

Knowledge, Attitude and Practice of HIV Counselling and testing (HCT) among Undergraduate Students of University of Abuja, Nigeria

Adewale Samuel ADELEYE and Ramsey Msheliza Yalma

Department of Community Medicine, College of Health Sciences, University of Abuja,
Gwagwalada-Abuja Nigeria



Abstract

Introduction: HIV infection remains an important public health problem globally and especially in Africa. Despite numerous campaigns for HIV counselling and testing (HCT) in Nigeria, only few young people utilize these services. The objective of this study is to assess the knowledge, attitude and practice of undergraduate students towards HIV counselling and testing at the University of Abuja.

Methods: We conducted a cross sectional study using a multi-stage sampling method to enrol undergraduate students from selected faculties into the study. A total of 363 university students completed a self-administered questionnaire. Main outcome measures include knowledge, attitude and practice of HCT. A Chi-square test was used to determine the association between variables at 5% significance level.

Result: Study findings revealed that 80.4% of the students had good knowledge of HIV counselling and testing, however only 43.5% respondents had good practice of HCT. Also 71.6% of respondents had a positive attitude towards HIV counselling and testing. Our study also revealed a statistically significant association between knowledge of HCT and the practice of HCT ($p < 0.05$).

Conclusion: The study showed good knowledge and attitude to HIV counselling and testing services, however the utilisation of these services among the respondents was poor. Therefore campus based HCT services are recommended including a sensitization programme. Such services should improve the uptake of HCT services in this setting.

Keywords – Knowledge, Attitude, Practice, HIV, Counselling, Testing, Students.

I. INTRODUCTION

The Acquired Immunodeficiency Syndrome (AIDS) is caused by the Human Immunodeficiency Virus (HIV). The infection, which was first described in the USA in 1981 among homosexuals, has since spread all over the globe with sub-Saharan Africa having the highest prevalence of infected individuals [1].

The most recent statistics on the global epidemic of HIV/AIDS indicates that 39.5 million people are living with

HIV/AIDS worldwide. Of these, 24.7million (63%) live in sub-Saharan Africa, a region that is home to just 10% of the world's population. Nigeria has the third largest population of people living with HIV/AIDS in the world, after India and South Africa [2]. Nigeria is one of the countries in the sub Saharan countries affected by the HIV/AIDS pandemic. Based on Nigeria 2012 Global AIDS Response Country Progress Report, the National median HIV prevalence of HIV infection in Nigeria was estimated at 4.1% [3] HIV/AIDS prevalence is highest among young people between the ages

of 20 and 24 [4]. Over 60% of new HIV infections in Nigeria are in the 15-24-year age range [4]. Despite this high number of people living with HIV/AIDS in Nigeria, the knowledge of HIV/AIDS and uptake of Voluntary Counselling and Testing (VCT) is still low [5-6]. No subject or segment of any population worldwide is excluded from HIV infection and this includes university students.

The adult HIV sero-prevalence has increased from 1.8% in 1991, to 4.5% in 1996, 5.6% in 2001 and 5.0% in 2003, according to the national HIV sero-prevalence sentinel survey conducted by the federal ministry of health and released in 2004. The result from 2003 showed a national prevalence of 5.0% among 27,708 women ranging from 1.2% in the state of Osun in the south west to 12% in Cross River state in south-south Nigeria [7]. Current (2020) national prevalence rate of HIV in Nigeria stands at 1.4%. The South geopolitical zone has the highest rate of 3.1 %. Overall, the prevalence amongst women aged between 15 and 64 was 1.9% compared to 1.1% for men [3, 5, 7].

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 [8]. The benefits of early detection of the virus have also increased because the most effective treatment results occur in the earliest stage of HIV [9]. 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 choose to be tested. Literature reports that only 36% of individuals who were classified as having high-risk behaviour had been tested for HIV [10]. This study aimed to assess the knowledge, attitude and practice of HCT among undergraduate students of University of Abuja.

II. MATERIALS AND METHODS

2.1 The study area

The University of Abuja is a tertiary institution in the Nigerian capital, Abuja. It was established on January 1, 1988 under Decree No. 110 of 1992 as amended. Academic work began in the University in 1990 with the matriculation of its pioneer students. Despite having a troubled past, the University is known to have significantly improved and is now reportedly ranked amongst the top 10 universities in Nigeria by the National Universities Commission.[11] The University of Abuja, Gwagwalada mini-campus is the first

campus in the university to be established at take-off time. Though the university is gradually relocating to the permanent site, up till this day, the campus hosts three female hostels and two male hostels, accommodating close to five thousand students. [12]

2.2 Study design

The study is a descriptive cross-sectional survey

2.3 Study population

The study population was undergraduate students of the University of Abuja.

2.4 Exclusion criteria

The Postgraduate students were excluded because this study is focused on the undergraduate students.

2.5 Sample size estimation

The minimum acceptable sample size was determined using the Leslie Kish formula [13] below;

$$N = \frac{Z\alpha^2 pq}{d^2}$$

Where N = minimum acceptable sample size

P = prevalence of HCT utilisation in previous studies carried out in a private owned university in Nigeria is 30.4% = 0.304 [14]

$$q = 1 - P$$

$$Z\alpha = \text{standard normal deviate} = 1.96$$

$$d = \text{degree of precision} = 5\%$$

$$q = 1 - 0.304 = 0.696$$

$$Z = 1.96$$

$$d = 0.05$$

$$n = \frac{(1.96)^2 \times 0.304 \times 0.696}{(0.05)^2} = 325.13 \approx 326$$

10% non-response rate was added to the minimum sample size (N) and this give total sample size (N) of 363 students i.e. N= 326 x 100/90 = 362.22 ≈ 363

2.6 Sampling technique

A multistage sampling technique was used for this study

Stage 1: University of Abuja Main Campus was selected between the two campuses in the FCT using simple random sampling technique.

Stage 2: Three faculties (Engineering, Agricultural Sciences and Sciences) were selected from a list of seven faculties in the main campus using simple random sampling technique.

Stage 3: Department of Electrical/Electronic engineering was selected from the four departments in the faculty of Engineering, department of Agricultural Economics & Extension was also selected from the four departments in the faculty of Agricultural Sciences and department of Biological Sciences was selected from the eight departments in the faculty of Sciences all selections were by using simple random sampling techniques.

Stage 4: All consenting students in the department of electrical/electronic, department of agricultural economics and extension and department of biological sciences were studied until a total of 121 students were reached in each of the selected departments giving a total sample size of 363 students.

2.7 Data collection

During each session of data collection, written informed consents were obtained from respondents and questionnaires administered and completed by the respondents themselves.

2.8 Data analysis

Data was sorted, coded and entered into the statistical package for social sciences (SPSS) software version 21.0. Tables were used to present results and Chi square test to assess associations between variables and the exact p-values were reported as appropriate.

The knowledge section about HIV counselling and testing consist of structured closed ended questions offering multiple choices such as “Yes”, “No” or “I don’t know”. For all the questions that were asked in this section, a maximum of 100% and a minimum of 0% was allotted to each question, the values were then calculated and any respondent who had 50% or greater was considered to have good knowledge of HCT while those who had scores below 50% were considered to have poor knowledge.

The attitude of the respondents towards HIV counselling and testing was assessed using a 5-point Likert scale ranging from Strongly Agree, Agree, Indifferent, Disagree and Strongly Disagree. Strongly Agree and Agree were considered to be Positive attitude while Disagree, Strongly Disagree and Indifferent were categorized as negative attitude toward HIV counselling and testing. Five questions were asked in this section with a maximum value of 100% and minimum value of 0%; the values were then calculated with any respondent who had 50% or greater was considered to have positive attitude towards HCT while those who had below 50% value were considered to have negative attitude toward HCT.

The practice or the utilization of the HIV counselling and testing service was assessed using structured close ended questions, a maximum value of 100% and minimum value of 0% was allotted according to each question, the values were then calculated with any respondent who had 50% or greater considered to have good practice of HCT while those who had below 50% value were considered to have poor practice of HCT.

The association between knowledge, attitude and practice of HIV counselling and testing was tested by the cross tabulation of variables using the Pearson Chi-square test.

2.9 Ethical consideration

Ethical Clearance was obtained from the University of Abuja Teaching Hospital Health Research Ethics Committee (HREC). Participation was voluntary and written consent forms were signed the questionnaires were administered.

2.10 Limitations of the study

The sensitive nature of the HIV infection may have inhibited some very honest responses. Also it was difficult to ascertain the temporal sequence of events in a cross study such as this one.

III. RESULTS

From a total of 363 respondents, 62.3% were males while females constituted 37.7% of the respondents, a high percentage of respondents were in the age range 20-24year (51.3%). (**Table1**)

Among the sampled population of students, 80.4% of the students have good knowledge while 19.6% of them have poor knowledge of HCT (**Table 2**)

On the overall attitude of HIV counselling and testing among the sampled population of students, 71.6% of them had positive attitude while 28.4% had negative attitude toward HCT as in **Table 3**

The overall practice or utilization of HIV Counselling and Testing services, only 43.5% of the students effectively utilize the HCT services while majority of them 56.5% do not effectively make use of the HCT services. This is reported in **Table 4**

The association between the knowledge and attitude was statistically significant $p < 0.05$ as shown in **Table 5**

Similarly, the Association between the Knowledge and Practice was statistically significant, $p < 0.05$ as displayed in **Table 6**.

Table 1: Socio-demographic data (n=363)

VARIABLE			Male	Female	χ^2	P-VALUE
			n = 226	n = 137		
			n(%)	n(%)		
					25.854	0.001*
AGE	15-19		71 (31.4)	77 (56.2)		
	20-24		116 (51.3)	53 (38.7)		
	25-29		31 (13.7)	6 (4.4)		
	30-34		7 (3.1)	1 (0.7)		
	40-44		1 (0.4)	0 (0.0)		
RELIGIONS	Islam		42 (18.6)	25 (18.2)	1.788	0.618
	Christianity		183 (81.0)	110 (80.3)		
	Traditional		0 (0.0)	1 (0.7)		
	Others		1 (0.4)	1 (0.7)		
MARITAL	Single		208 (92.0)	128 (93.4)	3.138	0.371
STATUS	Married		10 (4.4)	8 (5.8)		
	Divorced		1 (0.4)	0 (0.0)		
	Others		7 (3.1)	1 (0.7)		
TYPE	OF	Polygamy	2 (0.9)	0 (0.0)	2.452	0.484
FAMILY		Monogamy	8 (3.5)	5 (3.6)		
		Others	2 (0.9)	0 (0.0)		
		None	214 (94.7)	132 (96.4)		
CHILDREN	Yes		27 (11.9)	14 (10.2)	0.254	0.614
	No		199 (88.1)	123 (89.8)		

ETHNIC	Hausa/Fulani	21 (9.3)	12 (8.8)	0.172	0.982
	Yoruba	57 (25.2)	36 (26.3)		
	Igbo	58 (25.7)	33 (24.1)		
	Others	90 (39.8)	56 (40.9)		
YEAR OF STUDY	100L			30.305	0.001*
	200L	64 (28.3)	77 (56.2)		
	300L	84 (37.2)	31 (22.6)		
	400L	42 (18.6)	14 (10.2)		
	Others	36(15.9)	14 (10.2)		
		0 (0.0)	1 (0.7)		

N=363

* Statistically Significant

Table2. Overall knowledge of respondents on HCT

Knowledge Level	Score	n (%)
1. Good Knowledge	$\geq 50\%$	292 (80.4)
2. Poor knowledge	$< 50\%$	71 (19.6)

Table 3. Overall attitude of respondents on HCT

Attitude	Score	n (%)
1. Positive Attitude	$\geq 50\%$	260 (71.6)
2. Negative Attitude	$< 50\%$	103 (28.4)

Table 4. Overall practice of respondents on HCT

Practice	Score	n (%)
1. Good Practice	$\geq 50\%$	158 (43.5)
2. Bad Practice	$< 50\%$	205 (56.5)

Table 5. Association between knowledge, attitude and practice of HIV counselling and testing.

	Attitude		Total	X ²	P-value
	Positive Attitude n(%)	Negative Attitude n(%)			
Good Knowledge	226 (77.4)	66 (22.6)	292 (80.4)	24.472	0.001*
Poor Knowledge	34 (47.9)	37 (52.1)	71 (19.6)		
	260 (71.6)	103 (28.4)	363 (100)		

N=363 * Statistically Significant

Table 6. Association between knowledge and the practice of HIV counselling and testing.

	Practice		Total	X ²	P-value
	Good Practice n(%)	Bad Practice n(%)			
Good Knowledge	145 (49.7)	147 (50.3)	292 (80.4)	22.832	0.001*
Poor Knowledge	13 (18.3)	58(81.7)	71 (19.6)		
	158 (43.5)	205 (56.5)	363 (100)		

N=363 * Statistically Significant

IV. DISCUSSION

The age of the respondents ranges between 15 years and 40 years, this sociodemographic characteristic was similar to that of the descriptive cross-sectional studies in Uganda by Uganda Bureau of Statistics and Macro International where the respondents aged between 15 years and 49 years [15]. The mean age was 20.8 years which was in line with the cross-sectional study in North West Ethiopia by Addis Z, Yalew A and Shiferaw Y which show the mean age of 20 years [16]. This is so because the categories of respondents are similar being the undergraduate students of higher institutions.

The results of the knowledge of HCT suggest that majority of the respondents had good knowledge of HIV counselling and testing and this is in contrast to a study carried out in Shanxi Province of China by Zhang JL et al which reported that only 56.6% of the respondents had knowledge of HIV counselling and testing (HCT) [17]. This is not in agreement with our finding because the study in China was conducted on immigrants with different age ranges. But our finding is in agreement with a study conducted in Uganda by the Uganda Bureau of Statistics which showed that there is good knowledge of HCT among women and men of reproductive age group and these were 82% and 87% respectively [18]. A study in North West Ethiopia by Addis Z, Yalew A and Shiferaw Y Madehwe V et al in Zimbabwe as well as Okafor NA et al in Ogun state, Nigeria showed that majority of the participants had good knowledge of HCT [16,19,20] and these are in agreement with findings of our study. In addition, studies carried out in Nigeria by Akodu and Olufemi and Ikechebelu et al in Western and Eastern Nigeria respectively and other studies reported that undergraduate students had good knowledge of HCT. [18,21,23]

Our study reported a positive attitude to HCT but this in contrast to a study conducted in Tbilisi, Georgia where the vast majority (95.5%) of the participants never received HCT.

Studies by Addis Z et al in North West Ethiopia and Mwangi R et al in Kenya and another study in Uganda [24, 25, 26] all revealed positive attitudes towards HIV counselling and testing among University students.

On the practice of HCT by the respondents, only 43.5% of our respondents were found to have good practice of HIV counselling and testing which is in contrast to findings of Sigma Research Multiple Chances in UK in 2007 that showed that 72% of the respondents utilized HCT services.[27] In conformity with the result of this study is the one conducted by Higher Education Sector Study in South Africa [28], where 43.5% of the respondents were shown to have good

practice of HCT services. Also a cross-sectional study in Uganda by Uganda Bureau of Statistics shows that only 25% of women and 21% of men within reproductive age group practice HCT.[33] Other studies conducted in Nigeria also showed similar results probably because of the same categories of respondents studied by Badru T et al [29] and a similar study conducted by Okafor NA et al in a private institution at Ogun state in Nigeria that reported only 56.5% had HCT [16].

There is a statistically significant association between knowledge and attitude of the respondents toward HCT and our finding is similar to the results of studies carried out in Shanghai, China among injection drug users by Chen HT, Liang S and Liao Q [24] and in Kenya by Djibuti M, Zurashvili T, Kasrashvili T, Berg CJ [30] and in Nigeria by Abiodun O, Sotunsa J, Ani F, Jaiyesimi E, [14] also in Nigeria and Onyeonoro et al. [31] Also we found a statistically significant association between knowledge and the practice of HCT among our respondents and this similar to the results of the study carried out in UK among African Communities in the Sigma research and in Australia, in Zimbabwe by Madehwe V, Madehwe C, Pazvakavambwa L, Muringanidza KC [32] and that in Uganda by Uganda Ministry of Health & ORC Macro [33] and in Nigeria by Abiodun O, Sotunsa J, Ani F, Jaiyesimi E [14] and by Onyeonoro et al [31] all revealed that there is an association between the knowledge and practice of HCT.

V. CONCLUSIONS

This study revealed that large percentage of the undergraduate students have good knowledge of HIV Counselling and Testing. This may probably be due to the level of awareness especially in the Federal Capital Territory.

Most of the students have positive attitudes towards HIV Counselling and Testing but the practice of HCT service is very poor among the students which may be due to non-availability of the HCT service close to their campuses, this obviously shows that there is a Knowledge-Action-Gap which needs to be filled up.

It is also shown by this study that there is an association between the students' level of knowledge and attitude. There is also an association between the knowledge and practice of HCT amongst the undergraduate students of University of Abuja.

VI. RECOMMENDATION

Campus-based HCT services are recommended including a regular sensitization programmes. These programmes should improve the uptake of HCT services in this setting.

VII. ACKNOWLEDGEMENT

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VIII. AUTHORS' CONTRIBUTION

All authors contributed to conceptualized and design the study, analysed the data, developed result and discussion section and manuscript for intellectual and scientific content. All authors read and agreed to publish this manuscript.

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X. CONFLICT INTEREST

The authors declared that there is no conflict of interest.

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