

HIV awareness and sexual behaviour among in-school students in North-Central Nigeria

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Abstract

Background: Knowledge about the spread of HIV and safe sexual practices has a critical impact on the prevention of HIV infection. Among new infections, adolescents and youths are most vulnerable.

Objective: To assess the level of awareness about HIV/AIDS and sexual behaviour among students in selected secondary schools in Kogi State, North central Nigeria.

Methods: The study was cross sectional and involved both junior and secondary students. The level of awareness and knowledge were assessed by means of a questionnaire which focused on transmission of HIV, prevention and treatment of AIDS.

Results: A total of 1045 students were enrolled into the study. Their mean age was 15.4 ± 2.3 years. There were 501 (47.9%) males and 544 (52.1%) females. Nine hundred and sixty eight students (92.6%) had a good knowledge about HIV/AIDS. Logistic regression modelling showed that class (senior vs. Junior) (OR = 2.83, CI: 1.73 – 4.63) was the only independent predictor of good knowledge. The major sources of information about HIV/AIDS were teachers (38.0%) and radio (36.1%). Two hundred and ninety-one (28%) had been sexually initiated and 92 (8.9%) had multiple sexual partners.

Conclusion: The level of awareness and knowledge about HIV/AIDS among the students was high. One implication of this study is that educational efforts should target both junior and senior students and teachers should be empowered to be effective health educators and counselors for HIV/AIDS prevention.

Keywords: HIV; Awareness; Sexual behaviour; students; Nigeria

Introduction

Sub-Saharan Africa bears the greatest burden of the diseases where 22.5 million people living with HIV/AIDS at the end of 2007. In 2006, the AIDS epidemic in Africa had claimed 1.6 million people and more than 11 million children had been orphaned by AIDS^[1]. Nigeria accounts for about 14% of the total African burden^[2]. Sentinel surveys in Nigeria showed an initial rise in the prevalence of HIV from 1.9% in 2001 to a peak of 5.8 in 2003 and then a decline to 4.6% in 2008^[3]. The epidemic is present in every part of the country with all states having crossed the general epidemic line of 1%. Much of the HIV awareness activities, prevention and treatment programmes may be concentrated in the larger metropolis such that there may not be adequate HIV counselling and testing and other preventive program-

mes in some other parts of the country especially in more rural areas. Meanwhile 60% of Nigerians live in rural areas^[4]. HIV/AIDS and other sexually transmitted diseases are having devastating effects on the health of young people, particularly girls and young women. Heterosexual spread alone accounts for about 71% of the HIV worldwide and among new infections, the adolescents and youths is most vulnerable^[5]. Young people are at the centre of the global pandemic, as well as one of the greatest hopes in the struggle against this disease^[6]. Knowledge about the spread of HIV and safe sexual practices has a critical impact on the prevention of the acquired immunodeficiency syndrome (AIDS). One of the issues that can help in developing a preventive programme message is to first assess the baseline

Table 1. Have you heard about HIV/AIDS? (N= 1039)

Characteristic	No (%)	Yes (%)	X ²	p value
Age				
< 15	1 (0.3)	331 (99.7)	1.246	0.536
15- 19	4 (0.6)	630 (99.4)		
> 19	1 (1.4)	73 (98.6)		
Class				
JSS	3 (1.0)	308 (99.0)	1.159	0.282
SSS	3 (0.4)	725 (99.6)		
Sex				
Male	5 (1.0)	496 (99.0)	3.028	0.082
Female	1 (0.2)	543 (99.8)		
Religion				
Christian	6 (0.6)	940 (99.4)	0.632	0.729
Moslem	0 (0.0)	98 (100.0)		
Student type				
Day	6 (0.6)	925 (99.4)	0.739	0.390
Boarding	0 (0.0)	114 (100.0)		

level of awareness and areas where there are misconceptions concerning HIV/AIDS. Adolescents are at the stage of experimentation and are easily influenced by their peers and are therefore a vulnerable population at risk for HIV/AIDS and other Sexually Transmitted Infections (STIs). Basic information should be provided before young people become sexually experienced in order to ensure that they are able to protect themselves from sexual and reproductive risks at this formative stage in their lives [7]. Bearing in mind that young people have a high prevalence of HIV infection, it was with the intention of finding out the situation analysis concerning this most voluntary group that inspired this study. Furthermore, there is paucity of data on the level of awareness and knowledge among secondary school students in the North-Central part of Nigeria which has the second highest prevalence among the geopolitical zones in the country. This study was carried out: To assess the level of awareness about HIV/AIDS and risky sexual behaviour among adolescents in secondary schools in Kogi State in the North central Nigeria; To compare the level of awareness among the different categories of students and to determine their sources of information about HIV/AIDS.

Materials and methods

This was a descriptive cross-sectional study conducted among secondary schools students in Kogi State in the North central part of Nigeria. By convenience sampling, Ijumu and Kabba-Bunu Local Government Areas (LGAs) were selected as they are semi-urban.

Table 2. Source of information about HIV/AIDS*

Source	No	%
Friends	89	8.6
Relatives	94	9.0
Teachers	395	38.0
Radio	375	36.1
Television	167	16.1
Print media	101	9.7

* Multiple responses

Six secondary schools were selected from all secondary schools in the 2 LGAs by simple random sampling. All categories of students including junior and senior levels, day and boarding in all classes were given the self-administered questionnaire. Permission was sought from the principals of the respective schools and the State Schools Management Board. Ethical approval was obtained from the State Ethical Review Committee. In order to ensure confidentiality, there were no identifiers on the questionnaires and each subject was free to withdraw from the study at any time. At each school, the questionnaires which were self-administered were carried out at the same time to prevent bias from dissemination of information about the study. An HIV awareness education was carried out immediately after administering the questionnaire. The level of awareness and knowledge were assessed by means of a 14- item questionnaire which focused on transmission of HIV, prevention and treatment of AIDS. Some of the questions had been adapted from a validated questionnaire by Carey and Schroder^[8] and also included questions that constitute an indicator of HIV prevention knowledge recommended by the World Health Organization for monitoring HIV/AIDS prevention programs for young people^[6]. A summary score was generated for the 14 questions, one point being assigned for each correct response and zero for each incorrect or uncertain response^[9]. The cut off score for sufficient knowledge was 50%. Questions were asked to ascertain the attitude concerning HIV/AIDS (1. If a student has HIV but is not sick should he/she be allowed to continue attending school with other students? 2. If a teacher has HIV but is not sick should he/she be allowed to continue teaching in the school? 3. Will you be willing to attend school with an HIV positive student?) Other information obtained included socio-demographic characteristics, source of information about HIV/AIDS and sexual behaviour (number of sexual partners)

Data analysis

Categorical variables were summarized using frequencies and percentages while mean (and stand-

Table 3. Socio-demographic characteristics and knowledge of HIV/AIDS among students

Characteristic	Low (%)	High (%)	X ²	p value
Age				
< 15	35 (10.5)	297 (89.5)	8.506	0.014**
15- 19	35 (5.5)	599 (94.5)		
> 19	7 (9.5)	67 (90.5)		
Class				
JSS	43 (13.8)	268 (86.2)	26.623	0.001**
SSS	34 (4.7)	694 (95.3)		
Sex				
Male	36 (7.2)	465 (92.8)	0.047	0.828
Female	41 (7.5)	503 (92.5)		
Religion				
Christian	68 (7.2)	878 (92.8)	0.598	0.742
Moslem	9 (9.2)	89 (90.8)		
Student type				
Day	76 (8.2)	855 (91.8)	7.899	0.005**
Boarding	1 (0.9)	113 (99.1)		

** Statistically significant (p < 0.05)

ard deviation) was calculated for age, knowledge and attitude scores. Student t test was used for comparison of mean values of continuous variables between two groups. The X² statistic and Fisher's exact test were used in testing for association between categorical variables. Multiple regression analyses were carried out to determine the predicting factors associated with HIV awareness among the students and to study the association of knowledge and attitude with relevant predictor variables (notably age, gender and class). All analyses were done using the Statistical Package for Social Sciences 12.0 for Windows (SPSS Inc. Chicago, Ill.). A value of p<0.05 was considered significant.

Results

Total number of students enrolled was 1045. The ages ranged between 10 and 25yrs. Their mean age was 15.4 ± 2.3 years. There were 501 (47.9%) males and 544 (52.1%) females. The study subjects consisted of 931 (89.1%) day and 114 (10.9%) boarding students. They were predominantly of the Christian religion (90.5%). About a third of the respondents (29.9%) were in junior secondary class. The level of awareness of HIV/AIDS was very high among the students as 1039 (99.4%) had heard about it. Table 1 shows the relationship between their socio-demographic characteristics and awareness about HIV/AIDS. The major sources of information about

HIV/AIDS (table 2) are teachers (38.0%) and radio (36.1%). Nine hundred and sixty eight students (92.6%) had a high level of general knowledge about HIV/AIDS. The distribution of level of HIV/AIDS knowledge by socio-demographic characteristics is illustrated in table 3. Factors that significantly correlated with good knowledge are age group, class and type of student (boarding or day). Senior secondary students (95.3%) had high level of knowledge compared to those in junior secondary (86.2%) (p< 0.05). Boarding students (99.1%) were also significantly more knowledgeable than day students (91.8%). Logistic regression modelling showed that class (SSS vs JSS) (OR = 2.83, CI: 1.73 – 4.63) was the only independent predictor of good knowledge (table 5). Only 671 (64.2%) had a good attitude towards persons living with HIV/AIDS. Same characteristics that were associated with knowledge also affected their attitudes (table 4). Ninety two percent boarding (92.1%) compared to 60.8% day students had good attitude (p < 0.05). After multi-variate analysis (table 5), boarders were seven times more likely to have good attitude than day students (OR = 7.02, CI: 3.36 – 14.69), while senior school students were 1.4 times more likely than junior school students (OR = 1.4, CI: 1.05 – 1.87).

Desirability of HIV test

Among those who have heard of HIV/AIDS, 938 (90.3%) were willing to have the HIV test done. Students aged 15 –19 years, those in senior secondary class and boarding house, having good knowledge and attitude all significantly influenced the desirability to have the HIV test done. After controlling for these variables via a logistic regression, being a boarding student (OR = 4.58, CI: 1.09 – 19.14) and good attitude (OR = 2.98; CI: 1.01 – 2.39) are the independent factors driving the desire for HIV test.

Sexual Partnering

When the students were asked about their number of sex partners, 199 (19.2%) and 92 (8.9%) reportedly had one and more than one sex partners respectively while majority (72.0%) had none.

Table 6 shows the distribution of the number of sex partners according students' characteristics. Multiple sex partnering was most common among those aged 19 years and above (15.3%). Senior secondary students (22.1%) had more partners than junior ones. Other variable significantly associated with number of sexual partners include gender, type of student (day or boarding), and knowledge of HIV/AIDS.

Table 4. Socio-demographic characteristics and attitude to Persons Living with HIV/AIDS

Characteristic	Poor (%)	Good (%)	X ²	p value
Age				
< 15	137 (41.3)	195 (58.7)	6.911	0.032**
15- 19	208 (32.8)	426 (67.2)		
> 19	28 (37.8)	46 (62.2)		
Class				
JSS	138 (44.4)	173 (55.6)	13.519	0.001**
SSS	236 (32.4)	492 (67.6)		
Sex				
Male	192 (38.3)	309 (61.7)	2.689	0.101
Female	182 (33.5)	362 (66.5)		
Religion				
Christian	341 (36.0)	605 (64.0)	2.242	0.326
Moslem	32 (32.7)	66 (67.3)		
Student type				
Day	365 (39.2)	566 (60.8)	43.327	0.001**
Boarding	9 (7.9)	105 (92.1)		

** Statistically significant (p < 0.05)

Discussion

From our study, the level of awareness of HIV/AIDS was high as about 99% of the students had heard about it. In Nsukka, Eastern Nigeria, a study that tried to assess HIV/AIDS awareness among teenage students showed that their awareness of HIV/AIDS was low and they also had misconceptions about the infection as only 28% believed AIDS was real^[10]. The difference in the level of awareness could be because our study was carried out more recently and may reflect the increased and ongoing efforts nation-wide at increasing the level of awareness among the populace. Similar studies had been reported from other parts of the world. Knowledge, attitude, and behaviour were assessed among adolescents in rural Malawi which showed that 80% of the girls had heard of AIDS and 14% thought they had a good or moderate chance of contracting it, yet they expressed a far higher perceived risk of contracting other sexually transmitted diseases^[10-11]. Similarly, in a community based cross sectional study among students in India which assessed the knowledge and attitude of the students towards AIDS, STDs and sexuality, all the students in the sample had heard about AIDS. However, only 45% knew that AIDS is not curable at present^[12]. The major sources of information about HIV/AIDS came from the teachers and the radio. There should be school based HIV prevention and education programmes and such programmes will be successful in populations such as this. The teachers should be empowered to be effective health educators and counselors and need to

receive formal education or training in HIV/AIDS. A similar finding was reported in a study of sexual behavior, knowledge and information sources of very young adolescents in four sub-Saharan African countries which showed that close to 6 in 10 young adolescents accessed information on sexual and reproductive health from schools in Ghana, Malawi, and Uganda^[7]. The electronic media also play an important role as observed in this study. Use of the radio rather than other electronic media (e.g. television) is recommended as it reaches a wide coverage and is cost effective as it does not depend on constant electric power supply which is lacking in many communities in the country. From the Delta area of Nigeria, the electronic media were reported to be the main sources of information on HIV/AIDS among in-school adolescents^[13]. From Malawi, the information were obtained from radio, church, and word-of-mouth messages that AIDS is transmitted by easy partners, bar girls, and truck drivers, and from someone who looks very ill from AID^[11].

The level of awareness of HIV may not correlate with knowledge about HIV. Therefore, the students' knowledge about the disease was tested including mode of transmission, prevention and treatment of HIV/AIDS. The majority (92.6%) had good knowledge. Though many of the students' characteristics were associated with their knowledge, the only independent predictor of good knowledge was being in a senior class. Compared to HIV/AIDS knowledge, less number of students (64.2%) had a good attitude towards persons living with HIV/AIDS. After multivariate analysis, boarding students were much more likely to have a favourable attitude. It would have been expected that day students that interact with members of the community more often would have a more favourable attitude. However, considering that teachers played a large role in the source of information about HIV/AIDS among the students in this study; it may explain this finding among boarders. Further research is required to determine the content and extent of life-skills-based HIV/AIDS education provided in the schools to ensure that correct and adequate information are given to the students. Okonta and Oseji similarly reported from a previous study that 47% of in-school adolescent students had good knowledge of HIV/AIDS^[13]. The Indian study showed that males, urban residents and Christian students demonstrated a more favourable knowledge about AIDS^[12]. Whereas only 28% of the students in the present study had had sexual exposure, 58% had been sexually initiated in the study in the Delta area^[13]. Concerning the students' sexual behaviour, it was not surprising that the categories of students with sexual exposure were senior students, age more than 19 years, day students and those who

Table 5. Logistic regression model for predictors of knowledge and attitude about HIV/AIDS among students

Variable	Knowledge: OR (95%CI)	Attitude OR (95%CI)
Class		
SSS vs JSS	2.83 (1.73 – 4.63)*	1.40 (1.05 – 1.87)*
School type		
Boarding vs Day	6.35 (0.86 – 46.64)	7.02 (3.36 – 14.69)*
Age group		
< 15 (ref)		
15 – 19	1.54 (0.93 – 2.56)	1.27 (0.95 – 1.69)
> 19	0.81 (0.33 – 1.97)	1.20 (0.70 – 2.05)

* (p < 0.05)

Table 6. No of sex partners according to selected characteristics

Characteristic	No of sex partners			X ²	P value
	None (%)	One (%)	More than one		
Age					
< 15	257 (77.6)	45 (13.6)	29 (8.8)	21.315	0.000**
15- 19	448 (71.1)	131 (20.8)	51 (8.1)		
> 19	38 (52.8)	23 (31.9)	11 (15.3)		
Class					
JSS	239 (77.6)	39 (12.7)	30 (9.7)	12.386	0.002**
SSS	503 (69.5)	160 (22.1)	61 (8.4)		
Sex					
Male	323 (65.1)	103 (20.8)	70 (14.1)	38.577	0.000**
Female	425 (78.4)	96 (17.7)	21 (3.9)		
Religion					
Christian	677 (72.0)	182 (19.4)	81 (8.6)	0.445	0.800
Moslem	71 (72.4)	17 (17.3)	10 (10.2)		
Student type					
Day	637 (68.9)	198 (21.4)	89 (9.6)	40.921	0.000**
Boarding	111 (97.4)	1 (0.9)	2 (1.8%)		
Knowledge of HIV/AIDS					
Poor	47 (62.7)	12 (16.0)	16 (21.3)	15.976	0.000**
Good	701 (72.8)	187 (19.4)	75 (7.8)		
Attitude about HIV/AIDS					
Poor	260 (70.3)	78 (21.1)	32 (8.6)	1.359	0.507
Good	488 (72.1)	121 (18.1)	59 (8.8)		

had poor knowledge. Male students were also in this category. In a previous study of sexual behaviour and contraceptive usage of secondary school adolescents in Ibadan, South Western Nigeria, it was reported that male respondents were said to be three times more likely than females to have had sexual experience^[14]. In a related study carried out to determine whether there was any correlation between the knowledge of HIV/AIDS among adolescents in Nigeria and their sexual behaviour, it was reported that knowledge of HIV/AIDS by in-school adolescents had not signific-

antly influenced their sexual behaviour^[13].

Conclusion

The level of awareness and knowledge about HIV/AIDS among the students was high. One implication of this study is that educational efforts should target both junior and senior students and teachers should be empowered to be effective health educators and counselors for HIV/AIDS prevention.

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