

Original Research Article

Title: Awareness and knowledge of HIV counselling and testing among undergraduate university students in Lagos, Nigeria.

ABSTRACT PAGE

Background: HIV counselling and testing (HCT) is a key strategic entry point to prevention, treatment, care and support services.

Aim: The study aimed at determining the awareness of HIV counselling and testing among undergraduate university students in Lagos, Nigeria.

Methods: The study was a descriptive cross-sectional one conducted in May 2010 among students recruited from seven faculties within two of the campuses of Lagos State University, Ojo and Ikeja campuses.

Results: The level of awareness of HIV counselling and testing before the survey was high among both male and female respondents. The knowledge about HIV counselling and testing was poor irrespective of their Faculty of study.

Conclusion: Level of awareness of HIV counselling and testing seems to be high among undergraduate students in Lagos. However, the knowledge about HIV counselling and testing is still poor, even among medical students.

Key words: counselling, testing, awareness, knowledge, undergraduate university students

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MAIN TEXT

INTRODUCTION

Nigeria is one of the countries in the sub Saharan countries affected by HIV/AIDS pandemic. According to the 2010 United Nations General Assembly Special Session Country Progress Report, the adult prevalence of HIV infection in Nigeria was estimated at 4.6% where most of the burden occurring among the young age group [1]. Despite this high number of people living with HIV/AIDS in Nigeria, the knowledge of HIV/AIDS and uptake of voluntary counseling and testing (VCT) is still low [2, 3]. No subject or segment of any population worldwide is excluded from HIV infection and this includes university students.

HIV counselling and testing (HCT) consists of a minimum of pre- and post-test HIV counselling and testing. HIV counselling and testing (HCT) is a key strategic entry point to prevention, treatment, care and support services. Most studies in Africa show that knowledge of HIV test results promotes behaviour change and reduces transmission [4]. The benefits of early detection of the virus have also increased because the most effective treatment results occur in the earliest stage of HIV [5]. It is evident that sexual activity and engagement in high-risk behaviours, which favour the spread of HIV infection, are on the increase in tertiary institutions. A concern is that not all individuals who may be at risk for HIV infection close to be tested. Literature reports that only 36% of individuals who were classified as having high-risk behaviour had been tested for HIV [6].

It would not be unheard of that adolescents known for risk taking behaviour often enters into debut sexual relationships without protection considering their expected inexperience. This leaves them vulnerable to HIV infection, sexually transmitted infections (STIs), and unplanned

parenthood. Access by young people (particularly girls) to sexual and reproductive health services in developing countries remains a major challenge. In many cultures, it is socially unacceptable for young people to be sexually active unless they are married. As a consequence, sexually active unmarried young people don't openly talk about their experiences with adults, including health workers. This therefore increases the likelihood of unprotected sexual relations.

In a study conducted by Ikechebelu et al [7] to assess knowledge of HIV/AIDS and attitude towards voluntary counseling and testing (VCT) among undergraduate polytechnic students in southeast Nigeria it was observed that 63.2% of the respondents are aware of voluntary counseling and testing (VCT).

The appraisal of the knowledge of university students towards HIV counseling and testing is important and may have positive long-term consequences on the prevention and control of HIV among that vulnerable age group. There is a dearth of information regarding undergraduate university students, particularly in Lagos, Nigeria. Therefore, the main objective of this study was to appraise the awareness of HIV counseling and testing among undergraduate university students in Lagos, Nigeria. Although there are varied perceptions and perspectives on the likelihood of an epidemic of HIV/AIDS in Lagos State, it has the potential to become an epidemic due to the state's highly urbanized nature. According to the 2006 population and housing census, adolescents aged 10 to 24 years constitute 31.7% of the total population of Nigeria, with nearly equal proportion of males and females (50.1% males versus 49.9% females) [8].

METHODOLOGY

The study was a descriptive cross-sectional one conducted in May 2010 and was carried out among students of Lagos State University, Lagos in South west Nigeria. Lagos State University (LASU) is a Multi-Campus, Non Residential University with four fully owned campuses having

77 its main campus at Ojo. Other campuses are at Epe (where the Engineering Faculty is located),
 78 Ikeja (where the College of Medicine is located) and Surulere, as well as six external/affiliated
 79 campuses. There are six faculties on the main campus (Art, Education, Law, Management
 80 Science, Science and Social Science Faculties). Two campuses were selected by simple
 81 balloting, namely the main campus and Ikeja campus. Informed consent was sought from the
 82 subjects, verbally, before they were recruited into the study.

83 The studied sample size was two hundred respondents. A multi-stage sampling method was used
 84 to select study participants from two campuses of Lagos State University, LASU main campus at
 85 Ojo town and Lagos State University College of Medicine at Ikeja. The study population was
 86 100 to 300 level students recruited from all Faculties in the main campus while the study
 87 population recruited from the Lagos State University College of Medicine at Ikeja were
 88 preclinical students (i.e. 200 and 300 level) to avoid information bias if clinical students were
 89 recruited. The number of study subjects from each Faculty was evenly allocated irrespective of
 90 the size of the Faculty. Students from the selected campuses were chosen using systematic
 91 random sampling method.

92 Data collection was by quantitative means with the aid of pre-tested self-administered
 93 questionnaires. Questions covered consisting of questions related to knowledge, perception about
 94 name, cause, mode of transmission and prevention of HIV/AIDS. The data was analyzed using
 95 Statistical Package for Social Science (SPSS) version 17.0. Tests of associations were tested
 96 using the Pearson's Chi square test. Level of significance was set at $p < 0.05$.

97 The awareness of HIV counseling and testing by the respondents was assessed by inquiring
 98 about awareness of a test that identifies persons with HIV. The knowledge of the respondents

was assessed by 22 items. Items reflected information about components of HIV counseling and testing, benefits of HIV counseling and testing, and places where HIV counseling and testing are provided and were responded to by ticking the appropriate response. Each response was scored “0” or “1” if wrong or correct respectively. The HIV counseling and testing knowledge test was scored for the number of correct responses, with less than 11 correct responses (<50%), between 11 to 16 correct responses (50 – 70%) and greater than 16 correct responses (>70%) categorized as poor, fair and good knowledge respectively.

RESULTS

Characteristics of study subjects

A total of 200 respondents completed the survey. The distributions of the subjects are given in Table 1. One hundred and nine (54.5%) of them were males while ninety-one (45.5%) were females, giving a ratio 1.2 to 1.0 of males to females. The lowest age for both genders was 14 years while the highest age was 44 years. The lowest age for males and females, respectively, were 14 years and 16 years. The highest age for males and females was 44 years and 35 years respectively. The mean age for males and females was 23.31 (4.197) years and 21.36 (3.533) years, respectively. 91.0% of the study subjects were single while 7.0%, 1.5% 0.5% of them were married, divorced and separated, respectively.

Table 1: Distribution of study subjects

variables	Male		Female	
	n	%	n	%
Faculty				
Management Science	12	41.4	17	58.6
Social Sciences	18	64.3	10	35.7
Science	16	55.2	13	44.8
Arts	11	39.3	17	60.7
Education	14	48.3	15	51.7
Law	15	53.6	13	46.4
Medicine	23	79.3	6	20.7
Age (years)				

14 – 24	61	49.2	63	50.8
≥25	36	78.3	10	21.7
No response	12	40.0	18	60.0

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119 *Awareness of HIV counseling and testing*

120 A high percentage of the respondents (97.0%) had heard of HIV counseling and testing before
 121 the survey interview - 93.6% and 95.6% of male and female respondents respectively (Table 2).
 122 The gender difference observed in the awareness of HIV counseling and testing is not significant
 123 ($p = 0.53$). The awareness of HIV counseling and testing was highest among respondents' 14 –
 124 24 years. The association between awareness of HIV counseling and testing and age group was
 125 significant ($p = 0.00$). The awareness of HIV counseling and testing was highest among
 126 respondents from faculty of science and medicine (96.5% each). The observed difference
 127 between faculty of study and awareness of HIV counseling and testing was not significant ($p =$
 128 0.98).

129 **Table 2 - Awareness of HIV counseling and testing among study subjects**

	Awareness		p-value
	No	Yes	
Gender			
Male	7(6.4)	102(93.6)	0.53+
Female	4(4.4)	87(95.6)	
Age group (years)			
14 – 24	3(2.4)	121(97.6)	0.00+
≥25	3(6.5)	43(93.5)	
No response	24(80.0)	6(20.0)	
Faculty of study			
Art	1(3.6)	27(96.4)	0.98+
Education	2(6.9)	27(93.1)	
Law	2(7.1)	26(92.9)	
Management science	2(6.9)	27(93.1)	
Medicine	1(3.5)	28(96.5)	

Science	1(3.5)	28(96.5)
Social science	2(7.1)	26(92.9)

+ = Chi-square test (χ^2)

Sources of awareness of HIV counseling and testing

The sources of awareness of HIV counseling and testing as detailed in Table 3 revealed that most respondents, 128 (22.5%), were informed about HIV counseling and testing through television and radio (Table 3). The uncommon source of information on HIV counseling and testing among the study subjects include church and school religious fellowships/ faith based gatherings, friends, group discussion, health talk during boy's brigade camping event and peer educational programme.

Table 3 – Sources of awareness of HIV counseling and testing

Source	Male		Female		Total	
	n	%	n	%	n	%
Hospital	47	14.0	36	15.4	83	14.6
Journals	23	6.9	16	6.9	39	6.8
Posters	30	8.9	26	11.1	56	9.8
Seminars	36	10.7	25	10.7	61	10.7
Conferences	25	7.4	11	4.7	36	6.3
Textbooks and class notes	17	5.1	15	6.4	32	5.6
Internet	35	10.4	15	6.4	50	8.8
Television and radio	72	21.4	56	23.9	128	22.5
Newspaper and magazines	47	14.0	31	13.3	78	13.7
Church and school fellowship	1	0.3	1	0.4	2	0.3
Friends	1	0.3	1	0.4	2	0.3
Group discussion	1	0.3	0	0.0	1	0.2
Health talk at Boys' Brigade	1	0.3	0	0.0	1	0.2
Peer educational programme	0	0.0	1	0.4	1	0.2

Knowledge of HIV counseling and testing

Only one-fifth of male respondents and one-eighth of female respondents have good knowledge of HIV counseling and testing (Table 4). The gender difference observed in the knowledge of HIV counseling and testing is not significant ($p = 0.14$). The respondents with age group 25 – 34 years have the highest percent of respondents with good knowledge of HIV counseling and testing. The age group difference observed in the awareness of HIV counseling and testing is not significant ($p = 0.33$). Majority of the respondents irrespective of their Faculty of study have poor knowledge of HIV counseling and testing. The respondents from faculty of medicine have the highest percent of respondents with good knowledge of HIV counseling and testing. The observed difference in knowledge of HIV counseling and testing among faculty of study of respondents was significant ($p = 0.00$). Almost three-fifth of the respondents who have good knowledge of HIV counseling and testing did perform the testing prior to the survey. The observed difference between knowledge and performance of HIV counseling and testing among the study subjects was significant ($p = 0.02$).

Table 4 - Knowledge of HIV counseling and testing among study subjects

Variables	Poor	Knowledge Fair	Good	p-value
Gender				
Male	48(54.9)	37(34.0)	24(22.0)	0.14+
Female	50(44.0)	30(33.0)	11(12.1)	
Age group (years)				
14 – 24	54(43.6)	48(38.7)	22(17.7)	0.33+
≥25	24(52.2)	13(28.3)	9(19.6)	
No response	20(66.7)	6(20.0)	4(13.3)	
Faculty of study				
Art	16(57.2)	9(32.1)	3(10.7)	0.00+
Education	17(58.6)	10(34.5)	2(6.9)	
Law	10(35.7)	16(57.2)	2(7.1)	
Management science	20(69.0)	5(17.2)	4(13.8)	
Medicine	6(20.7)	11(37.9)	12(41.4)	
Science	13(44.8)	10(34.5)	6(20.7)	
Social science	16(57.2)	6(21.4)	6(21.4)	
HCT performance				
No	51 (52.0)	42 (62.7)	15 (42.9)	0.02+

Yes	39 (39.8)	25 (37.3)	20 (57.1)
No response	8 (8.2)	0 (0.0)	0 (0.0)

+ = Chi-square test (χ^2)

DISCUSSION

Nearly ninety-five percent of the respondents were aware of HIV counseling and testing. It was observed from the current study that more female respondents were aware of HIV counseling and testing than male respondents. This gender difference in awareness was not significant. This finding is in agreement with the study done on “Utilization of voluntary counseling and testing (VCT) services in Harar Town Ethiopia” by Lemessa [9] in which female were found to be more aware about voluntary counseling and testing (VCT). In another study by Mengesha et al [10] conducted in North and South Gondar, it contradicts the aforementioned view and concluded that there was no significant difference between male and female in their knowledge about voluntary counseling and testing (VCT) for HIV.

It was also observed that the age group 14 to 24 years was found to be associated with the highest percent of awareness and this observation is statistically significant. This is likely to be due to easy availability, accessibility to as well as interest in electronic media (e.g. radio, television, internet e.t.c.) within this age group.

A comment on the source of awareness about HIV counseling and testing is desirable at this point. It was observed that the students had multiple responses with regard to source of information about HIV counseling and testing. Majority of the students heard it from mass media (television and radio) which are readily available at their homes and within their hostels. A similar finding was demonstrated among Tanzanian health professional students [9] as well as among undergraduates in a polytechnic in a south-east Nigeria [7].

The present study revealed that respondents from Faculty of Medicine had the highest rate when the percentage of respondents who had good knowledge of HIV counseling and testing was

181 compared according to their faculty of study. This is most likely a consequence of inclusion of
182 HIV/AIDS related topics as part of their course curriculum.

183 The findings from this study reflect that majority of the respondents who had performed HIV
184 counseling and testing prior to the commencement of the study had good knowledge of HIV
185 counseling and testing. The observed difference is possibly an effect of the pre- and post-testing
186 counseling which was not compared in the current study. Pre- and post-test counseling is
187 consider to be an integral and essential parts of HIV testing which is designed to give
188 information before and after HIV testing respectively.

189 Overall, the knowledge of HIV counseling and testing among respondents was poor. A similar
190 pattern was observed in a community study conducted by Iliyasu et al [11] among adults in
191 northern Nigeria. Ikechebelu et al [7] also reported poor knowledge among undergraduates in a
192 polytechnic in south-east, Nigeria. This poor knowledge in HIV counseling and testing may fuel
193 the spread of HIV/AIDS. This study also showed that male respondents were more
194 knowledgeable of HIV counseling and testing than their female counterparts. The findings agree
195 with those of previous authors [12]. The explanation for the difference in knowledge in HIV
196 counseling and testing between males and females is not clear.

197 In this study, faculty of study has been found to be a determinant of HIV counseling and testing
198 knowledge. The highest percent of respondents with good knowledge of HIV counseling and
199 testing are from faculty of medicine. The reason may be the fact that HIV/AIDS forms part of the
200 course curriculum of students recruited from Faculty of medicine.

201 In conclusion, most respondents were aware of HIV counseling and testing and the majority
202 became aware through mass media (television and radio). Majority of the respondents, including
203 medical students had poor knowledge of HIV counseling and testing. The school health
204 programme should be strengthened as appropriate health messages can be passed to students in
205 school. Good knowledge of HIV counseling and testing is significantly associated with high
206 performance of HIV counseling and testing. Health workers should play a more prominent role
207 in providing information about HIV counseling and testing.

208 REFERENCES

- 209 1. National Agency for the Control of AIDS, Nigeria. United Nations General Assembly
210 Special Session Country Progress Report. National Agency for the Control of AIDS 2010.
- 211 2. World Health Organization. Increasing access to HIV testing and counselling: Report of
212 World Health Organization consultation 2002.
- 213 3. Bayer R. Public health policy and the AIDS epidemic. An end to HIV exceptionalism? N
214 Engl J Med. 1991; 324: 1500 – 4.
- 215 4. Allen SA, Karita E, N’gandu N, Tichacek A. The evolution of voluntary testing and
216 counseling as an HIV prevention strategy. In: Cubney I, Climente RJ, Vermund SH (editors).
217 Preventing HIV in developing countries: Biomedical and behavioural approaches. New York
218 Kluwer Academic/Plenum Publishers; 1999. 87 – 108.
- 219 5. Galvan FH, Bing EG, Bluthenthal RN. Assessing HIV testing and care. J Acquir Immune
220 Defic Synd 2000; 25: 151 – 6.
- 221 6. Kalichman SC, Hunter TL. 1993. HIV related risk and antibody testing: an urban community
222 survey. AIDS Educ J 5: 234 - 43
- 223 7. Ikechebelu IJ, Udigwe GO, Ikechebelu N, Imoh LC. The knowledge, attitude and practice of
224 voluntary counselling and testing (VCT) for HIV/AIDS among undergraduates in a
225 polytechnic in southeast, Nigeria. Niger J Med 2006; 15: 245 – 9.
- 226 8. United Nations Population Fund. Nigeria, Adolescents population: Selected Socio-
227 Demographic Variables. Abuja, Nigeria: UNFPA Nigeria Country Office; 2010
- 228 9. Lemessa, O. Utilization of VCT services, perceived barriers and preferences of adolescents
229 of 15-24 years of age in Harar town, eastern Ethiopia. Ethiopian Public Health Association
230 XVIth Annual Public Health Conference; Abstract No 3; 2005; Addis-Ababa, Ethiopia.
- 231 10. Admasu M, Fanta Y. Factors affecting acceptance of VCT in North and South Gondar
232 Administrative zones. Ethiopian Public Health Association XVIth Annual Public Health
233 Conference; Abstract No 4; 2005; Addis-Ababa, Ethiopia.

234 11. Iliyasu Z., Abubakar IS., Kabir M.et al. Knowledge of HIV/AIDS and attitude towards
235 voluntary counseling and testing among adults. J Natl Med Assoc 2006; 98: 1917 - 22.

236 12. Alemayehu B. Knowledge, Attitude, and Practice of Voluntary Counseling and Testing for
237 HIV among University Students, Tigray, Northern Ethiopia. MEJS 2010; 2: 108 – 18.

238 **CONFLICT OF INTEREST**

239 None to declare