within the ages of 15 – 19 years had a positive attitude towards HIV/AIDS and 149 (61.6%) students within the ages of 10-14 years had a negative

attitude. The relationship between age of respondents and attitude towards HIV/AIDS was not statistically significant (p = 0.288). Ninety (42.7%) male respondents had a positive attitude towards HIV/AIDS compared with 89 (38.9%) females. The relationship between sex and attitude towards HIV/AIDS was not statistically significant (p = 0.419). Thirty-one (67.4%) of the 46 SS2 students had a positive attitude, while 86 (60.6%) of 142 JSS1 students had a negative attitude towards HIV/AIDS. The association between the class of respondents and attitude towards HIV/AIDS was statistically significant (p <0.001). Eight (57.1%) out of 14 respondents who stayed with only their fathers had a positive attitude and 202 (59.4%) out of 340 who lived with both parents had a negative attitude. The association between primary caregiver of respondents and attitude towards HIV/AIDS was not statistically significant (p = 0.304) as shown in Table V. Overall, 261 (59.3%) students had a positive attitude towards HIV/AIDS while 179 (40.7%) had a negative attitude.

Table II: Awareness, sources of information, knowledge of HIV/AIDS among the respondents

Variable	Frequency	Percentage
Aware of HIV/AIDS	**n = 440**	
Yes	432	98.2
No	8	1.8
Source of information*	**n = 432**	
School	360	83.3
Electronic media	222	51.4
Parents	167	38.7
Peers	159	36.8
Health Workers	81	18.8
Internet	63	14.6
Know the cause of HIV/AIDS		
Yes	280	64.8
No	152	35.2
Cause	**n = 280**	
Virus	257	91.8
Bacteria	13	4.6
Fungi	6	2.2
Others**	4	1.4
Mode of Transmission*	**n = 432**	
Sharp object	362	83.2
Unprotected sex	337	78.0
Multiple sexual partners	270	62.5
Breast milk	243	56.3
Mosquito bite	150	34.7
Kissing	126	29.2
Others***	34	7.8

***Multiple responses** ****Blood transfusion, Protozoa, Sex, Disease** *****Blood transfusion, Touching, Mother to child transmission**

Preventive practices

Majority of the respondents (406; 92.3%) were not sexually active while 34 (7.7%) of the respondents were sexually active. The mean age of the sexually active respondents was 14.5 (2.1) years. Of the sexually active respondents, 16 (47.1%) were aged 10 – 14 years, while 18 (52.9%) were aged 15 – 19years. Twenty-five (73.5%) and 9 (26.5%) were males and females, respectively.

Fourteen (41.2%) had more than one sexual partner, and only 13 (38.2%) used a condom. The mean age of the respondents who used a condom was 14.2 (2.0) years. Eight (38.1%) of the students who used a condom were aged 10 – 14 years, while 13 (61.9%) of the respondents were aged 15 – 19years. Of the respondents who used a condom, over half of the 7 (53.8%) used condom sometimes. A majority (97%) of the respondents did not know their HIV status (Table VI).

Discussion

More than half of the respondents were aged 10 – 14 years. This is in contrast with a previous study carried out in the same Edo State of Nigeria, where more than half of the students were aged 13-15 years. [14] This may be due to early school enrolment by parents. Over half of the population of students in the school were females. This was similar to a study conducted in south-west Nigeria, where two-thirds of the students were females. [26] This is commendable as it promotes female education in line with the Sustainable Development Goal 5. A higher proportion of the respondents were in the junior classes. This is in contrast to a study carried out in Calabar. [23] This difference may be attributable to the fact that the entire students in the SS3 classes were excluded from the study due to their ongoing exams. More than one-third of the students belonged to the Benin ethnic group. This is because the study was carried out in Edo State, and it is similar to the Edo State Demographic Data, which states that Benin is the predominant tribe in Edo State. [20]

Table III: Knowledge of HIV preventive practices among the respondents

Variable	Frequency	Percentage
HIV is preventable	**n = 432**	
Yes	366	84.7
No	49	11.4
I don't know	17	3.9
Preventive Measures*	**n = 366**	
Mosquito net	115	31.4
Condom use	215	58.7
Abstinence	285	77.9
Drugs	125	34.2
Faithful to one partner	203	55.5
Do test	196	53.6
HIV education	216	59.0
Knowledge of vaccine for HIV/AIDS	**n = 432**	
Yes	59	13.4
No	238	54.1
Do not know	143	32.5
Composite knowledge score	**n = 440**	
Good	271	61.6
Poor	169	38.4

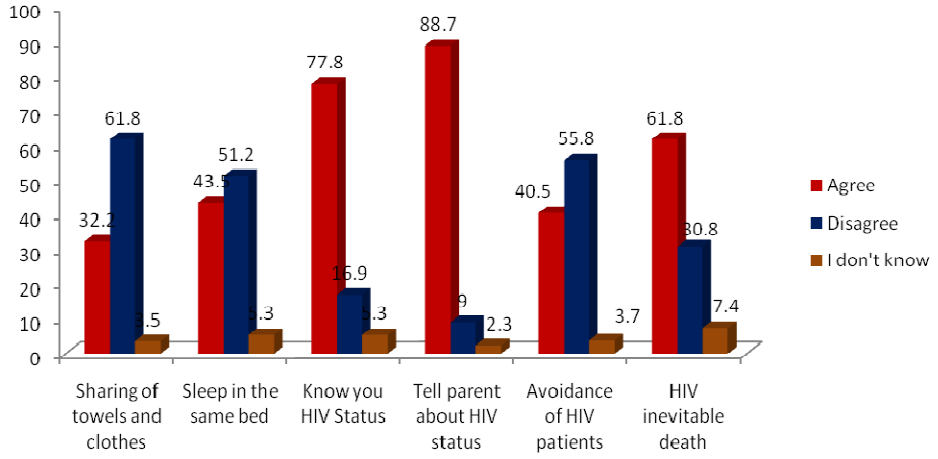

Figure 1: Attitude of respondents in Ezomo Secondary School, Ora towards HIV/AIDS

The common family type was the nuclear family, while the prevalent family structure was monogamy. This may be ascribed to the fact that the majority of the students were from Christian families where monogamy is the preferred family structure. A similar finding was observed in south-west Nigeria, where more than half of the students were from monogamous families, but in contrast, the majority were Muslims. [26] A majority of the students lived with both parents. This is similar to the findings in a study carried out in south-west Nigeria, where more than half of the students lived with both parents. [25] Most of the caregivers of the respondents were educated up to the secondary level. This is in contrast with the findings in a study carried out in Eastern Cape South Africa where less than half of respondents' caregivers had a secondary level of education. [16]

Table IV: Socio-demographic characteristics and knowledge of HIV among the respondents

	Knowledge			
Variable	**Good Frequency (%) n = 271**	**Poor Frequency (%) n =169**	**χ^2**	**p-value**
Age				
10-14	132 (54.5)	110 (45.5)	11.259	0.001
15-19	139 (70.2)	59 (29.8)		
Sex				
Male	140(66.4)	71 (33.6)	3.883	0.049
Female	131 (57.2)	98 (42.8)		
Class				
JSS 1	72 (50.7)	70 (49.3)	14.733	0.005
JSS 2	48 (57.8)	35 (42.2)		
JSS 3	56 (69.1)	25 (30.9)		
SS 1	61 (69.3)	27 (30.7)		
SS 2	34 (73.9)	12 (26.1)		
Primary Care Giver				
Father	9 (64.4)	5 (35.7)	3.026	0.388
Mother	23 (54.8)	19 (45.2)		
Both Parents	216 (63.5)	124 (36.5)		
Other caregivers*	23 (52.3)	21 (47.7)		

***Grandmother, Aunt, Older Sibling**

More than half of the respondents had good knowledge of HIV/AIDS, and the major source of information identified was the school. This may be because the students were educated about HIV/AIDS as part of the schools' curricula. This finding is in contrast with the conclusions of a study in another part of Edo State, where less than half of the students had good knowledge of HIV/AIDS, and the major source of information was the parents. [13] However, despite this overall good knowledge score, the preventive practices of the sexually active respondents were poor. This highlights the need to focus on targeted health education for adolescents because a basic understanding of HIV and how it spreads is a necessary component of prevention. [27] These messages should be reinforced and sustained to contribute to desired behavioural changes and reduce the risk of infection among adolescents.

Table V: Socio-demographic characteristics and attitude towards HIV among the respondents

	Attitude			
Variable	**Positive Frequency (%) n=179**	**Negative Frequency (%) n=261**	**χ^2**	**p-value**
Age				
10-14	93 (38.4)	149 (61.6)	1.128	0.288
15-19	86 (43.4)	112 (56.6)		
Sex				
Male	90 (42.7)	121 (57.3)	0.653	0.419
Female	89 (38.9)	140 (61.1)		
Class				
JSS 1	56 (39.4)	86 (60.6)	33.423	<0.001
JSS 2	17 (20.5)	66 (79.5)		
JSS 3	29 (35.8)	52 (64.2)		
SS 1	46 (52.3)	42 (47.7)		
SS 2	31 (67.4)	15 (32.6)		
Primary Care Giver				
Father	8 (57.1)	6 (42.9)	3.636	0.304
Mother	13 (31.0)	29 (69.0)		
Both Parents	138 (40.6)	202 (59.4)		
Other caregivers	20 (45.5)	24 (54.5)		

A higher proportion of the respondents within the age group 15 – 19 years had good knowledge compared to the other age groups. This is similar to the findings in a previous study done in Edo State, Nigeria, where knowledge increased with age and was highest in students within the ages 16 – 18 years. [13] Knowledge about HIV/AIDS was observed to be better among the males than the females similar to the findings in a study previously carried out in the same Edo State, Nigeria. [14] Disparities in knowledge about HIV among adolescent girls and boys have been linked to gender, education, household wealth and place of residence as adolescents who live in poor households and rural areas are less likely to have comprehensive knowledge about HIV and AIDS. [27] In addition, better knowledge of HIV among males may be due to the submissive role of women in a relationship, and the patriarchal nature of the society in the study setting, where the males control decision-making regarding sexual relations. This is an essential area in adolescent sexual health. Therefore, specific interventions such as health education

targeted at the females will offer them greater exposure to information on HIV/AIDS and thus, improve their knowledge. Knowledge was observed to increase with class level, and this was similar to the findings in a study conducted in Calabar, Nigeria where students in the higher classes had better knowledge. [23] This finding may be due to the fact that the students are taught topics in HIV/AIDS in the various class levels. Knowledge was better among students staying with one parent (father), and this was in contrast with the findings in a study conducted in Terengganu, Malaysia where knowledge was better with students that lived with both parents. [12] This finding may be attributed to the fact that HIV/AIDS has enormous socio and economic consequences and single parents may have educated their wards regarding the disease condition and possibly, its prevention so that they will not contract the disease. Accurate HIV/AIDS knowledge will assist adolescents in making informed choices about practices that may protect them from HIV infection.

Table VI: Preventive practices among the respondents

Variable	Frequency	Percentage
Sexually Active	**n = 440**	
Yes	34	7.7
No	406	92.3
Number of Sexual Partners	**n = 34**	
One	20	58.8
More than one	14	41.2
Use of Condom	**n = 34**	
Yes	13	38.2
No	21	61.8
Frequency of Condom Use	**n = 13**	
Always	5	38.5
Sometimes	7	53.8
Rarely	1	7.7
Knowledge of HIV status	**n = 440**	
Yes	13	3.0
No	419	97.0

More than half of the students had a positive attitude towards HIV/AIDS. This was similar to the findings in a study carried out in India where more than half of the students had a positive attitude towards HIV/AIDS. [12] Therefore, a positive attitude will help in improving HIV preventive measures. Attitude towards HIV/AIDS was observed to improve with age, and this pattern is similar to the findings in the Malaysian study. [12] Female respondents had a better attitude towards HIV/AIDS compared with the males identical to the conclusions of a survey conducted in Seoul, Korea, where, the attitude was better among females. [28] Attitude was also better among students with good knowledge. This pattern is similar to the reports in the Malaysian study. [12] This pattern may be attributed to the fact that good knowledge of HIV/AIDS helps to promote a positive attitude towards PLWHA. Positive attitude towards HIV/AIDS is associated with reduced stigmatization, better health-seeking behaviour and better adherence to HIV medications.

Less than one-tenth of the students surveyed were sexually active, and the majority of this group had poor preventive practices. This is similar to the findings in the Malaysian study

where less than one-tenth of the students were sexually active, but in contrast, more than half of sexually active students had good preventive practices. [12] More than half of the respondents in the present study did not use condoms during sex. This is in contrast to the report in a survey conducted in Goba Town, Southeast Ethiopia, where more than half of the students used condoms regularly. [29] This may be attributed to the fact that sexually active adolescents may be reluctant to purchase condoms due to embarrassment arising from cultural disapproval. This non-use of condoms during sex predisposes adolescents to HIV infection. Condom sheaths are one of the most efficient means available to reduce sexual transmission of HIV; yet, their use remains abysmally low in several countries with high HIV prevalence. [27] Preventive practices among sexually active students were observed to improve with age, better among males and students who lived with both parents. This is similar to reports from the Malaysian study where preventive practices were similarly found to improve with age, better among males and among students who lived with both parents. [12] Better preventive practice, especially condom use, among respondents may be ascribed to the ease of access. Failure to adhere to HIV/AIDS preventive practices such as the use of condoms increases the risk of contracting HIV/AIDS.

A limitation of this study was self-reporting. However, confidentiality was assured, and privacy was ensured during data collection. A likely area for further research in this study will be to use a qualitative approach to explore the reasons for the findings in this study.

Conclusion

More than half of the students had good knowledge of HIV/AIDS and had a positive attitude towards HIV/AIDS, while a majority of the sexually active students had poor HIV/AIDS preventive practices. Therefore, skill-based health education on HIV/AIDS should be reinforced in schools to improve HIV/AIDS-related knowledge and preventive practices. HIV/AIDS discussion fora should be introduced in schools in other to identify and correct misconceptions about HIV/AIDS preventive practices. The students are encouraged to abstain from sex until marriage and engage in school activities such as school debates and quizzes.

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