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# ATTITUDE AND HIV-RELATED KNOWLEDGE AMONG SENIOR SECONDARY SCHOOL STUDENTS IN OTA, SOUTH WESTERN NIGERIA.

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## ABSTRACT

*The rising prevalence of HIV among young people in Nigeria is of great concern. This study was to assess HIV-related knowledge and attitude among secondary school students in Ota, South Western Nigeria. The study employed a descriptive cross-sectional survey of 441 students from three prominent and well attended secondary schools located in Ota. A self-administered questionnaire elicited information on demography, HIV/AIDS knowledge, source of HIV information, and attitudes towards HIV and PLHA. Response rate was 98% (441/450). Participants age ranges between 13 and 17 years (mean = 15.67; SD = 1.56). About 57% are in the 13-15 years age group. There was a proportionate gender distribution of respondents (male 221/female 220). The respondents' overall mean HIV/AIDS knowledge score was 64.912. This was fairly high though with some misconceptions especially about MTCT. Participants displayed negative attitude towards HIV and PLHA. The leading source of information was the electronic media (radio and television 89%/68%); minor sources include family members (63%) and HIV posters/billboards (63%). This study found a significant difference in the attitude of participants based on gender ( $t = 3.202, p < 0.05$ ) but no such difference exist based on age ( $t = 1.196, p > 0.05$ ). The study found no significant difference in HIV knowledge by gender ( $t = .940, p > 0.05$ ) and age ( $t = 1.223, p > 0.05$ ). Interventions that will promote HIV related information should be incorporated by institutions of learning, religious bodies, family members and health professionals are to assist young people in Nigeria to become more aware of issues surrounding*



*Conclusions:* It was concluded that urgent attention must be focused on HIV education and enlightenment.

*Keywords:* HIV Knowledge, Attitude, Senior Secondary School Students

## Introduction

The Human Immune-deficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) constitute a life-threatening but preventable disease affecting millions of young people, women and men. Consequently, the scourge, coupled with malaria and tuberculosis, has further led to the decline of life expectancy in many African nations and especially in Sub-Saharan Africa (UNAIDS, 2008; Adekeye, 2010). Of the estimated 33.3 million people worldwide living with HIV in 2009, two-thirds (67 percent) were in sub-Saharan Africa (UNAIDS, 2010). About 1.8 million (72 percent) occurred in Sub-Saharan Africa (UNAIDS, 2010). About 1.8 million (72 percent) occurred in Sub-Saharan Africa (UNAIDS, 2010). There was an estimated 2.6 million (1.8 million in Sub-Saharan Africa) new infections in 2009 and currently, about 22.5 million Africans are living with HIV (UNAIDS, 2010). The HIV/AIDS epidemic is one of the greatest humanitarian and development challenges facing the global community in recent times (Osagbemi, Joseph, Adepetu, Oyung and Jegede, 2007 & MAP Report, 2004).

In 2008, young people accounted for 40% of all new HIV infections (UNAIDS, 2008). More than half of all sexually transmitted infections, other than HIV, (more than 180 million out of a global annual total of 340 million) occur among young people aged 15 to 24 (UNPA, 2004). Yet, most young people have no access to sexual and reproductive health programmes that provide the information, skills, services, commodities, and social support they need to prevent HIV. A look at the global situation, however, reveals significant deficits in HIV knowledge among young people: only few countries such as Namibia, Swaziland and Rwanda had achieved over 50% in the level of comprehensive knowledge among both young men and young women by the end of 2008 (DHS, 2008). Globally, less than 40% of young men and women have complete and accurate knowledge about HIV transmission, far short of the 95% target set out for 2010 in the UNGASS Declaration of Commitment (Ban Ki Moon, 2010). Knowledge about HIV and AIDS are essential preconditions to reducing HIV infection (Adekeye, 2005). In developing countries (excluding China), only 30% of young men and 19% of young women aged 15 to 24 have comprehensive knowledge on HIV, as of December 2009 (UNAIDS, 2010).

The HIV/AIDS epidemic, now in its 30th year, is slowly but steadily showing signs of abating. Thirty years and still 30% of those infected with HIV are unaware (ECDC, 2010). It strikes the poor and the disadvantaged hardest, particularly where there is poor access to education, and where illness, malnutrition, violence, armed conflict and discrimination are already well



entrenched, young people between ages 15 and 24 are at risk on an unparalleled scale (UNESCO, 2006). According to a UNAID (2010) estimate, almost 7,000 new infections occur everyday in the world, 90 percent of which occur in Africa. Young people constitute an important segment of the world's total population and 50-60% of new cases of HIV are among this group. They are in the centre of a double jeopardy. On the one hand, they live in a world of increasing poverty, low levels of education and high levels of unemployment; on the other hand, 50 percent of all new HIV infections are in the age group of 15-24 years. Several researchers have noted that HIV is ravaging the lives of the younger population due to such characteristic features as sexual experimentation and the general belief of invincibility (Adegoke, 2004; Adekeye, 2005, 2010).

The HIV/AIDS situation in Africa is alarming and disturbing (Adekeye, 2010) and as noted by Decosas & Adrien (1999), deaths due to HIV/AIDS in Africa are likely to surpass the 20 million Europeans killed by the plague epidemic between 1347 and 1351 if adequate care is not taken to control the spread of the epidemic. HIV, as attested to by a plethora of studies (WHO, 2010; UNAIDS, 2009; Avert, 2009; Kallings, 2008; Chng, Eke-Huber, Eaddy, & Collins, 2005) is the single most serious long-term threat to the survival of young people in Nigeria. The scourge, which was a relatively unknown disease three decades ago (HDR, 2004; Adekeye, 2010) has now assumed rising prevalence due to its multiple modes of transmission.

The course of untreated HIV infection can be divided into three phases: the acute HIV disease, then the latency phase and finally the disease of AIDS, ending in death. The acute HIV disease lasts a few weeks. This period is also known as the window of vulnerability, and it is characterized by an explosive replication of the HIV. During this phase, the virus invade the organs of the defense system and other bodily organs and establish themselves there. The latency phase lasts on average 10 years, during which the virus concentration is relatively low. In the AIDS phase, the defense system is completely destroyed, as the result of which death occurs after 1-2 years (ECDC, 2010).

The knowledge and attitude of young people in relation to HIV is an important determinant of their willingness to present for HIV pre-post-test (Adekeye, 2010). Inadequate knowledge might cause negative attitude towards HIV and people living with positive. As noted by Kessler & Heeren (1987), the link between increased knowledge of the disease and improved attitudes towards people with HIV/AIDS has been documented. Since adolescence is a period of intense sexual drive and experimentation, they constitute a vulnerable group at great risk of contracting HIV (Adekeye, 2005; Akinboye, 1985 & WHO, 2003). The World Health Organization (WHO, 2007) estimates that half of the 33million people in the world who are infected with HIV were infected between the ages of



and 24. Persons in the lower limits of this category are school-age adolescents and this period is a time of enormous physiological and behavioural change (Graber, 2004; Lerner & Steinberg, 2004). In a general sense, adolescence as a developmental stage has been regarded as a gap between childhood and adulthood or as a prelude to and preparation for adulthood. Experimentation, risk taking and sexual exploration within the context of feelings of vulnerability characterize the adolescence period (Adekeye, 2005). One major task of this period is trying to be 'oneself', which often leads the adolescent to making choices and commitments. The objective of this study was to assess HIV/AIDS-related knowledge and attitudes among secondary school students in Ota, Nigeria. To achieve the objectives of this study, four research questions were raised.

### Research Questions:

1. Do young people understand what HIV connotes, the means of transmission and how to prevent HIV infection?
2. Are young people favourably disposed to people living with HIV (PLHA)?
3. Do male and female students differ significantly in their knowledge and attitude about HIV/AIDS?
4. Do students differ significantly in their knowledge and attitude about HIV/AIDS based on age?

### Method

The study is a descriptive cross sectional survey of students in senior secondary school. A sample of 441 students from the initial 450, representing 98% response rate, were drawn from the three secondary schools: Faith Academy (137/31%), Iganmode Secondary School (185/42%), and Ansaruddeen College (119/27%). For ease of data collection, four graduate students served as research assistants. The respondents consisted of 221 male students and 220 female students within the age bracket of 13 years and 19 years ( $M=16.42$ ,  $SD=1.80$ ), randomly selected on an equal basis from the three selected secondary schools.

### Ethical Considerations

The study received ethical approval from the principals and parents of concerned students. Participation was voluntary, participants were educated on the aim of the survey, assured of strict confidentiality of their responses, and informed consent obtained prior to questionnaire administration. The survey was undertaken between November 2010 and December 2010.

### Instruments

A 35-item questionnaire titled Knowledge and Attitudes of Students towards HIV/AIDS (KAS, Adekeye, 2010; Tan, Pan, Zhou, Wang, and Xie, 2007 and Ingham and Stone, 2006) was used to obtain the required information from the



participants. The questionnaire was a well-structured non-disguised questionnaire which listed the questions in a pre-arranged order where the object of enquiry was revealed to the participants. The Knowledge scale was adapted from Adekeye (2010) and Tan, Pan, Zhou, Wang, & Xie (2007). They reported a coefficient ranging from of 0.78 to 0.83. The Attitude scale was adapted (Ingham and Stone, 2006), with a Cronbach alpha of 0.81. The reliability estimate of all the sub-scales obtained from a test-retest coefficient ranges from 0.77 to 0.83. Internal consistency analysis on our study sample (N=441) produced an alpha of .82 for the entire scale, with all 35 items remaining intact.

The questionnaire was divided into four sections; section A, B, C and D. Section A sought information on the participants' personal data which included age, gender, class level, college, and religion. Section B was based on the Knowledge of HIV/AIDS (general knowledge, transmission and prevention). Section C was based on the sources of HIV/AIDS information while section D measured attitudes towards HIV/AIDS (general attitude, blaming, infection and PLHA). Both section B and D was a Likert-type rating scale using 4 point scales as follows: 4 Strongly Agree-SA, 3 Agree-A, 2 Disagree-D, 1 Strongly Disagree-SD. Due to the age range of the participants, all the items were structured as positive statements. No negative item or question was used. An overall score is obtained for knowledge of HIV/AIDS by summing the numbers attached to the likert-type scale (i.e. 4 for strongly agree). The range of possible scores is 0-80. A score of 60 and above indicates greater HIV knowledge. An overall score is also obtained for the attitude towards HIV/AIDS scale by summing the numbers attached to the likert-type scale (i.e. 4 for strongly agree). The range of possible scores is 0-60. A score of 45 and above indicates positive attitude towards HIV/AIDS and people living with HIV/AIDS. Section C was incorporated to add more information on student's knowledge of HIV/AIDS. The questionnaire forms were administered to the respondents with the aid of trained research assistants. The questionnaires were collected immediately the respondents were through with them.

### Methods of Data Analysis

The data were analysed using SPSS (SPSS version 17 for Windows, SPSS Inc., Chicago, IL). The data were expressed as both descriptive and inferential statistical methods, such as frequency counts and percentages, and t-test statistic. A p-value of  $\leq 0.05$  was considered as significant.

### Results

**Table 1: Demographic Characteristics of Participants**

Characteristics	n = 441	Frequency	Percent
Age Group			
13-15 years		281	63.7



16-19 years	160	36.3
Gender		
Male	221	50.1
Female	220	49.9
Class Level		
SS 2	256	58
SS 3	185	42
School		
Faith Academy	137	31
Iganmode	185	42
Ansaruddeen	119	27

The research instrument was administered to 450 participants but due to improper fillings, some were found not fit for statistical analysis. In all 441 forms were coded and analysed. Younger students (13 and 15 years) constituted the majority accounting for about 64% of the sample. There was a proportionate gender distribution of participants.

**Question 1:** Do young people understand what HIV connotes, the means of transmission and how to prevent HIV infection?

**Table 2: Knowledge of HIV**

KNOWLEDGE OF HIV	n = 441	Frequency (%)
General Knowledge of HIV		
AIDS is the terminal stage of infection by HIV		297 (67%)
Vaccine is available to prevent HIV/AIDS infection		305 (69%)
HIV is contagious		411 (93%)
A person who contacts prostitutes and has unprotected sex can get HIV/AIDS		387 (88%)
Transmission of HIV		
Through infected mother to newborn child		218 (49%)
Sexual intercourse without condom		437 (99%)
Through shaking hands, kissing, sneezing & coughs.		321 (73%)
Blood from HIV infected person		215 (49%)
Prevention of HIV		
Condom use is the best way of HIV/AIDS prevention		399 (90%)
Abstinence is 100% best prevention method		388 (88%)
Reducing number of sex partners		401 (91%)
Being faithful to one's partner		428 (97%)

Students' knowledge of HIV/AIDS was measured on four levels. Data indicated that students possess good knowledge of HIV/AIDS (Being faithful to one's partner, 97%; Reducing number of sex partners, 91% and HIV is contagious, 93%). Ninety-nine percent (99%) of the students identified sexual intercourse without condom as one of the routes of HIV transmission. Equally, about 90% of the participants chose condom as the best way to prevent HIV transmission. There were however some misconceptions. For example, only 218 (49%) participants recognized mother-to-child-transmission (MTCT) of HIV. Also, less than half of the participants identified blood from HIV infected person as a route of transmission.

**Table 3: Sources of HIV Information**

Sources of HIV Information	Percent (%)	Rank Order
Television	68	2nd
Radio	89	1st
Church/Mosque	36	8th
Parents/family members	63	3rd
Teachers	51	6th
Posters/Billboard	63	3rd
Newspaper/Magazine	24	9th
Doctors/Nurses	49	7th
Friends	57	5th

As indicated in Table 3, 89% of the participants picked radio as their source of HIV information closely followed by television (68%). Other sources of HIV information as revealed by the ranking include billboard/AIDS posters, parents/family members and friends.

**Question 2:**

Are young people favourably disposed to people living with HIV (PLHA)?

**Table 4: Attitude towards HIV and PLHA**

ATTITUDE TOWARDS HIV AND PLHA	Freq (%)
General Attitude	
Would you be willing to share a meal with an HIV-infected person?	186 (42%)
If your food seller had HIV/AIDS would you buy food from him/her?	166 (38%)
If a co-student has HIV, would you be willing to work with him/her?	189 (43%)
Blaming and judgmental attitudes	
HIV/AIDS spreads due to immoral behaviour	388 (88%)
Men/Women who get HIV/AIDS get what they deserve.	358 (81%)
Sex workers are the only women who have to worry about getting HIV	254 (58%)
Attitude to PLHA	
Patients with HIV should be kept at a distance from other patients	382 (87%)
Clothes and linen used by PLHA should be disposed of or burned	401 (91%)
PLHA should have a right to decide who should know about their status	296 (67%)
People with HIV should be allowed to get married	335 (76%)

Scores show that participants' possesses a mix of positive and negative attitude towards HIV infection and PLHA. Participants displayed negative attitude towards HIV/AIDS. Only 38% of the sample were willing to buy food from a seller with HIV while 186 (42%) indicated they would share their meal with an HIV-infected person. Participants were highly judgmental and displayed blaming attitude such as men and women who gets HIV/AIDS deserves it (81%) and that HIV spreads through immoral behaviour (88%). Overall, 80% of the participants showed negative attitude towards people living with HIV.

**Question 3:** Do male and female students differ significantly in their knowledge and attitude about HIV/ AIDS?



**Table 5: Means, SD and t-value of Students Knowledge of HIV by Gender and Age**

Sex of Students	Cases	Mean	SD	df	t	p
Male	221	64.552	8.979	439	.940	>0.05*
Female	220	65.272	6.994			
Age of Students	Cases	Mean	SD	df	t	p
13-15 years	281	64.847	7.986	439	1.223	>0.05*
16+ years	160	65.025	8.183			

\* = Not Significant at 0.05

The results as presented in Table 5 reveals that there was no significant difference between male and female students in their knowledge of HIV/AIDS ( $t = .940$ ,  $P > 0.05$ ). There was equally no significant difference between younger and older adolescents in their knowledge of HIV/AIDS ( $t = 1.223$ ,  $P > 0.05$ ).

**Question 4:** Do students differ significantly in their knowledge and attitude about HIV/ AIDS based on age?

**Table 6: Means, SD and t-value of Students Attitude towards HIV by Gender and Age**

Sex of Students	Cases	Mean	SD	df	T	p
Male	221	33.774	8.2706	439	3.202	.000
Female	220	35.964	5.8846			
Age of Students	Cases	Mean	SD	df	t	p
13-15 years	281	34.815	7.3008	439	1.196	>0.05*
16+ years	160	34.956	7.1966			

\* = Not Significant at 0.05

The results indicated that a significant difference existed between male and female students in their attitude towards HIV/AIDS ( $t = 3.202$ ,  $P < 0.05$ ) while there was no significant difference between younger and older adolescents in their attitude towards HIV/AIDS ( $t = 1.196$ ,  $P > 0.05$ ).

## Discussion

Based on the available literature, this survey is believed to be the first documentation of HIV-related knowledge and attitude among secondary students in Ota, South Western Nigeria. The fairly high level of knowledge about HIV/AIDS among secondary students as reported in this study may be connected with the aggressive campaigns that have over the years been championed by relevant non-governmental organizations, Ministry of Health, religious groups, companies and other outreach programmes. The results of this survey can be interpreted as true representation of HIV/AIDS knowledge and attitude in South Western Nigeria as majority (96.2%) of the respondents were from the Yoruba ethnic group. Electronic media (radio (89%)/television (68%)) was identified as the major source of information on HIV in this survey which



was consistent with earlier survey in Nigeria (Adekeye, 2010; Nasir, Astrom, David & Ali, 2008; Basse, 2007; Oyo-Ita, Ikpeme, Etokidem, Offor, Okokon & Etuk, 2005).

Students around the world have repeatedly reported good knowledge regarding HIV/AIDS, some with some misconceptions which was also supported by our survey findings (Adekeye, 2010; Iliyasu, Kabir, Galadanci, Abubakar & Aliyu, 2005; Greenlee & Ridley, 1993). The fact that a substantial proportion of secondary students in this survey believed that HIV can be transmitted by mosquito bite and casual kissing respectively indicated that knowledge about HIV transmission is deficient and incomplete. Report from the National HIV/AIDS Reproductive Health Survey (2003) indicated that accurate knowledge on key basic information on HIV/AIDS, which is a prerequisite for taking preventive and care action, is generally low. In this study, majority of the participants knew that HIV could be transmitted through sex without condom (99%), but they were less knowledgeable about MTCT of HIV (49%) and through blood and its products (49%). Overall students had a somewhat negative attitude toward persons with HIV/AIDS as reflected in the blaming and judgmental attitude and attitude towards PLHA. This study found a significant difference in the attitude of participants based on gender ( $t = 3.202, p < 0.05$ ) while there was no such difference in attitude based on age ( $t = 1.196, p > 0.05$ ). Female students had better disposition to HIV and persons living with it (female ( $X=35.964$ ), male ( $X=33.774$ )).

Results from this study were consistent with those of Li, Lin, & Gao et al. (2004) and Buskin, Houyuan, Tianji & McGought (2002) who found that students were less knowledgeable about activities that did not transmit HIV as well as prevention measures. Unlike Li et al (2004), in this study, we did not find a significant difference in knowledge by gender ( $t = .940, p > 0.05$ ) or age ( $t = 1.223, p > 0.05$ ). Therefore, interventions to improve HIV related knowledge need to focus on both genders and emphasize the ways HIV is not transmitted in addition to the major routes of HIV transmission. Stressing that HIV is not transmitted by casual contact (touching, eating together, holding hands...) has tremendous implications for reducing stigma and discrimination for those who are HIV positive.

One advantage of this study was the proportionate gender distribution of respondents (male 221/female 220). This study found that female students had significantly higher knowledge about HIV/AIDS than the male students. This result is in tandem with that of Orubuloye, Caldwell & Caldwell (1993), which reports a higher knowledge among female participants regarding HIV prevention, acquisition, transmission and consequences of infection, but contradicts the study of Basse, Elemuwa & Anukam (2007) and Agrawal, Rao, Chandrashekar & Coulter (1999). Agrawal et al. (1999) found that boys had



Better knowledge of HIV/AIDS than girls and their explanation for this finding was that boys feel freer than girls to talk about matters relating to sex and HIV/AIDS.

### Conclusion

Results of this study have implications for designing HIV education and prevention programs among secondary students stemming from their HIV related knowledge which consequently affects their attitude towards HIV on the one hand, and people living with the virus (PLHA) on the other. Bivariate analysis (not presented) shows that students despite their fairly high knowledge of HIV have misconceptions about HIV transmission especially in the context of mother-to-child-transmission (MTCT) and transmission through uncreened blood and other blood related activities such as skin piercing, tattooing, and injecting drug use. Participants sources of HIV information was not too encouraging (radio and television ranked very high), HIV information from religious source was almost not significant (36%), newspapers and magazines (24%) and 49% from health-care personnel. Interventions that will promote HIV related information should be incorporated by institutions of learning, religious bodies, family members and health professionals to assist young people in Nigeria to understand, become more aware and appreciate issues surrounding HIV/AIDS.

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