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HIV: knowledge and sexual practices amongst students of a school of community health in Lagos, Nigeria

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Summary

A cross sectional study was conducted amongst students of a school of health technology in Yaba, Lagos, Nigeria to determine their knowledge about HIV/AIDS and their sexual practices. A self-administered questionnaire was used to collect data. Two hundred and thirty-six students out of 250 participated in the study (94% response rate). The mean age was 24.7±5.2 years, 167 (71%) respondents were females while 69 (29%) were males. One hundred and seventy-seven (75%) students were single and 59 (25%) were married. Knowledge on HIV was graded using twenty-nine items on the questionnaire, each scored one mark. A maximum score of 29 was obtainable and respondents with scores greater than 50% were classified as having a satisfactory level of knowledge. Ninety-nine percent had heard about HIV/AIDS through several sources. Knowledge of symptoms, methods of transmission and prevention were generally satisfactory. One hundred and seventy one (72%) students were sexually active, 48% engaged in casual sex and 9% had multiple partners. Of the 171 who were in sexual relationship with a primary partner, 49 (29%) used condoms all the time. One hundred and fourteen (48%) admitted to having casual sex but 60 (53%) used condoms all the time during casual sex. Partner and personal dislike as well as reduction in sexual pleasure were reasons for non-use of condoms. A significantly higher proportion of students in the higher classes (74/94, 79%) possessed a higher level of knowledge than those in the lower class (78/142, 55%, $p=0.0003$). One hundred and fifty-two (64%) students possessed a satisfactory level of knowledge on the subject, but many engaged in risky behaviour.

Keywords: *HIV, AIDS, knowledge, condoms, sexual practices.*

Résumé

Une étude longitudinale était conduite parmi les étudiants à l'institut de santé et technologique de Yaba, Lagos, Nigéria pour déterminer leur connaissance à propos du VIH/SIDA et leur comportement sexuel. Un questionnaire libre et structuré était utilisé pour la collecte des données. Deux cent trente six sur 250 étudiants participaient à cette étude (94% de succès). La moyenne d'âge était de 24 ± 5.2ans, 167(71%) femelles et 69(29%) mâles). Cent soixante six sept (75%) était célibataire et 59(25%) mariés. La connaissance sur le VIH était classé en utilisant vingt neuf variable sur le questionnaire. Le score maximum était de 29. les participants ayant un score plus de 50% étaient classés comme ayant un niveau de connaissance

satisfaisant. Quatre vingt dix neuf pour cent ont déjà entendu du VIH/SIDA par plusieurs sources. La connaissance des symptômes, du mode de transmission et prévention étaient généralement satisfaisant. 64% des étudiants avaient un niveau des connaissances satisfaisant mais plusieurs se soumettant au comportement risquant. 72% des étudiants étaient sexuellement active et 48% étaient engagés au sexe spontané, et 9% ayant des partenaires multiple. Sur les 171 ayant eu un partenaire, 29% utilisaient les condoms tous le temps. 48% admettaient avoir eu le sexe spontané alors que 60% utilisaient toujours le condom. Le manque de plaisir sexuel et obéir à la volonté du partenaire étaient des raisons contre l'emploi du condom. L'augmentation des connaissances était proportionnelle au niveau d'études et était plus élevée dans les classes supérieures (79% que les classes inférieures(55%, $P=0.003$).

Introduction

The Acquired Immune-deficiency Syndrome (AIDS) is caused by the Human Immuno-deficiency Virus (HIV) [1]. First recognised in the summer of 1981, it has exploded in successive waves in various regions of the world [2-4] such that in 1998, HIV infection or AIDS was the fourth leading cause of death world wide resulting in an estimated 2.5 million deaths [4]. In Nigeria, HIV prevalence in 1999 was 5.4%, with rates of between 4-10% within the 20-24 year age group [5]. These figures indicate that Nigeria has reached the stage where the epidemic will increase at an exponential rate unless adequate national and regional responses are mounted to stem its spread. Hospital based studies have documented seropositive values ranging from 1.5% in children to 16% in adults [6-8].

Though Nigerian youths are aware about HIV/AIDS, the level of knowledge being higher amongst university students (> 90%) than youths in rural communities (39%) [9-11]. However, knowledge gaps exist [9-13], these include poor knowledge about the causative agent, confusion about routes of transmission, methods of prevention and inappropriate sexual practices suggesting knowledge: practice gap. HIV prevalence especially amongst youths may provide information on the trends of the infection and the impact of intervention. It is imperative that they be studied from time to time. With no vaccine in sight, the way to control HIV is prevention. Preventive approaches include education and behaviour modification, the promotion and provision of condoms and treatment of other sexually transmitted diseases to mention a few [14]. The public can only receive correct information if the health worker especially at the primary health care level who are in contact with a large segment of the population have adequate and correct information on the subject. Thus it is necessary to determine the knowledge of such workers or intending workers.

Studies conducted amongst nurses showed a high level of knowledge about the infection but there were knowledge gaps about drugs and negative attitudes to persons living with HIV/AIDS [15, 16]. The authors are not aware of studies on HIV/AIDS amongst students of schools of health technology. The schools of health technology were established in Nigeria to train lower cadres of PHC workers such as community extension workers and environmental health technologists as part of the strategy to achieving health for all in the country [17]. The graduates of the schools are expected to work as primary health care workers. These students form the bulk of the "front line" of the army of primary health care workers, who will play an important role in giving health education to members of the community. They should possess adequate knowledge on the subject. The objective of the study was to determine the knowledge on HIV/AIDS and sexual practices of these students.

Materials and methods

Background and participants

The study was conducted at the Lagos State School of Health Technology, Yaba. It is the only such institution in Lagos State and was established in 1977. It trains various cadres of community health workers such as environmental health officers, senior and junior community health extension workers for three or four years depending on the course. However, at the time of the study, there were no students in the fourth year. The school principal granted permission for the conduct of the study, which was undertaken between February and April 2001. All students of the school were invited to participate in the study and received the study questionnaire through their class representatives. Two hundred and thirty six students out of 250 returned their questionnaires giving a response rate of 94%. Informed consent was obtained from each participant while they were assured of the confidentiality of response.

Survey instrument

A self-administered questionnaire was used to collect the data. The questionnaire was constructed after a careful review of the literature on HIV/AIDS [6-13]. The questionnaire was validated by pre-testing amongst first year pre-clinical medical students of the Lagos State University College of Medicine. The pre-testing was used to fine-tune the instrument and ambiguous questions were eliminated from the questionnaire. It consisted of mostly closed ended questions. The instrument sought for information about participants' socio-demographic characteristics, causative agent, symptoms, methods of transmission, and prevention of HIV. Participants were also asked about their sexual practices including number of sexual partners in the last six months and the use of condoms. Sexual activity was defined as heterosexual vaginal penetration while primary partnership referred to any sexual relationship that has lasted for at least six months.

Data analysis

All returned questionnaires were analysed in a computer using Epi Info software version 6.0 [e [18]. Twenty-nine questions on the instrument were scored and each correct answer

received one mark. The questions on the scoring system included those on awareness about HIV/AIDS, correct knowledge of the causative agent, knowledge about modes of transmission, symptoms, and methods of prevention. A total of 29 marks were obtainable. Respondents who obtained 15 marks (50%) were classified as having a satisfactory knowledge on the subject. Both descriptive and inferential statistics were computed. The level of significance was set at $P < 0.05$.

Limitations of the Study

The study has not investigated the contribution of information from the school curriculum on the knowledge of the students on HIV. The findings of this study may be applicable primarily to students of similar institutions training the same cadre of manpower and not to medical or nursing students whose entry requirements is much higher than for the students of schools of health technology.

Results

Profile of subjects

Table 1 shows that the mean age of the respondents was 24.7±5.2 years. Female students (n=168) constituted 71% of the respondents and 175 (74%) were not married. Students (n=121) studying the community health extension course constituted 51% of the respondents. One hundred and forty-two (60%) students in the first year of training were in the majority.

Table 1: Socio-demographic characteristics respondents

Characteristics	N (n=236)	%
<i>Age</i>		
Mean (SD)	24.7 ± 5.2	
<i>Gender</i>		
Female	168	71.2
Male	68	28.8
<i>Marital status</i>		
Single	175	74.2
Married	60	25.4
Separated	1	0.4
<i>Course</i>		
Community Health Education	121	51.3
Environmental Health Technology	66	28.0
Medical Laboratory	40	16.9
Medical records	7	3.0
Radiography	2	0.8
<i>Year of training</i>		
First year	142	60.2
Second year	69	29.2
Third year	25	10.6

Knowledge

Two hundred and thirty five respondents (99.6%) were aware of HIV, 222 (94%) knew that the virus was the cause of AIDS, 203 (86%) knew that a healthy looking person could be HIV positive while 129 (55%) had seen a person with AIDS. The sources of information are shown on Table 2. The television was the most frequently mentioned source. Knowledge about symptoms, route of transmission and methods of prevention is shown on Table 3. Weight loss and prolonged fever were

the most frequently identified symptoms. Sexual activity was correctly identified by 92% of respondents as a route of transmission of HIV. Ninety-five (40%) students recognised abstinence as a way of preventing HIV infection. A small minority of respondents gave incorrect answers about the symptoms, route of transmission and prevention of HIV/AIDS.

Table 2: Sources of information about HIV

Source of information	N (n=236)	%
Television	166	70.3
Health care workers	142	60.2
Radio	133	56.4
Newspaper	119	50.4
Magazine/journals	99	41.9
Friends	96	40.7

Table 3: HIV/AIDS knowledge about symptoms, modes of transmission and prevention

Variable	N (n=236)	%
<i>Symptoms</i>		
Weight loss	184	78.0
Prolonged fever	160	67.8
Diarrhoea	124	52.5
Generalised lymphadenopathy	74	31.4
Abnormally slow growth in a child	53	22.5
Constipation	37	15.7
Joint pains	12	5.1
Coughing	2	0.8
<i>Methods of transmission</i>		
sexually	217	91.9
Blood transfusion	197	83.5
Sharing infected needles/blades	173	73.3
Mother to child	137	58.1
Kissing	24	10.1
Witchcraft	15	6.4
Mosquito bites	4	1.7
<i>Modes of prevention</i>		
Condom use	188	79.7
Not sharing sharp objects	144	61.0
Health education	127	53.8
Mutual fidelity	124	52.5
Safe blood transfusion	102	43.2
Abstinence	95	40.3
Reduction in number of sexual partners	78	33.1
Traditional medicines	18	7.6
Use of antibiotics	8	3.4

Sexual practices and condom use

Table 4 presents data on the number of sexual partners amongst sexually active students in the last six months. Sixty-five (27.5%) students had no sexual experience. One hundred and seventy-one (72.5%) students were sexually active and 114 (18.3%) admitted to having casual sex. The mean number of

partners in the last six months was 1.4 ± 0.7 . The mean number of partners was significantly higher in males (1.28 ± 0.7) than in females (0.97 ± 0.6 , $P=0.007$). Twenty-one (8.9%) students had more than one sexual partner. The mean age at the first sexual experience was 19.6 ± 2.0 years with a median of 20 years and a minimum of seven years. The mean age at first sexual experience was significantly lower in males (18.5 ± 1.34 years) compared with females (20.2 ± 2.6 years, $p=0.0006$).

Table 4: Number of sexual partners in the last six months amongst sexually active students

No. of sexual partners	N	%
0	45	26.3
1	105	61.4
2	16	9.4
3	3	1.7
4	2	1.2
	171	100

Table 5: Characteristics of condom use

Relationship	N	%
A. Primary partner (n = 171)		
Never	54	31.6
Always	49	38.7
More than 50% of exposure	31	18.1
Less than 50% of exposure	37	21.6
<i>Reasons for non-use of condoms (n=54)</i>		
Partner dislike	32	59.2
Dislike by respondent	28	51.9
Condom is for unfaithful people	33	61.1
Reduction of sexual pleasure	30	55.6
Use of other family planning methods	17	31.5
B. Casual sex (n=114)		
Always	60	52.6
More than 50% of exposure	14	12.3
Less than 50% of exposure	27	23.7
Never	13	11.4
<i>Reasons for non-use of condoms (n=13)</i>		
Reduction of sexual pleasure	13	100
Partner dislike	9	69.2
Dislike by respondent	9	69.2

Characteristics of condom use in both primary and casual sexual relationships are shown on Table 5. One hundred and thirty (55.1%) knew that condoms could break or tear during sexual activity, 133 (56.4%) were aware that condoms should be used only once, 49 (20.7%) felt it could be used many times and 51 (22.9%) did not know the number of times condoms should be used before they are discarded. Amongst those in primary sexual relationships, 49 (28.7%) used condoms all the time and 51 (31.65) did not use condoms at all. Age, gender, and marital status were not significantly associated with increased condom use in stable relationships ($P >$

0.05). In casual sexual relationships, 60 (52.6%) students used condoms on all occasions. Unmarried students were found to use condoms significantly more frequently during casual sex ($P=0.008$). The most frequently mentioned reasons for non-use of condoms were dislike of condoms by respondents or partner and reduction in sexual pleasure. Two hundred and four (86.4%) students did not consider themselves to be at risk from contracting HIV. The most frequently given reason was mutual fidelity between the partners (Table 6).

Table 6: HIV risk perception

Variable	N (n=236)	%
<i>Considers self to be at risk from HIV</i>		
Yes	32	13.6
No.	204	86.4
<i>Reasons for not being at risk</i>		
Mutual fidelity	92	39.0
Regular use of condoms	90	38.1
Not sexually active	65	27.5
Use of condoms for casual sex	28	11.9
Prayers	11	4.7

HIV knowledge scores

The mean score of HIV knowledge was 16.3 ± 6.2 , 152 (64.4%) respondents had a satisfactory knowledge on HIV/AIDS. A significantly higher proportion of students in the higher classes (74/94, 79%) possessed a higher level of knowledge than those in the lower class (78/142, 55%, $P=0.0003$). Other characteristics such as age, gender, and marital status did not show a significant association with knowledge on HIV ($P > 0.05$). In addition, there was no significant association between the level of HIV knowledge and condom use ($P=0.26$) as the means of the HIV knowledge scores of those made use of condoms for most of their sexual activities ($n=80$, 16.3 ± 3.4) and those who did not use them as frequently ($n=91$, 15.8 ± 2.3) were similar.

Discussion

The mean age of the respondents falls within the age group with the highest seropositivity rate in Nigeria [5]. Thus, they are a group at a high risk and could also serve as agents of change if they are well informed and motivated.

Awareness and knowledge about HIV/AIDS amongst these students could be said to be high as almost two thirds possessed a satisfactory knowledge on the subject. The proportion of those who had heard about HIV (99.6%) is much higher than 55% reported from Ilorin in Nigeria [11] and similar to the 97% reported amongst prisoners in Lagos [19]. The role of the mass media as frequent sources of information of HIV/AIDS found in this study has been confirmed by other studies [9, 11]. The knowledge about symptoms, methods of prevention of the study respondents is higher than that found amongst rural adolescents in Nigeria [11]. This is related largely to the regular flow of information about HIV/AIDS available to the students by reason of their training. The positive relationship between knowledge on HIV/AIDS has been reported by some other researchers [16].

The sexual practices of the respondents are very revealing. About half of them admitted to casual sex, a propor-

tion much higher than the 10% observed amongst young people in the United Kingdom though the mean number (1.4) of sexual partners observed in our study is similar to the average of 1.6 partners reported amongst young people in the United Kingdom [20]. Furthermore, only 9% of the students of this school had multiple sexual partners, a rate much smaller than the rates reported amongst university students (66%) and prisoners (91%) [10,19]. The use of condoms for all sexual exposures in both primary and casual relationships found in this study is comparable to the rates reported to be 31% [21] in one Nigerian study and 25% [22] in a second though, these studies did not differentiate frequency of use. Reasons for non-use of condoms amongst these students are similar to those from other studies [13, 23].

Though some factors have been known to be predictive of condom use including younger age, higher education and knowledge about the method [23], this study found that respondents who were not married used condoms more significantly for casual sex. Despite the high knowledge, 86% of the students did not consider themselves to be at risk from HIV and many of those who were sexually active practised unprotected sex. The implication of some of these findings is that these potential health workers may not effectively transfer required information to their clients especially about safe sex practices and requires intervention. This may include educational seminars, one-on-one counselling and use of promotional materials to reinforce the message of safe sex practices. Further research is needed to develop innovative strategies to address these issues so that the potential of these students as agents of change can be maximised.

In conclusion, the level of knowledge about HIV/AIDS amongst the study participants was satisfactory. Condom use was not satisfactory either with primary or casual sex partners. Personal dislike and reduction in sexual pleasure remain barriers to effective condom use.

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