International Journal of Modern Anthropology
Int. J. Mod. Anthrop. 2019. Vol. 2, Issue 12, pp: 63-78
DOI: http://dx.doi.org/10.4314/ijma.v2i12.2
Available online at: www.ata.org.tn & https://www.ajol.info/index.php/ijma

Research Report

Knowledge, beliefs and sources of information of HIV among students of a Tertiary Institution in Nigeria

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*(**Received** 6 November 2018; **Accepted** 25 February 2019; **Published** 2 April 2019)*

Abstract - Two out of three new HIV infections occurring globally each day occurs in sub-Saharan African in which Nigeria belongs. Its prevention however, is based on the knowledge of its transmission in which people are predisposed to. Unfortunately, the school environment has a high risk for the infection because of its vulnerability to high sexual risk behaviours which increases likelihood of HIV transmission. This study aimed at assessing the knowledge, beliefs and sources of information of HIV among students in the study area. The cross-sectional survey was conducted at an off-campus student community in Ilorin, north-central Nigeria. Primary data was collected through administration of structured questionnaire to 292 participants selected through multistage non-probability sampling method. Result revealed that, (84.2%) of the participants have the knowledge that a healthy looking person can have HIV, (88.7%) are knowledgeable of the fact that, HIV virus weakens the immune system of an infected person while, (82.2%) know that HIV can be transmitted through unprotected sex. A total of (81.2%) of the participants identified fever as the symptom of HIV while (77.7%) identified safe sex as preventive measure. The highest source of information of HIV in the study is the media, (68.2%) getting informed via health talk, followed closely by television (66.4%).On participants' beliefs on HIV, (63.7%) strongly disagree that HIV is a myth while (36.6%) strongly agree that HIV can be cured with prayers. Statistical significant relationship (where p value <0.05) was found between the age of participants and knowledge of HIV, between all the sources of information and knowledge of HIV while only school, health talk and television were found to be significantly related with beliefs of participants. The study concluded that participants have high knowledge of HIV although froth with misconceptions that stems from the belief held about the disease.

***Keywords*:** HIV, Knowledge, Asymptomatic, Beliefs, Media, Misconception

Introduction

Sub-Saharan African where Nigeria is a country constitutes about 12% of the world population (Avert 2016). More than 70 percent of the global burden of HIV infection is found in this region with 10 countries within this subset of people, Nigeria inclusive, accounting for about 80% of all people living with HIV globally. Of the estimated 6,000 new infections that occur globally each day, two out of three are in sub-Saharan Africa hence effective control of the infection in sub-Saharan Africa has the likelihood of impacting positively on the global infection burden (Avert 2016).

Since the index case was recorded in Nigeria in 1986, HIV has spread widely among the inhabitants affecting all age group and ethnicity though at varying degrees. Affected majorly is adolescent female, young adults and teenagers aged 15-24 (Centers for Disease Control and Prevention 2015). At the initial stage, the disease is usually asymptomatic but as the infection progresses, the immune system is gradually and progressively overwhelmed allowing opportunistic infections and tumors to manifest in the infected individual (World Health Organization 2015).

HIV has resulted in considerable morbidity and mortality in human, markedly reducing the nation's workforce when adults are affected. Its toll on health care system as providers of care and public spending to finance its management cannot be over-emphasized. Despite the relative importance of this disease entity, the proportion of individuals with a comprehensive knowledge of HIV transmission is still very low. There is also a significant disparity in HIV knowledge depending on place of abode, gender and level of education. In addition, irrespective of the huge investment of the government in voluntary HIV counseling and testing services, the utilization of this service in most African countries is quite low despite it being free. For example, only 11% of adults in 45 countries in sub-Saharan Africa received HIV testing in 2009. Also, only one-fourth of the 125 million pregnant women in low- and middle-income countries in 2009 received HIV testing (WHO/UNAIDS/UNICEF 2010)

Awareness of health risks is basic to disease prevention and health promotion. The goal of prevention in the context of HIV is to avoid or minimize the risk of transmission of HIV from an infected person to an uninfected person. But despite this, HIV prevention measures currently recommended at the individual and community

levels are based on our knowledge of how HIV can be transmitted from person to person. It is a common thinking that what people know affects the way they behave. Behavioral patterns like how aggressive they are in the search for information, Brucks (1985) rate and extent of assimilation of new knowledge Graesser & Glenn (1982); Johnson & Edward (1984), choice processes, Bettman & Whan (1980), information processing strategies, Fiske et al. (1983), problem solving processes, Sweller (1988) and perceptual processes (Obermiller & John 1984).

HIV can be transmitted from an infected person to another through sexual activities unprotected sex and non-sexual activities such as sharing of sharp objects like hypodermic needle, unscreened blood transfusion as well as mother to child transmission during pregnancy (Liesl & Mark 2013). Currently, HIV has no known cure but infected persons can be placed on Antiretroviral Therapy (ART) to make them live longer, live a healthier life and also avoid transmission of the infection to other people (Markowitz 2007). Hence the need to focus on health communication strategies in its prevention and control, aimed at increasing awareness of risk factors, mode of transmission of the disease and its effect on the infected (Markowitz 2007; Aids Info 2017).

Regrettably, the spread of HIV among people has continued to rise globally especially among young people (Oppong-Asante & Oti-Boadi 2013). This high-risk group is said to account for 60 percent of the new infections in many countries within the region (World Bank 2002; Avert 2016). Unsafe sexual practices among this age group have been identified as one of the critical pathways for the transfer of the virus (Cote et al. 2004). It is therefore not surprising that sexual transmission is the commonest mode of transmission of HIV in the sun-Saharan region, accounting for approximately 90% of all infections and 80% of all new infections (National Agency for Control of AIDS 2012, 2014).

In Nigeria, HIV epidemic is spreading at a disturbing rate with sero-prevalence rates increasing from 0.9 percent in 1990 to 1.8 percent in 1992, 3.8 percent in 1994, 4.5 percent in 1996 and 5.4 percent in 1999, 2.9% in 2010 (National Action on AIDS 2014). A study conducted in Kwara State, North-Central Nigeria on HIV epidemiology and impact analysis revealed that, young people between the ages of 15-19 constitute the highest age group living with HIV/AIDS (National Agency for Control of AIDS 2012). Further evidence has also shown a higher prevalence in urban dwellers than their rural dwelling counterpart, especially among young individuals in schools NACA (2009) as

the school environment is presumed to provide fertile grounds for high sexual risk behavior which increases the likelihood of HIV transmission (Adefuye et al. 2009; Abiodun et al. 2014).

While researches on knowledge of HIV among students in tertiary institutions in Nigeria have been over flogged, researches on knowledge of HIV among students in host communities of tertiary institutions are relatively dearth. It is against this milieu that this study is being conducted. The study aims at assessing participants' knowledge, beliefs and sources of information of HIV in the study area. This is imperative in determining how adequately informed they are as a guide to preventive and control measures that need be put in place to reduce the prevalence of the HIV among students especially in the school community.

Methodology

The cross-sectional survey was conducted among University of Ilorin students living at Oke-Odo, Ilorin, Kwara State, and north-central Nigeria. Oke-Odo is a student host community situated close to the main Campus of the University of Ilorin and a preferred location of the off-campus resident of most students of the institution due to its proximity to the school. It is a mixed community of indigenous residents and students characterized by several student hostels and business activities. Informed consent was retrieved from intending participants. Consenting participants were sampled using multi-stage non-probability sampling method by which purposive sampling method was used to select the student community then; cluster sampling method was used to identify a major bus terminus from where students are conveyed to and fro school in the community and a convenience sampling method employed to select participants for the study.

A total of 292 consenting participants were included in the survey out of the 320 questionnaires distributed in the study representing 91.2% return rate. Bio data of participants including age, gender, religion and ethnic background were collected using a self-administered questionnaire which contained closed and open ended questions. Information on knowledge of risk factors, mode of transmission, clinical presentation, causes, treatment modality and preventive measures, beliefs as to the origin of disease and the sources of information on HIV was also collected using the questionnaire. Data

was presented in frequency tables and percentages while formulated hypotheses were tested using chi-squared statistical tool.

Results

Of the 292 students sampled, 165 (56.5%) were males while 127 (43.5%) were females. One hundred and forty-seven of the participants (50.3%) were aged below 20 years. Many were not married (90.1%) and the predominant religion practiced was Christianity (60.3%). Two hundred and twelve (72.6%) participants are Yoruba and 80 (27.4%) are from other major tribes in Nigeria namely Hausa and Ibo (Table 1).

Table 1: Socio-demographic variables of Participants

Socio-demographic variables	**Frequency n (%)**
Age group (years)	
< 20	147(50.3)
20 – 24	107(36.6)
25 – 29	30(10.3)
≥ 30	8(2.7)
Gender	
Male	165(56.5)
Female	127(43.5)
Marital status	
Single	263(90.1)
Married	29(9.9)
Religion	
Christianity	176(60.3)
Islam	114(39.0)
Traditional	2(0.7)
Ethnic Background	
Yoruba	212(72.6)
Ibo	43(14.7)
Hausa	21(7.2)
Others	16(5.5)

Researchers' Survey, 2017

Concerning basic knowledge on HIV (Table 2), 246 (84.2%) participants are of the opinion that HIV status is not a function of an individual's physical look as a

healthy looking person can be infected, 180 (61.6%) of the participants are certain that HIV has no cure, while 155 (53.1) knows what the abbreviation "HIV" means. Furthermore, on the types of the virus in existence, 205 (70.2%) participants knows that there are two types the virus and 259 (88.7%) of the participants knows that its pathogenic mechanism is to weakens the immune system of an infected person. On disease progression, 234 (80.1%) knows that it is possible to have HIV for many years without progressing to AIDS.

Table 2: Participants Basic Knowledge of HIV

Variable	**Frequency/ (%) n(%)**
An healthy looking person can have HIV	
Yes	246(84.2)
No	46(15.8)
HIV has no cure	
Yes	180(61.6)
No	112(38.4)
Knowledge of full meaning of HIV	
Correct	155(53.1)
Wrong	137(46.9)
There are two types of HIV, HIV 1 and HIV 2	
Yes	205(70.2)
No	87(29.8)
HIV weakens the immune system of the infected person	
Yes	259(88.7)
No	33(11.3)
HIV is the virus that leads to AIDS	
Yes	252(86.3)
No	40(13.7)
It is possible to have HIV for years without progressing to AIDS	
Yes	234(80.1)
No	58(19.9)

Researchers' Survey, 2017

Assessing participant's knowledge on mode of transmission of HIV in table 3, majority (82.2%) of the participants identified unprotected vagina sex as a mode of transmission, followed by vertical transmission from mother to child (80.5%). Two hundred and twenty one (75.7%) participants thinks infection is from transfusing blood,

218 (74.2%) participants identified sharing of sharps while 213 (72.9%) thinks infection is transmitted when infected individual have multiple sexual partner. HIV is reportedly transmitted through sharing of bathing soap and towel by 32 (11.0%) of the participants while 23 (7.9%) believes transmission can be through handshake and 18 (6.2%) said it can be transmitted to another person by hugging (Table 3).

Table 3: Knowledge on mode of transmission, symptoms and preventive measures of HIV

Variable	Frequency/ (%)
Mode of Transmission of HIV	
Unprotected vaginal sex	240(82.2)
From mother to child	235(80.5)
Blood transfusion	221(75.7)
Sharing of infected needles	218(74.7)
Multiple sex partners	213(72.9)
Sharing tooth brush	163(55.8)
Anal sex	152(52.1)
Oral sex	105(36.0)
Through kissing	82(28.1)
Sharing bathing soap	32(11.0)
Sharing towels	32(11.0)
Handshake	23(7.9)
Hugging an infected person	18(6.2)
Symptoms of HIV	
Fever	237(81.2)
Weight loss	229(78.4)
Headache	182(62.3)
Low blood	154(52.7)
Coughing	150(51.4)
Body rash	123(42.1)
Muscle pain	120(41.1)
Joint aches and pains	97(33.2)
Drowsiness	82(28.1)
Swollen glands	79(27.1)
Sore throat	69(23.6)
Diahoerea	65(22.3)
stomach aches	48(16.4)
HIV Preventive Measures	
Avoid casual sex	227(77.7)
Use of condoms	224(76.7)
Sterilize needles and sharp objects before use	196(67.1)
Abstinence from sex	190(65.1)
Be faithful to one sex partner	160(54.8)

Researchers' Survey, 2017

Symptoms of HIV respondents are aware of include fever (81.2%), weight loss (78.4%) head ache (62.3%), shortage of blood (52.7%), coughing (51.4%), stomach upset (16.4%) and body rash (42.1%). On how HIV transmission can be prevented, avoidance of casual sex is a preventive measure according to 227(77.7%) respondents,

this was followed closely by the use of condoms during sexual intercourse (76.7%) and sterilizing needles and sharp objects before use (67.1%). Other identified preventive measures are abstinence from sex (65.1%) and faithfulness to one sex partner (54.8%). Beliefs held by participants on the cause and origin of HIV (Table 4) include believe that HIV/AIDS is a myth and does not exist (13), HIV is a black man disease (10), HIV is a poor man's disease (5), HIV is a punishment from God for the sin of man (35). Furthermore, (69) thinks HIV can be used to afflict someone while (54) respondents are of the opinion that they can never be infected with the virus even if exposed. Curative effect of herbs on the infection is believed by (75), similar to the belief of (187) in the curative power of fasting and prayers.

Table 4: Participants Beliefs on HIV

Beliefs	Strongly agree n (%)	Agree n (%)	Undecided n (%)	Disagree n (%)	Strongly disagree n (%)
HIV is just a myth and does not exist	5 (1.7)	7 (2.4)	10 (3.4)	84 (28.8)	186 (63.7)
HIV is a black man disease	0 (0.0)	10 (3.4)	8 (2.7)	80 (27.4)	194 (66.4)
HIV is a poor man's disease	1 (0.3)	4 (1.4)	10 (3.4)	78 (26.7)	199 (68.2)
HIV is a punishment from God for man's sin	10 (3.4)	25 (8.6)	31 (10.6)	73 (25.0)	153 (52.4)
HIV can be used to afflict a person	19 (6.5)	50 (17.1)	53 (18.2)	79 (27.1)	91 (31.2)
I can never be infected with the disease even if I have contact with the virus	12 (4.1)	42 (14.4)	30 (10.3)	110 (37.7)	98 (33.6)
HIV can be cured with herbs	38 (13.0)	37 (12.7)	105 (36.0)	74 (25.3)	38 (13.0)
HIV can be cured with prayers and Fasting	107 (36.6)	80 (27.4)	40 (13.7)	31 (10.6)	34 (11.6)

Researchers' Survey, 2017

The source of information of HIV (Table 5) includes health talk (68.2%), television (66.4%), Hospital (59.6%) and radio (59.6%). Other source of information includes friend (41.4%) and family members (34.2%). Relating socio-demographic variable with knowledge about HIV, age was found to significantly influence knowledge while other variables like sex, religion, tribe and marital status were not significant influence on knowledge.

Table 5: Sources of Information on HIV

Sources of Information	Frequency n(%)
Health talk	199(68.2)
Television	194(66.4)
School	185(63.4)
Hospital	174(59.6)
Radio	174(59.6)
Newspaper and Magazines	155(53.1)
Internet	151(51.7)
Parents	143(49.0)
Friend	121(41.4)
Family members	100(34.2)

Researchers' Survey, 2017

Test of Hypotheses

H01: There is no significant relationship between socio-demographic variables of participants, beliefs and knowledge of HIV.

H02: There is no significant relationship between sources of information of participants, beliefs and knowledge of HIV.

***H01*: Relationship between socio-demographic variables and beliefs about HIV**

Variable	Belief Good n (%)	Poor n (%)	*p* value	Knowledge Good n (%)	Poor n (%)	*p* value
Age (years)						
<20	119 (81.0)	28 (19.0)	0.935	88 (59.9)	59 (40.1)	<0.001*
20 – 24	85 (79.4)	22 (20.6)		82 (76.6)	25 (23.4)	
25 – 29	23 (76.7)	7 (23.3)		29 (96.7)	1 (3.3)	
≥ 30	6 (75.0)	2 (25.0)		7 (87.5)	1 (12.5)	
Sex						
Male	135 (81.8)	30 (18.2)	0.326	109 (66.1)	56 (33.9)	0.055
Female	98 (77.2)	29 (22.8)		97 (76.4)	30 (23.6)	
Marital status						
Single	209 (79.5)	54 (20.5)	0.675	181 (68.8)	82 (31.2)	0.051
Married	24 (82.8)	5 (20.5)		25 (86.2)	4 (13.8)	
Religion						
Christianity	141 (80.1)	35 (19.9)	0.975 [Y]	124 (70.5)	52 (29.5)	0.358 [Y]
Islam	92 (80.7)	22 (19.3)		82 (71.9)	32 (28.1)	
Traditional				0 (0.0)	2 (100.0)	
Ethnic Background						
Yoruba	173 (81.6)	39 (18.4)	0.504 [Y]	149 (70.3)	63 (29.7)	0.170
Ibo	34 (79.1)	9 (20.9)		33 (76.7)	10 (23.3)	
Hausa	16 (76.2)	5 (23.8)		11 (52.4)	10 (47.6)	
Others	10 (62.5)	6 (37.5)		13 (81.3)	3 (18.8)	

NB: Chi squared test used; *: *p* value <0.05

***H02*: Relationship between source of information, belief and knowledge**

Variable	Belief Good n (%)	Poor n (%)	p value	Knowledge Good n (%)	Poor n (%)	*p* value
Magazine/Newspaper	123 (79.4)	32 (20.6)	0.842	117 (75.5)	38 (24.5)	0.049*
Internet	123 (81.5)	28 (18.5)	0.464	131 (86.8)	20 (13.2)	<0.001*
Parent	113 (79.0)	30 (21.0)	0.747	112 (78.3)	31 (21.7)	0.004*
Family members	75 (75.0)	25 (25.0)	0.141	88 (88.0)	12 (12.0)	<0.001*
School	157 (84.9)	28 (15.1)	0.005*	163 (88.1)	22 (11.9)	<0.001*
Friends	96 (79.3)	25 (20.7)	0.870	106 (87.6)	15 (12.4)	<0.001*
Hospital	144 (82.8)	30 (17.2)	0.126	156 (89.7)	18 (10.3)	<0.001*
Health talk	166 (83.4)	33 (16.6)	0.024*	163 (81.9)	36 (18.1)	<0.001*
Television	162 (83.5)	32 (16.5)	0.026*	153 (78.9)	41 (21.1)	<0.001*
Radio	141 (81.0)	33 (19.0)	0.522	134 (77.0)	40 (23.0)	0.003*

NB: Chi squared test used; *: *p* value <0.05

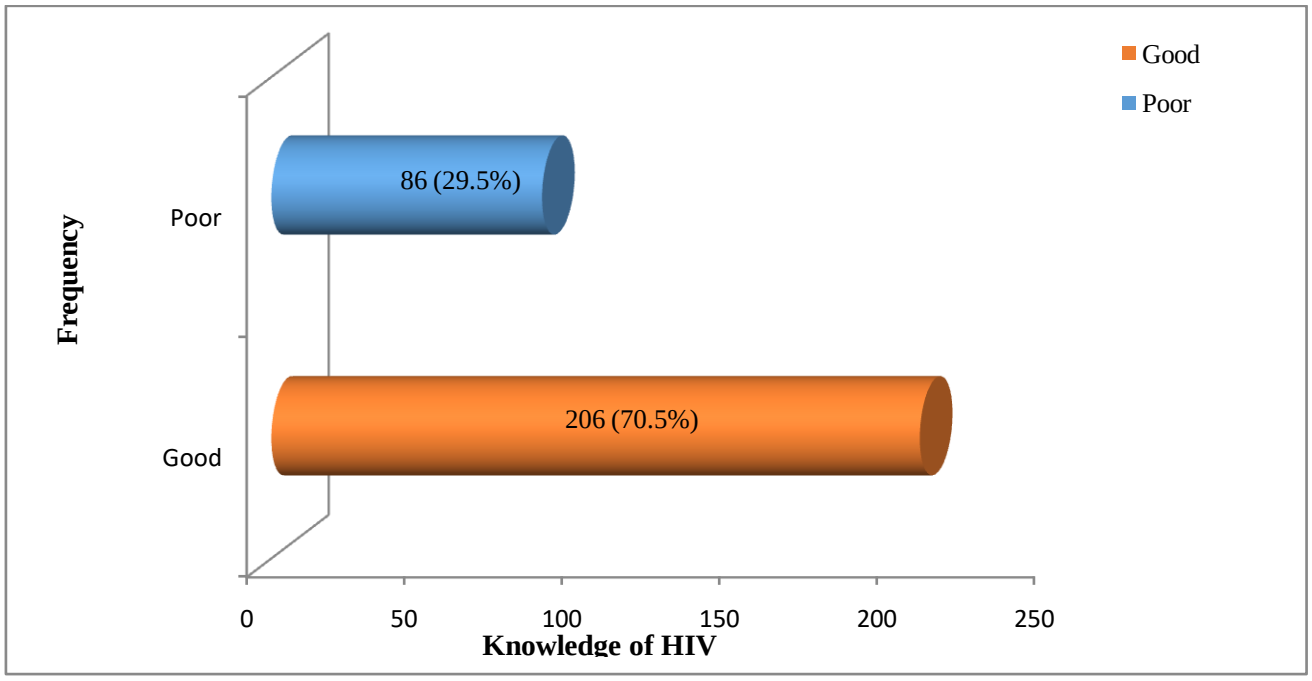

Fig. 1 Bar Chart Showing Knowledge of HIV

Discussion

This study assessed extensively, knowledge, beliefs and sources of information of HIV among students of University of Ilorin, sampling the opinion of those residing off-campus at a community located near the university. The study showed that participants have high knowledge of HIV (See figure 1) similar to the findings of Odua & Akanle

(2008) from selected government owned universities in South-West Nigeria and Abiodun et al. (2014) among undergraduates in a private University in the country which confirmed a high knowledge of HIV among students of tertiary institution.

The finding also is consistent with what was reported by Jose et al. (2011) in Guinea from a study involving students of tertiary institutions in Guinea and differs from the finding of Asante & Oti-Boadi (2013) in Ghana which showed an inconsistent knowledge on HIV among undergraduates as participants were less knowledgeable about causative agents of HIV. This may be due to the higher prevalence rate of the infection in the countries where high knowledge is demonstrated for they are likely to have heard about the infection, seen cases or even have infected family members and friends. The media in such locations are likely to be agog with enlightening programmes and information on its identification, prevention, control and treatment such that a higher proportion of the population will be informed to some extent.

However, despite participants being highly informed about the infection, the authenticity of the information is queried as some had wrong information resulting in misconceptions about the disease. This misconstrued idea can stem from culture and tradition of the land as well as religious teachings. A sizeable number of participants believe that HIV can be cured through prayers and fasting, mirroring the high religious inclination of the people in the country. This finding is consistent with the finding of the previous study conducted by Ebeniro (2010) which asserts the significance of cultural beliefs on the knowledge of HIV among students in tertiary institutions in Rivers State, South-South Nigeria. The study also corroborates the result of Odua & Akanle (2008) among undergraduates of four universities on South-West Nigeria which further highlights the significance of beliefs on what an individual knows about HIV, reiterating the strong influence of cultural beliefs and traditional practices on health of people in the Nigerian Society.

Health talk, being the commonest source of information on HIV reported in this study is in tandem with the findings of Harding et al. (1999) in a study conducted among students from tertiary institutions in South-West Nigeria and the report of Abiodun et al. (2014) which sampled the opinion of undergraduates in a private owned university where the media accounted for the highest source of information. This result further confirms the strong relationship between the media and health information as confirmed in several studies (Obisesan et al. 2005; Oye-Adeniran et al. 2006).

While no statistical significant relationship was found between socio-demographic variables of participants and beliefs of participants in the study, a statistical significant relationship was found between knowledge of HIV and age of participants. This is consistent with the findings of the study conducted by Ezeonyido (2016) among undergraduates in Nigeria which suggested a significant relationship between knowledge of HIV and age of participants. The result also confirms earlier study conducted by Ogini et al. (2015) in which a significant relationship was found between knowledge of HIV and age of participants. In addition, all the sources of information identified in the study were significantly related to the knowledge of HIV among participants while only school, health talk and television were found to be significantly related to beliefs of participants on HIV in the study.

Conclusion

The study showed that participants have high knowledge on HIV even though froth with various misconceptions. The information were sourced mostly from the media, specifically health talks by health professionals and the level of knowledge is dependent on the age of participants and not sex, marital status, religion and tribe of participants. However, none of the demographic variables of participants in the study were significantly related with the participants' beliefs in the study while, age of participants was found to be significantly to knowledge of participants on HIV in the study. In addition the sex distribution of participants in the study was not found to be statistically related to both belief and knowledge of HIV. And while all the sources of information identified in the study were significantly related with the knowledge of HIV, only school, health talk and television were found to be significantly related with beliefs of participants in the study.

Recommendations

The study recommends widespread dissemination of adequate information on HIV among students of institution of higher learning in Nigeria to ensure adequate knowledge of the disease among students of institution of higher learning in Nigeria. The study also recommends community based enlightenment programmes channeled towards informing the public on the knowledge of HIV, especially in host communities of tertiary institutions where students reside and risky sexual behaviours may be prevalent. Enlightenment programmes on HIV by relevant agencies via media channels such as television and radio is also strongly recommended.

Conflicts of Interest: The authors declare no conflict of interest.

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To cite this article:
Joseph A. Oluyemi, Joseph A. Adejoke, Olokoba L. Bukola, Adekeye Deborah, Popoola Gbenga. 2019. Knowledge, beliefs and sources of information of HIV among students of a Tertiary Institution in Nigeria. *International Journal of Modern Anthropology*. 2 (12): 63-78
DOI: http://dx.doi.org/10.4314/ijma.v2i12.2