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Research

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HIV/AIDS-Related Knowledge and Sources of Information among Secondary School Students in Enugu Nigeria

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ABSTRACT

The present study aimed to evaluate AIDs – related knowledge, and sources of information, among secondary school students in Enugu, Nigeria. Anonymous structured interviews were conducted with 1009 multi-stage sampled students aged 10-20 years. Nine hundred of the students had heard about AIDS but only 725 knew that HIV causes AIDS. Fifty percent (50%) could identify transmission modalities but only 36-50% could correctly identify actions to avoid contracting Human Immunodeficiency Virus (HIV) infection. Students learned about HIV/AIDS from the society (22.3%) and TV-20%; Radio-19%; Newspapers-13%, than schools (11.0%) and from home (16%), while 33% believed AIDS was not real. Seventy-nine percent (79%) and 46% of the respondents were afraid and have aversion for People living with AIDS respectively. Upto 27% of the respondents had had premarital sex while only 50% agreed they could change their sexual practice on account of HIV/AIDS. The respondents, those who had begun sexual activity started early and engaged in risky sexual practices. Results from this study indicate that HIV/AIDs knowledge among the respondents is inadequate, and that they want to learn more. Appropriate and factual HIV/AIDS and sexuality information should be provided in formal conducive setting in-schools to counteract wrong information, misconceptions and sexual myths gained from uninformed general public and on occasions the media.

KEYWORDS: Adolescents; Nigerian; HIV/AIDS; Knowledge; Sources of information; Secondary school students.

ABBREVIATIONS: AIDs: Acquired Immune Deficiency Syndrome; HIV: Human Immunodeficiency Virus; STD: Sexually Transmitted Disease; IV: Schedule 4; NERDC: Nigerian Educational Research and Development Council; UNESCO: United Nations Educational, Scientific and Cultural Organization; NGO's: Non Governmental Organizations.

INTRODUCTION

Since the first description of HIV and AIDS, there has been a relentless spread of the disease to most countries of the world. The World Health Organization (WHO) in April 1997 estimated that over 24 million people were infected with HIV.[1] Nine million are women and 1.5 are children.[2] Eight-five percent (85%) of infected women and children reside in sub Saharan Africa. In Africa it is estimated that 1 in 40 persons are infected and the figure is rising. The route of infection is heterosexual intercourse with a gender ratio of 1.2:1, indicating that women outnumber men.[3] The first AIDS case in Nigeria was in a 13 year old girl, officially reported in 1986.[4] From 2 AIDS cases in 1986, 10,803 cases have been reported in 1997.[5] The cumulative (1986-1995) prevalence of AIDS among 15-19 year age group is 6.75% and 48.68% among 20-29 year age group.[6] The number of infected people in Nigeria is projected to reach 7.2 million by the year 2001.[7] The Epidemiological fact sheet on HIV/AIDS and STDs for Nigeria in 1998 estimates number of children 0-15 years to be 99000, number of AIDS case since the pandemic (adults and children) 590000, number of deaths cumulative (adults and children) 530000.0 and in 1997 for children is 150000.0, and number of orphans cumulative (<15 years)

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440000, those living with HIV/AIDS in 1997 is 350000. In Enugu State, there has been a steady increase in the prevalence of HIV infection among pregnant women, a sexually active group from 1.4% in 1992 to 5.9 in 1996.[8] This trend has been documented among high risk groups like commercial sex workers, patients attending Sexually Transmitted Disease (STD) clinics and patients with tuberculosis.[8] In 1993/1994 a structured survey in Enugu State showed the highest prevalence to be among the age bracket 20-29 years followed closely by the 15-19 year group 1995/1996.[8] This shows the vulnerability of the adolescent/youth in Enugu to HIV infection. Knowledge, Attitude and Practice studies regarding HIV/AIDS were conducted in the USA and most developed countries in the 1980's.[9-11] They were relevant to their environment and what was known about HIV/AIDS then, for example homosexuality, Schedule 4 (IV) drug use and recipients of blood and blood products. There was limited enquiry about the nature of HIV, prevention and transmission modalities. More recent studies have incorporated enquiries about group behaviour, sexual negotiation skills, condom use and effect of culture.[12] Questionnaires were the most frequently used tools.[12,13] Knowledge were often inadequate, while perceptions and misconceptions were prevalent as were prejudices and popular myths in the societies concerned about people with AIDS especially among young people.[14-19] The exceptions are in situations where Sex/AIDS education are entrenched in the school curriculum.[20,21] In 1981, the Nigerian Educational Research and Development Council (NERDC) developed and incorporated a school based population education programme at the secondary school level. By 1989/1990 the family education component of the programme was expanded to include some information on AIDS.[22] With the ever increasing threat and danger of HIV/AIDS, there was need for research to give insight into what teachers and students already know about HIV/AIDS. In a recent study with 6862 respondents knowledge score ranged from 20-59% with prevention measures scoring as low as 15%; 21% of respondents could not state any method of prevention.[22] Importantly, 94.9% of the teachers agreed that students should be taught AIDS education and the NERDC concluded that AIDS and sex education be made available to students and teachers. The NREDC in conjunction with the National AIDS and STDs control programme conducted another study in 1996.[23] The respondents consisted of 1445 youth aged 10-15 years from upper primary 5 to senior secondary school classes. The major findings was that the students did not consider STDs, HIV/AIDS a major health problem, STDs and AIDS awareness was very low in primary schools particularly among girls and that misconceptions abound. The recommendation of the NERDC was that there was an urgent need for implementation of an in-school HIV/AIDS and sex education programme and that parents be involved in STDs/AIDS education in order to reinforce behaviours advocated for their children. A Zambian study found worse knowledge scores ranging 10-20% and poor attitudes and behaviours.[24] Studies in developed countries in the 1980's when compared to studies in Nigeria in the 1990's revealed similar scores.[22,23] Helgerson SD[25] found the proportion of students who answered each of the transmission questions correctly ranged from 37-95%. About half of the students recognised risk groups correctly as well as having learned about AIDS from television (57%). Few had learned from parents (6.0%) and teachers (4.0%). About 24-29% of the students wanted AIDS education from a talk or lecture. Baldo M[26] found similar results while Rawitscher LA[27] found that adolescents preferred physicians to give them information and ask personal questions about HIV and HIV-related risk behaviours and that physicians initiate the discussion. Early Aids intervention strategies in teenagers were based upon studies that showed that general health education could improve knowledge, attitudes and behaviour.[13] When compared, surveys of adolescents knowledge in the 80's and 90's about HIV/AIDS in both developed and developing countries revealed that their knowledge have improved.[28] Despite increased knowledge, adolescents continue to have misconceptions about casual transmission of HIV and their information about prevention remains insufficient.[17,19,29] Increase in knowledge is meaningless if they do not lead to behaviour change, and behaviour change is meaningless if the change is not adequate to ensure protection that is sustained and maintained over time.[13] It is particularly crucial to change adolescent sexual behaviour because patterns of behaviour and risk taking at set during the teenage years. Adolescents feel invulnerable, engage in concrete rather than abstract thinking, deny the risk of their actions and frequently need peer approval.[30,31] Because of the sensitivity of issues associated with sexual behaviour, public health official and educators confront problems in the prevention and control of HIV/AIDS/SDTs. The problem increases when measures are aimed specifically at young people between the ages of 10-24. Nevertheless, this age bracket constitute an important target group and a potential resource for the prevention of HIV/AIDS/STDs.[31] Many young people attend school or are in contact with those who do. Information, values and skills conveyed in school can have considerable impact in their lives. To be effective, education about HIV/AIDS/STDs must be presented within a school health education programme that provides a broad understanding of communicable diseases, community health, human relationships, sexuality, drug use and other relevant issues within the context of local cultural values.[31] Given the early age at which young people become sexually active, 26% in Nigeria, 44% in Cameroon, 6% in Niger, 37% in Namibia and 18% in Burkina-Faso among 15-19 year olds[30] and infected, there should therefore be special emphasis on early information and education of pre-adolescents and adolescent boys and girls both in-school and out-of school.[3,30,31] As they mature and become sexually active, adolescents face serious health risks with regard to STDs. Most face these risks with too many sexuality myths, too little factual information, guidance about sexual responsibility and access to health care.[32] Childhood and youth are both periods of accelerated learning and a time during which young people can acquire the necessary knowledge, attitudes, values and skills that can help them to maintain healthy behaviour and avoid behaviours that put them or other at ris.[24,30-33] United Nations Educational, Scientific and Cultural Organization (UNESCO) Regional Seminar on HIV/AIDS and education within the school system for English speaking countries in Eastern and Southern Africa 20-

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24th Feb.[34] They are also at a vantage stage of development in which they are receptive to information and intervention.[17,30,35] UNESCO Regional Seminar on HIV/AIDS and education within the school system for English speaking countries in Eastern and Southern Africa 20-24th Feb.[34] School represent strategic institutions where STDs/HIV/AIDS prevention and health promotion education should begin. With these in mind the current study was embarked on to assess knowledge and sources of information regarding HIV/AIDS and propose ways to improve knowledge among the students. It is hoped that findings from the study will provide useful data that can help in the fight against HIV infection and AIDS.

SUBJECTS

The study was undertaken in secondary schools in Enugu metropolis the capital of Enugu State of Nigeria. Institutional approvals were obtained from the schools and the students were adequately briefed. The study was conducted from October-December 1997. The subjects were students in Junior Secondary 2 (JS2) classes through Senior Secondary 3 (SS3).

METHODS

The Subjects were selected by multi staged simple random sampling, 3 schools from each school type i.e. boys, girls and mixed schools were selected. In each school, using the class register, students in classes JS2 through SS3 were listed. From each class 20-25 students were selected by simple random ratio of 1 in 8 until the required sample size was obtained. Trained volunteers were used to administer the questionnaires anonymously to ensure uniformity and confidentiality. The questionnaire used was a modification of the 'Model' KABP instrument proposed by WHO's Global programme on AIDS with specific concerns of African researchers in mind.[36] The data was entered into a portable computer using Epi Info 6 software. Descriptive and analytical methods were used. Data is presented in tables and charts for clarity and chi squared test applied where necessary.

RESULTS

Nine schools participated in the study and 1009 completed questionnaires was analysed. Table 1 show the demographic characteristics of the schools and students who responded to the questionnaire. Eighty six percent -98%of the students responded to every one of the survey questions. Table 2 show knowledge about the nature of HIV. Thirty-one (31%) of students did not respond to this question. That the no of true responses for HIV being bacteria and don't know were similar could mean either that the respondents did not understand the question or they were guessing. When this response was stratified by age it was found that the older the respondents the more correct their responses for HIV being a virus or the AIDS virus Table 3. Gender did not influence knowledge about the nature of HIV. Misconceptions were prevalent as 120(11.9%) thought that AIDS is caused by poisoning while 115(11.4%) thought it was a form of cancer. One hundred and forty-eight (14.7%) did not know that a blood test could detect a persons' HIV status, while 205(20.3%) responded that AIDS was curable. One hundred and eighty-five (18.3%) of the respondents thought that AIDS was a ''white man's disease''. The respondents stratified by type of school show that they responded correctly that HIV infected persons may remain well for up to 10 years ($p<0.001$). Seven hundred and sixty-five (75.9%) of the respondents have heard of STDs while 227(22.7%) have not. However more girls than boys identified the causative organisms of STDs. The value for gonorrhoea ($p<0.01$) and syphilis ($p<0.02$) were statistically significant. Knowledge scores were not statistically different in the case of HIV/AIDS ($p=0.3$) and ($p=0.6$) respectively. Students of boys' school have had STDs more than students of mixed schools and girls' school ($p<0.001$). Knowledge scores about STDs stratified by class of the respondents are shown in Table 4. Knowledge about condom use was fair as 535(53.0) had

Ages years	10	11	12	13	14	15	16	17	18	19	20
No	7	15	73	171	165	188	175	122	77	15	8
%	0.7	1.5	9.2	16.9	16.4	18.8	17.3	11.1	7.6	5.1	0.9
Grade/Class	JS2		JS3		SS1		SS2		SS3		
No	214		201		197		197		200		
%	21.2		19.9		19.5		19.5		19.7		

Schools	1	2	3	4	5	6	7	8	9	Total
Boys only	-	123	63	-	-	90	68	33	109	322
Girls only	119	-	61	120	111	-	52	60	-	350
Boys' & Girls'	-	-	124	-	-	-	120	93	-	337

Gender	Male 486 [48.2%]	Female 523 [51.8%]	Tolal 1009 [100%]
Day students	711 [70%]		

Table 1: Social and demographic characteristics of students who responded to the questionnaire.

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What is HIV?	Respondents	True No (%)	False No (%)	Nil No(%)
Bacteria	898	737(73)	161(16)	111(11.0)
Virus	916	461(45.7)	455(45.1)	93(9.2)
AIDS Virus	951	653(64.7)	455(29.5)	58(5.7)
Don't know	887	733(72.6)	144(14.3)	132(13.1)

Table 2: Knowledge about the nature of HIV.

Age groups	Bacteria No (%)	Virus No (%)	AIDS Virus No (%)
	TrueFalseNil	TrueFalseNil	TrueFalseNil
10-11	21(91.3)1(4.3)1(4.3)	8(54.8)14(60.9)1(4.3)	10(43.8) 13(60.9) 0(0.0)
12-13	191(78.6) 36(14.8) 16(6.6)	82(33.7) 146(60.1)15(6.2)	150(61.7) 85(35.0)8(3.3)
14-15	251(70.7) 67(18.9) 37(10.4)	159(44.8) 166(46.8) 38(8.5)	231(65.1) 108(30.4) 16(4.5)
16-17	210(73.2) 41(4.3) 36(12.5)	172(59.9) 87(30.3) 28(9.8)	189(65.9) 74(25.8) 24(8.4)
>-18	57(62.0) 16(17.4) 19(20.7)	36(39.1) 39(42.4) 17(18.5)	67(72.8)16(17.4)9(7.8)
	P<0.001	P<0.001	P=0.002

Table 3: Knowledge about the nature of HIV stratified by age of the respondents.

Responses & class	Gonorrhoea	Syphilis	Herpes	HIV	AIDS	
True JS2 False Nil	102(47.7) 102(47.7) 10(4.7)	48(22.4) 150(70.1) 16(7.5)	37(17.3) 159(74.3) 18(8.4)	124(57.9) 79(36.9) 11(2.8)	173(80.8) 35(16.4) 6(2.8)	p>0.001
True JS3 False Nil	95(47.3) 104(51.7) 2(1.0)	58(28.9) 139(69.2) 4(2.0)	50(24.9) 145(72.1) 6(3.0)	139(69.2) 59(29.4) 3(1.5)	169(94.1) 30(14.9) 2(1.0)	p>0.001
True SS1 False Nil	117959.40 66(33.5) 14(7.1)	69(35.0) 133(67.5) 29(14.7)	35(17.8) 133(67.5) 29(14.7)	145(73.6) 38(19.3) 14(7.1)	171(86.8) 10(5.1) 16(8.1)	P=0.001
True SS2 False Nil	128(65.0) 42(21.3) 27(18.8)	78(39.6) 82(41.6) 37(18.8)	38(19.3) 118(59.9) 41(20.8)	144(73.1) 29(14.7) 24(12.2)	171(86.8) 10(5.1) 16(8.1)	P=0.001
True SS3False Nil	157(78.5) 37(18.5) 6i3.0)	97(48.5) 92(46.0) 11(5.5)	38(19.0) 145(72.5) 17(8.5)	174(87.0) 22(11.0) 4(2.0)	190(95.0) 7(3.5) 3(1,5)	P=0.001

Table 4: Knowledge of STDs stratified by class of the respondents.

seen a condom while only 91(9.0%) have used one. More girls 305(30.2%) than boys 291(28.8%) responded that they know what a condom is (p=0.4) though fewer of them (girls) have used it (p>/=0.02). Fifty four (24.4%) of the sexually active group (221 students) did not know where to get a condom while 74(33.4%) and 45(20.3%) thought it was harmful and expensive respectively. Increasing age was significantly associated with knowledge and usage of condoms (p<0.001). Condom use was higher among the 17-18 year olds than in the younger age groups and the older age groups reported they would be least embarrassed if condom was found on them (p=0.8). On routes of transmission, the respondents knowledge were adjudged to be poor as up 56% identified kissing, shaking hands, drinking from same glass, and mosquito bites as routes of HIV transmission. Moreover the respondents regarded unprotected sexual intercourse 224(22.2%), breast milk 463(45.9%), casual sex 537(53.2%), use of unclean instruments for circumcision/ear piercing 594(58.9%), blood transfusion 238(23.6%) as risk-free circumstances/modalities in HIV transmission. Other results about respondents' knowledge on HIV transmission are shown in table 5 while table 6 show responses on desirable actions to avoid contracting HIV infection. Increasing age and female gender correlated with more correct responses in the knowledge questions (p<0.001 and p<0.02 respectively). The older students however did not perform better than the younger ones when asked if condom prevented transmission of HIV/AIDS (p>0.1). Poor knowledge and misconception were greater among girls than boys with regard to routes of transmission (p<0.01). Knowledge about AIDS varied between the schools with the girls' schools consistently performing better than the other types of schools. However, students of girls schools were less able to identify breast milk and casual sex as modalities of HIV transmission (p<0.001). The students of girls schools identified risk behaviour for HIV/AIDS more often than students of boys' and mixed schools (p<0.001), but in the case of casual sex as a risk factor for HIV transmission the performance of Junior Secondary School and Senior Secondary Students were comparable (p>/=0.2). Table 7 show sources of information about HIV/AIDS in relation to schools and gender. Table 8 show

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Actions that facilitate HIV transmission	No of Responses	Patterns of Responses YesNoNil No(%)No(%)No(%)
Sex for money	968	603(59.8)365(36.2)41(4.1)
Homosexuality	928	397(39.3)531(52.6)81(8.0)
Unfaithfulness	934	505(54.5)384(38.1)75(7.4)
No treatment for STDs	932	423(41.9)509(50.4)77(7.6)

Table 5: Respondents knowledge about HIV transmission.

Actions to avoid HIV infection	No of Responses	Patterns of Response YesNoNil No(%)No(%)No(%)
Abstinence	946	650(64.4)296(29.3)63(6.2)
Unprotected Sex	964	224(22.2)740(73.3)45(4.5)
Condom Use	941	391(38.8)550(54.5)68(6.7)
Keeping one sex Pattern	942	363(36.0)579(57.4)67(6.6)
HIV free Pattern	928	486(48.2)442(43.8)81(8.0)
Faithfulness	924	514(50.9)410(40.6)85(8.4)

Table 6: Respondents Knowledge about HIV prevention.

Sources of Information	Schools	Responses Yes(%)No(%)Nil(%)
Newspaper1.	Boys	117 (1.6) 111(11.0)39(3.8)
2.	Girls	203(20.1) 96(9.5)49(4.8)
3.	Mixed	208 (20.6)115(11.4)11(1.0)
Society1.	Boys	204(20.2)86(8.5)37(3.6)
2.	Girls	236(23.3)65(6.4)47(4.6)
3.	Mixed	239(23.6)85(8.4)10(0.9)
Home1.	Boys	167(16.5)120(11.8)40(3.9)
2.	Girls	231(22.8)65(6.4)47(4.6)
3.	Mixed	239(23.6)85(8.4)10(0.99)
TV1.	Boys	194(19.2)96(9.5)37(3.6)
2.	Girls	206(20.4)85(8.4)57(5.6)
3.	Mixed	207(20.5)117(11.5)10(0.99)
Radio1.	Boys	200(19.8)91(9.0)36(3.5)
2.	Girls	191(18.9)101(10.0)56(5.5)
3.	Mixed	211(20.9)114(11.2)9(0.89)

Chi sq 27.0Df=4.0p=0.001 (for all option)

Table 7: Sources of information about HIV/AIDS in relation to schools and gender.

Formal Sources	Informal sources
School 665 (65.5%)	Newspapers 588(58.3%)
Teacher 764 (73.9)	Radio 602(60.2%)
AIDS Office 639(63.3)	TV 607(602%)
Doctor 746(73.9)	Society/community 679(67.3%)
Home 587(58.3)	Peers 582(58.2%)

Table 8: Affirmative responses on formal and informal sources of information about HIV/AIDS.

Affirmative responses to formal and informal sources of information about HIV/AIDS. When the respondents were asked to compare in ranking order where and whom they would seek information on HIV/AIDS from, 746(73.9%) would like to consult a doctor, while 639(63.3%) would rather consult the Enugu State AIDS office, school teacher 298(29.5%) and peers 144(14.3%). The differences were statistically significant $p<0.001$. The difference in scores between the schools as regards sources of information were also statistically significant ($p<0.001$). Sources of information varied significantly with age ($p<0.001$). Senior (SSS) students learned more from all listed sources than junior students ($p<0.001$). Gender least affected the source of infor-

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mation. The difference between the boys and girls was not statistically significant for print, electronic or discussions within the community about HIV/AIDS (p value ranging 0.08 to 0.13). However, the difference for what they learned from school and home was significant (p<0.001 and 0.001) respectively. More girls than boys would like to find out about HIV/AIDS from school teachers (p<0.001). Six hundred and forty-five (63.9%) of the respondents want sex education to be taught in schools as more girls than boys (p<0.001). Age of the respondents did not influence opinion as to whether sex education should be taught in schools (p>0.09).

DISCUSSION

Data from this study show that adolescent Nigerian secondary school students have misconceptions, inadequate and incomplete knowledge about HIV/AIDS, the routes of transmission and the precautions necessary to prevent infection. This is in agreement with what had been found in other studies.[22,23,25] There is however some evidence that HIV/AIDS knowledge is improving as the pandemic rages on.[37] Data from the Needs assessment Research Reports[38] in Nigeria showed knowledge scores for the nature of HIV to be 21.2%, 36.3%, 64.7% for the year 1992, 1996 and 1997 respectively. The knowledge score for 1997 compares favourably with the 64.7% obtained in the present study. However, about a decade ago Helgerson, et al.[25] had found knowledge scores for HIV/AIDS amongst American secondary school teenagers were in the range of 17-95%. Ninety five of their student population were able to recognize that having sex with an HIV infected person was a high risk behaviour. Otherwise, the other scores in the same study were similar to those of the current study. Knowledge of STDs was very poor. This may suggest that over a decade into the AIDS pandemic, there has been no significant improvement in knowledge in the current study population when compared to their American counterparts, as was also found by Lawrence, et al.[39] The differences' between the two populations may be explained by the AIDS intervention programmes and sexuality education made available to US adolescents. AIDS education commenced nearly a decade ago in the USA.[25] It may also suggest that secondary school biology syllables and lessons are deficient in basic health topics as indicators of applied biology. Although the Guidelines for Sexuality Education in Nigeria was only recently published in 1996,[40] There has been neither implementation nor a statutory provision for same as yet. In another study Aplasca, et al.[41] reported similar findings but in addition demonstrated increased knowledge among the intervention group as against the controls emphasizing the immense value of intervention activities. Poor knowledge and attitudes to HIV/AIDS is not limited to secondary school students in Nigeria. A knowledge, practice and attitude survey among health workers in a Nigerian teaching hospital, noted important gaps in knowledge and showed avoidance attitude towards people living with HIV/AIDS among Doctors, nurses and other health workers.[18,19] This agrees with findings the world over[24,42] and probably underscores the point that although education is effective in increasing knowledge it has had less effect on AIDS-related attitude and behaviour.[39,41] Social and cultural acceptance of a disease condition and scientific information regarding it, re-enforced by intense AIDS-related education are often required to enhance positive AIDS-related attitudes.[41] Misconception about HIV transmission was identified in this study, as there were also prejudiced and exclusionary beliefs[17] made similar observation among students of the University of Ibadan which showed that many students thought that HIV could be spread by kissing, shaking hands, and sharing utensils. Knowledge deficiency scores for similar questions in this study ranged between 33-44.6% but were a significant improvement on the 72.6% which they found among University students in 1994(66-34). Up to 238(23.6%) and 537(53.2%) of students thought that blood transfusion and casual sex respectively were not risk modalities for HIV transmission. This lack of knowledge, as found in this study and others[17] about routes and risk factors of transmission of HIV/AIDS stresses the importance of educating students properly, while explaining the biology of HIV infection. Knowledge of the risk of unprotected sex and the possible advantages of condom use was very poor (9%). Despite the relatively early sexual activities, about 53.0% and 9.0% of the students had neither seen a condom, nor used one for sexual intercourse respectively. To reduce the risk of contracting HIV infection as a consequence of early unprotected sexual activities by the adolescents in this study, condom use is better presented as a method to prevent contracting STDs than as a contraceptive, since the latter may be misconstrued to connote promiscuity. This may reduce apprehension and misconception about condom use and promote acceptability as well as emphasizing safety and sex-friendliness. Nearly half of the respondents did not understand the existence of a carrier state for HIV while more than 20% erroneously believed that there was a cure for HIV/AIDS. This may be part of the reason responsible for HIV prevalence in males catching up and overtaking those of females by the 20's to 30's. Informal sources constituted the respondents source of information and knowledge about HIV/AIDS. This would partly explain their poor responses and misconceptions. St. Lawrence, et al.[39] had made similar observations. The other reason could be appreciations of the questions by the respondents due to exposure to Non Governmental Organizations (NGO's) activities regarding HIV/AIDS in their schools. Better staffing of schools may have also contributed to better scores. In addition, since girls tend to begin sexual maturation earlier than boys, the consistently better knowledge scores of girls maybe due in part to the fact that girls receive somewhat earlier sex education than boys of same age from their parents.

CONCLUSION

Informal sources contribute significantly to the respondents sources of information and knowledge about HIV/AIDS. Adolescents in this study population have incomplete and inadequate knowledge about HIV/AIDS. Interventions efforts by Government, Non-Governmental Organizations (NGOs)', communities, Parents and Individuals have not targeted students in this study population adequately if at all.

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LIMITATIONS OF THE STUDY

1. The participants were mainly in-school students and the findings may not be generalised to out of school peers although most of the students were day students and have a lot of interactions with out of school peers.

2. The study participants were students of urban schools, and the findings may not be generalised to students of rural schools. Most of NGO's activities regarding HIV/AIDS are concentrated in urban areas.

RECOMMENDATIONS

There is an urgent need to design and implement a school HIV/AIDS/Sexuality education programme. An effective and acceptable programme should involve the entire community to reduce parental and religious body's apprehension and encourage cooperation and acceptability amongst students, parents and the entire community.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

CONSENT

Consent was obtained from the Head Principal for the study to be carried out in schools under the Post Primary Schools Management Board (PPSMB), Enugu. The principals of the individual schools also gave consent for their students to participate in the study. The students were given individual letters for consent to their parents and guardians.

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