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Original Research Article

Sexual Practices and Knowledge about HIV/AIDS among Nigerian Secondary School Students

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Abstract

PURPOSE: A cross-sectional survey was conducted among secondary school students in Ekiti State, Nigeria to determine their knowledge about HIV/AIDS, sexual practices and their sources of information.

METHODS: Using a self-administered questionnaire, 779 randomly selected students, aged 12 yr and above, attending 10 secondary schools from five Universal Basic Education (UBE) Local Government Areas in Ekiti State, Nigeria were surveyed to determine their knowledge about HIV/AIDS, sexual practices and their sources of information. The data collected were analysed using SPSS version 14.

RESULTS: Majority of the respondents across the classes (99.4%) were knowledgeable about the modes of transmission of HIV/AIDS. In spite of this, they still engaged in risky sexual practices like having casual sex, multiple sexual partners, non-use of condom and having sex for economic reasons. Most of the students in the exit classes acquired information about some sexual practices like oral sex from the Internet.

CONCLUSION: Although there appears to be adequate knowledge about HIV/AIDS among youths, risky sexual practices are still common. Developing, restructuring and strengthening HIV/AIDS risk reduction interventions are highly recommended.

Key Words: Adolescents; Sexual practices; knowledge of HIV/AIDS.

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Introduction

In most of the sub-Saharan Africa countries, the predominant mode of transmission of HIV infection is the sexual transmission¹. According to the UNAIDS, Sub-Saharan Africa remains the most seriously affected region, with AIDS remaining the leading cause of death. The estimated number of deaths due to AIDS in 2007 was 2.1 million [1.9–2.4 million] worldwide, out of which 76% occurred in sub-Saharan Africa². Findings from the Joint HIV Sero-surveillance Sentinel Surveys show that HIV prevalence in Nigeria consistently increased from 1.8% in 1991 to 5.8% in 2001. The national median prevalence for the 2005 survey is 5.0 per cent and the age group, 20 – 24 years, had the highest national prevalence of 5.6 per cent³.

Several studies have shown that the AIDS pandemic in Nigeria is associated with prevalent sexual practices that facilitate HIV transmission. Such sexual practices include having unprotected sex, multiple sexual partners, exposure to menstrual blood, among others^{4,5,6,7}. Adolescents are the most vulnerable to HIV because they are the most sexually active, and often with multiple sexual partners, and they engage in unprotected sex^{8,9}. Although the knowledge of HIV/AIDS as an incurable disease is widespread in sub-Saharan Africa, sexual practices involving putting this knowledge into practice is not commensurate with this knowledge^{10,11}. Differences in sexual practices between males and females exist¹². It is therefore highly important to understand adolescents' sexual practices since they are the focus of many interventions that aim to prevent HIV transmission.

The present study therefore specifically aimed to assess the knowledge of secondary school students about HIV/AIDS and their major sources of information. The information gathered will include those relating to their sexual practices.

Methods

The study was cross-sectional and descriptive, using quantitative research methods. The target population for the study consisted of all adolescents in secondary schools in Ekiti State, Nigeria.

A list of all secondary schools in all Local Government Areas (LGAs) in Ekiti State on Universal Basic Education (UBE) programme was obtained from the Ministry of Education. A three-level multi-stage random sampling method was used to select five LGAs on UBE programme. From each of the 5 LGAs, 2 secondary schools were randomly selected. In each school, students were randomly selected from the entry, mid and exit classes (Junior Secondary School (JSS), Senior Secondary School (SSS 1) and (SSS3) respectively). In all, a total of 779 secondary school students were selected

A self-administered structured questionnaire developed by the author was administered to the students. Main areas covered in the questionnaire were the socio-demographic data, information on HIV/AIDS and sources of information, sexual practices and sources of information about sexual practices. The questions in the questionnaire (which were mostly closed-ended questions) were objectively vetted, paying particular attention to their relevance to the subject matter and their coverage of the entire topic of study. Content validity was done by a panel of judges from the Faculty of Social Sciences, University of Ado-Ekiti after which the questionnaire was edited to include suggestions given by the panel of judges.

Completed questionnaires returned by the respondents were subjected to thorough screening; checking for consistency and finally edited. The pre-coded nature of the questionnaire facilitated easy entry of the data and statistical analysis. The data collected were subjected to basic analysis with the SPSS software version 14 at the univariate and bivariate levels.

The purpose of the study was explained to respondents and participation was made voluntary. Other ethical issues included written consent for the study obtained from the Ministry of Education and the heads of the schools involved in the study.

Results

Socio-demographic variables

A total of 779 students aged 12 – 23 years (mean: 14.6 years) participated in the study. Table 1 shows the socio-demographic characteristics of the respondents. The female respondents accounted for 52.6% while the male respondents accounted for 47.4%. Majority of them (48.9%) belonged to 12 – 15 years age group. Most of the respondents (39.5%) were in the entry (JSS 1) class with 36.8% from girls only school while 68.6% of the schools were located in the urban area. Most students (64.8%) identified themselves as Christians, 31.8% as Muslims and 3.8% as having another religion. Nearly half (47.5%) of the respondents said they belonged to medium socio-economic status. Seventy-five percent of the entire sample reported that their parents were literate.

Knowledge about HIV/AIDS

Table 2 shows students' knowledge about HIV/AIDS. The percentage of those answering "YES" to the correct mode of transmission and what they know generally about HIV/AIDS varied by class. Overall, respondents in the exit class had higher levels of knowledge about HIV/AIDS prevention and modes of transmission. Almost all the respondents (99%) had heard about HIV/AIDS and a high proportion of them (90%) acknowledged that there was no cure for HIV/AIDS.

Sources of information about HIV/AIDS

The most reported sources of information in the classes were television (81.6%), which was followed by radio (79.5%). Adolescents in the entry class most commonly listed parents (97.7%) and school mates (65.2%) as their sources. Those in the mid class reported school mates (68.7%) and school teachers (71.8%) while adolescents in the exit class commonly listed school mates (66.2%) as their sources of health information. The least reported source of information was the Internet (12.5%). Almost a quarter of adolescents in the exit class (32.9%) reported the Internet as an additional source of information (Table 3).

Table 1: Socio-demographic characteristics of the respondents (N=779)

Variable	Frequency	%	Variable	Frequency	%
Age group (in years)			Location of school		
12 – 15	381	48.9	Rural	144	18.5
16 – 19	315	40.4	Urban	534	68.6
20 – 23	83	10.7	Semi-urban	101	12.9
Gender			Parent's level of education		
Female	410	52.6	Illiterate	194	24.9
Male	369	47.4	Literate	585	75.1
Class			Socio-economic status		
Entry (JSS 1) Class	308	39.5	Low	278	35.7
Mid (SSS 1) Class	298	38.3	Medium	370	47.5
Exit (SSS 3) Class	173	22.2	High	131	16.8
Type of school			Religion		
Girls only	289	36.8	Christianity	505	64.8
Boys only	272	34.9	Islam	248	31.8
Co-educational	220	28.3	Others*	26	3.3

*Include Grail messengers, traditional religion and no religion

Table 2: Knowledge about HIV/AIDS by class of respondents (N=779)

Specific knowledge on HIV/AIDS	Respondents answering "Yes" F (%)			
	Entry (JSS1) N = 308	Mid (SSS1) N = 298	Exit (SS3) N = 173	Total (%)
Ever heard of HIV/AIDS?	303 (98.3)	298 (100)	173 (100)	774 (99.3)
Is there a cure for HIV/AIDS?	51 (18.5)	17 (5.7)	8 (4.6)	76 (9.7)
Can HIV/AIDS be contracted by shaking hands?	123 (39.9)	52 (17.4)	24 (13.8)	199 (25.5)
Can it be contracted by sharing injection needles?	22 (7.1)	88 (29.5)	71 (41.0)	181 (23.2)
Can it be contracted through blood transfusion?	12 (3.8)	177 (59.3)	122 (70.5)	311 (39.9)
Can it be contracted through homosexual relationships?	7 (2.2)	34 (11.4)	67 (38.7)	108 (13.8)
Can it be contracted through blood donation?	215 (69.8)	255 (85.5)	170 (98.2)	640 (82.1)
Can it be contracted through insect bites?	12 (3.8)	134 (44.9)	101 (58.3)	247 (31.7)
Can HIV/AIDS be passed from a pregnant woman to her baby?	54 (17.5)	121 (40.6)	119 (68.7)	294 (37.7)
Can it be contracted through anal sex?	34 (11.0)	118 (39.6)	151 (87.2)	303 (38.8)
Can it be contracted through the non-use of condom?	288 (93.5)	234 (78.5)	167 (96.5)	689 (88.4)
Can it be contracted through having sex with multiple partners?	298 (96.7)	253 (84.9)	147 (84.9)	698 (89.6)
Can it be contracted by using public toilet?	87 (28.2)	67 (22.5)	51 (29.5)	205 (26.3)
Do HIV patients have particular appearances?	11 (3.5)	11 (3.6)	5 (2.8)	27 (3.4)

Table 3: Source of Information about HIV/AIDS by classes (N=779)

Source of information	Total Respondents answering "Yes" (%)			
	Entry (JSS1) N = 308	Mid (SSS1) N = 298	Exit (SS3) N = 173	Total (%)
Parents	301 (97.7)	111 (37.2)	85 (44.1)	497 (63.8)
School mates	201 (65.2)	205 (68.7)	110 (63.5)	516 (66.2)
School teachers	102 (33.1)	214 (71.8)	93 (53.7)	317 (40.6)
Television	211 (68.5)	255 (85.5)	170 (98.2)	636 (81.6)
Radio	264 (85.7)	251 (84.2)	105 (60.6)	620 (79.5)
Newspaper/ Health magazine	77 (25.0)	48 (16.1)	33 (19.0)	158 (20.2)
Health workers	73 (23.7)	39 (13.0)	51 (29.4)	163 (20.9)
Internet	15 (4.8)	26 (8.7)	57 (32.9)	98 (12.5)

Sexual practices

For the purpose of this study, sexual practices was defined as a wide range of activities such as strategies to find or attract partners (mating or display behaviour), interactions between individuals and sexual contact. These could be coital (penetrative) or non-coital (non-penetrative). The sexual practices of the students are shown in Table 4. Almost a quarter (21%) of the entire students reported that they “had ever had penetrative sex”. Majority of the students in the exit class (42%) reported being involved in such a practice. The mean age of first intercourse was 14.2 years. Among the students, age at sexual initiation ranged from below 10 to 15 years and above with a mean of 9.3 years for students in the entry class, 21.6 years for students in the mid class and 14.3 years for students in the exit class. Condom use was reasonable low among the sexually active respondents (17.8%). Some of the sexually active respondents across the classes reported having sex with more than one partner (5.9%) and (12.3%) received/give benefit to/from partner. Overall, non-penetrative sex like genital/breast fondling (57.3%), masturbation (25.2%), kissing (60.3%), hugging (90.8%), and web dating (25.4%) was reasonably high among the students across the classes with the highest proportion from the exit class.

Source of Information about sexual practices

Table 5 shows the sources of information about sexual practices of respondents by class. Majority of the respondents (87.1%) got their information about sexual practices from the television. School mates were key sources of information about sexual practices across the classes: some respondents in the entry class (77.9%), 65.7% in the mid class and 78% in the exit class reported they got information about sexual practices from their school mates. More than half of the respondents in the exit class (58.3%) reported that their source of

information about sexual practices was the Internet.

Logistic regression analysis

Multivariate logistic regression was used to assess the impact of selected explanatory variables on sexual practices (both penetrative and non-penetrative) (Table 6). Because there were few differences across the classes in the bivariate analysis, we combined information for the three groups and controlled for classes. The selected variables used in the models were: age, age at first penetrative sex, gender, class, type of school, religion, sources of information about sexual practices, location of school and socio-economic status. Sexual practice was measured by practice of at least one of the listed sexual activities. Table 6 presents the results for the model of adolescents having both penetrative and non-penetrative sex (model 1), adolescents having non-penetrative sex only (model 2) and adolescents having penetrative sex only (model 3). Model 1 indicates that the major predictors of having all sexual practices were gender, class, and sources of information about sexual practices. With 95% confidence, the odds of an adolescent's all sexual practices were higher for respondents in the exit classes, their sources of information about sexual practices, and females. Specifically, females were more likely to have had all forms of sexual practices than males because of their vulnerability. Sexual practices for boys appear to be opportunistic. When they have a chance to engage in sex, they do so¹². Respondents whose source of information about sexual practices was the Internet or television were 10 times more likely to have had both types of sexual practices.

Model 2 indicated that only one variable: type of school significantly predict non-penetrative sex among the respondents. Although only significant for girls' only schools, respondents in single sex schools were more likely to engage in non-penetrative sex than those in co-educational schools.

Table 4: Sexual practices of respondents

Sexual practices	Respondents answering "Yes" (%)			
	Entry (JSS1) N = 308	Mid (SSS1) N = 298	Exit (SS3) N = 173	Total (%)
Ever had penetrative sex?	28 (9.0)	65 (21.8)	73 (42.1)	166 (21.3)
Ever had sex with more than one partner?	11 (3.5)	20(6.7)	15 (8.6)	46 (5.9)
Received/Give benefit in cash from/to partner?	23 (7.4)	41 (13.7)	32 (18.4)	96 (12.3)
Ever engaged in oral sex?	5 (1.6)	12 (4.0)	58 (33.5)	75 (9.6)
Ever engaged in sex with same sex partner?	44 (14.2)	27 (9.0)	49 (28.3)	120 (15.4)
Ever engaged in anal sex?	--	13 (4.3)	24 (13.8)	37 (4.7)
Ever engaged in raping a boy/girl?	--	--	5 (2.8)	5 (0.6)
Ever engaged in masturbation?	63 (20.4)	55 (18.4)	79 (45.6)	197 (25.2)
Ever engaged in sex with older/younger person?	51 (16.5)	42 (14.1)	64 (36.9)	157 (20.1)
Ever engaged in vaginal/anal penetration with objects?	37 (12.1)	29 (8.0)	41 (23.6)	107 (13.7)
Ever engaged in sex with a commercial sex worker?	16 (5.1)	32 (10.7)	62 (35.8)	110 (14.1)
Do you enjoy having sex with more than one partner?	20 (6.4)	24 (8.0)	33 (19.7)	77 (9.8)
Ever engaged in kissing?	172 (55.8)	147 (49.3)	151(87.2)	470 (60.3)
Ever engaged in hugging?	279 (90.5)	273 (91.6)	156 (90.1)	708 (90.8)
Ever engaged in genital/breast fondling?	132 (42.8)	171 (57.3)	144 (83.2)	447 (57.3)
Do you have sexual excitement while looking at or reading	87 (28.2)	111 (37.2)	126 (72.8)	324 (41.5)
Ever engaged in web dating?	56 (18.1)	78 (26.1)	64 (36.9)	198 (25.4)
Do you use condom?	11 (3.5)	51 (17.1)	77 (44.5)	139 (17.8)

Model 3 shows that only three variables significantly predicted penetrative sex. These variables were: class, location of school and age. The analysis showed that for a one year increase in the age of respondents, the odds of engaging in penetrative sex increased by a multiplicative factor of 0.86. Respondents

in the exit class were 5 times more likely to be engaged in penetrative sex than respondents in entry and mid classes. Respondents in schools located in rural and urban areas were less likely to have engaged in penetrative sex than respondents with their schools located in urban areas.

Table 5: Sources of Information about sexual practices by classes (N=779)

Source of information	Total Respondents answering "Yes" (%)			
	Entry (JSS1) N = 308	Mid (SSS1) N = 298	Exit (SS3) N = 173	Total (%)
Parents	141 (45.7)	78 (26.1)	32 (18.4)	251 (32.2)
School mates	240 (77.9)	196 (65.7)	135 (78.0)	571 (73.2)
Television	273 (88.6)	245 (82.2)	161 (93.0)	679 (87.1)
Radio	86 (27.9)	77 (25.8)	64 (36.9)	227 (29.1)
Newspaper/magazine	51 (16.5)	45 (15.1)	30 (17.3)	126 (16.1)
Romantic novels	64 (20.7)	72 (24.1)	52 (30.0)	188 (24.1)
Internet	67 (21.7)	89 (29.8)	101 (58.3)	257 (32.9)

Discussion

In this study, majority of respondents in the entry class have limited knowledge about the mode of transmission of HIV while majority of respondents in the mid- and exit classes have a high level of knowledge about the mode of transmission of HIV. The question that the respondents missed most was whether HIV could be transmitted through homosexual relationships; only 2.2% of the respondents in the entry class, 11.4% in the mid class and 38.7% in the exit class answered "YES". Very few of the respondents (23.2%) across the classes knew that HIV could be contracted through the sharing of injection needles. However, majority of the respondents across the classes (88.4%) acknowledged that HIV can be contracted through the non-use of condom. The main explanation for this is that the Family Life and HIV Education (FLHE) Curriculum has been implemented in some of the schools selected for this study. Nevertheless, respondents in the entry classes are new intakes and it is likely they have not covered the topic on modes of transmission of HIV in the curriculum.

The range of sources of information about HIV/AIDS was also explored. The response of most respondents to their source of

information about HIV/AIDS (81.6%) and sexual practices (87.1%) is the electronic mass media (Television) which agreed with the results of the 2003 national surveys in Nigeria. The 2003 Nigeria Demographic and Health Survey (NDHS)¹³ showed that majority of all respondents listen to the radio at least once a week, and more than one-third watch television at least once a week. Mass media are another important dimension of young peoples' lives that may take on special significance during adolescence, and particularly for sexual risk behavior^{14,15,16}. However, additional sources of information besides the media varied by classes. The Internet is fast gaining recognition as a powerful, low-cost method to deliver health intervention and prevention programs to large numbers of young people across diverse geographic regions.

To illuminate the potential for technology as a health information resource in earlier studies, youth were asked to indicate the types of information they would search for if the Internet were free to use. The majority of adolescents reported that they would search for information about HIV/AIDS (66%), while one in four (24%) also reported they would searched for information about alcohol and

Table 6: Logistic regression models (odds ratios) predicting sexual practices among adolescents by selected variables

Explanatory Variables	Odds ratios		
	Model 1 All	Model 2 Non-penetrative	Model 3 Penetrative
Age	2.35	1.12	0.86
Gender			
Female	13.37	9.43	23.24
Male	0.54	15.71	0.38
Class			
Entry (JSS 1) Class	1.22	0.77	1.62
Mid (SSS 1) Class	3.53	1.16	4.90
Exit (SSS 3) Class	15.60	2.84	6.72
Type of school			
Girls only	0.67	5.02	1.49
Boys only	2.32	4.54	
Co-educational	1.10	0.21	2.42
Location of school			
Rural	3.56	1.47	0.68
Urban	1.22	1.63	3.41
Semi-urban	1.54	0.52	0.36
Socio-economic status			
Low	1.12	0.50	2.33
Medium	1.45	1.04	0.66
High	1.20	0.34	0.60
Religion			
Christianity	2.18	4.14	0.51
Islam	0.77	0.36	2.66
Others	1.00	1.00	1.00
Age at fist penetrative sex			
Before age 10	1.00	---	3.76
Age 15 or older	2.94	---	4.22
Sources of information about sexual practices			
Parents	1.41	0.65	0.11
School mates	1.52	2.29	2.34
Television	5.53	1.16	0.17
Radio	0.30	0.22	1.06
Newspaper/magazine	0.91	0.58	0.77
Romantic novels	0.83	1.33	2.82
Internet	3.44	1.37	4.19

Figures in italics are significant at 5% level and 95% confidence intervals

drug issues On line, and 16% would search for information on depression and suicide^{17,18}. The Internet is gaining increasing prominence in the lives of young people¹⁹. A vast amount of information is now widely and easily accessible to anyone who has an Internet connection. Although positive aspects of the Internet are frequently cited, including the availability of important and sometimes sensitive health information, the often unfettered access to web sites may lead to an overall increase in the numbers of young people seeking out pornographic materials^{20, 21, 22, 23}. The exposure to Internet pornography may relate to a greater likelihood of engaging in both penetrative and non-penetrative sexual practices.

Conclusion

In conclusion the study suggests that for both HIV prevention and transmission, adolescents belongs to the high-risk group because they engage in sexual practices which predisposes them to HIV risk. As a recommendation, adequate policies on the use of the Internet should be made since risky sexual practices among adolescents can now be linked to the Internet. Developing, restructuring and strengthening the risk reduction interventions are also recommended.

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