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HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES AND SOCIAL DISTANCE TOWARDS PEOPLE LIVING WITH HIV/AIDS (PLWHA) AMONG UNDERGRADUATE STUDENTS IN CALABAR

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ABSTRACT

The study determines HIV-AIDS related knowledge, attitudes and level of social distance of undergraduate students in Calabar towards PLWHA as a basis for planning an appropriate stigma-reducing educational intervention. A total population study of 165 undergraduate students was undertaken for this descriptive survey. Responses to a validated self-reporting questionnaire provided the source of data. The mean age of participants was 21 +/- 3.6. Eighty seven (53.0%) scored below the mean knowledge score of 11.0 +/- 3.9. One hundred and five (64.0%) had a favourable outlook towards PLWHA. although some myths still exist among the students. Most 109 (66.0%) were classified as desiring moderate to severe distance towards PLWHA. Previous encounter with PLWHA and experience of VCT were significantly associated with knowledge and attitudes of undergraduates ($P<0.05$). Sensitization seminars on HIV/AIDS targeted at undergraduates should include opportunities for interactive sessions with PLWHA and exposure to VCT.

Keywords: Undergraduate students, HIV-related knowledge, HIV-related attitudes, Risky practices, Social distance

INTRODUCTION

The HIV/AIDS pandemic has led to 30 million aids-related deaths globally since the epidemic started, 76.0% of which occurred in sub-Saharan Africa (UNAIDS, 2010). UNAIDS estimated that 33.4 million people are living with HIV in the world in 2008; 23 million of the people living with HIV/AIDS (PLWHA) are in sub-Saharan Africa constituting 68.0% of the world's total, while majority of all HIV/AIDS new infections still occur in developing countries (UNAIDS, 2009; USAID, 2011). In 2009 an estimated 1.8 million (1.6 – 2.1

million) new infections occurred in Sub-Saharan Africa (UNAIDS, 2010).

Nigeria as the most populous country in Africa with an estimated population of 154.7 million (UNICEF, 2009) faces the formidable task of tackling a widespread epidemic. Nigeria has the second highest number of PLWHA worldwide after South Africa. The country has about 2.9 million PLWHA thus contributing about 9.0% of the global HIV burden and 14.0% of the African burden (UNGASS, 2010). The epidemic has claimed an estimated 2.99 million lives, 1.38 million male and 1.61 million female, and left approximately 2.5 million children orphaned (FMOH, 2009;UNICEF, 2009) . The first AIDS case in Nigeria was reported in 1986 following which, the epidemic has steadily grown from a prevalence of 1.8% in 1991 to a peak of 5.8% in 2001 from whence it took a downward turn to 5.0% in 2003, 4.4% in 2005 and currently 4.6% based on 2008 antenatal survey (FMOH, 2001; FMOH 2004; UNGASS, 2010). This is with a concomitant fall in life expectancy from 53 years in 1999 to 47.7 years in 2009, negating the positive effect that might have occurred as a result of improvement in life standard and health status (UNGASS, 2010; Population Reference Bureau, 2009).

In addition, the National HIV prevalence was 3.6% from the National HIV/AIDS and Reproductive Health Survey (NARHS, 2007), prevalence was a little bit higher in urban areas (3.8%) compared with rural areas (3.5%) (FMOH, 2009). There are also variations in the distribution of the epidemic across zonal levels; prevalence is lowest in the South West (2.0%) and highest in the South-South (7.0%). Prevalence at state level showed that Akwa Ibom had the highest (8.0%) followed by Cross River State (6.1%) (FMOH, 2005). Age group specific prevalence is highest in the age group 25-29 years (5.6%), while it is 2.9% in the 40-44 years age group. In the age group 15-24 years it is 2.4% constituting about 67.0% of the national HIV prevalence of 3.6% (FMOH, 2009). Worldwide out of the 1.5 billion young persons aged 10-24 years, 11.8 million are estimated to be living with the virus, constituting, 28.0% of the total adults living with AIDS (UNFPA, 2009; United Nations Population Fund, 2007; Kaiser Family Foundation, 2005). Forty per cent of new HIV infections occur among 15-24 years old while 4.9 million of the 33.4 million PLWHA are in this age group (UNFPA, 2010). It is estimated that 5,000 to 6000 new infections occur daily (United Nations Population Fund, 2007). This goes a long way to buttress the fact that teens and young people are an important risk group in the epidemic.

Youths are at high risk of contracting HIV and other sexually transmitted infections (STIs) because of their vulnerability in terms of having multiple short term sexual relationships, incomplete social, emotional and psychological development, tendency to experiment with risky behaviors, financial dependence, age and inconsistent use of condom (Ensminger, 1987; Shane, 1997; Boyd, Ashford, Haub and Cornelius, 2000; Herstad, 2000; Udoh, 2000; USAID, 2009; Kaiser Family Foundation, 2004). Additionally, they also tend to lack sufficient information and understanding of HIV/AIDS particularly their vulnerability to it, how to prevent it and the self confidence necessary to protect themselves (Mathur and Gupta, 2003/2004; Boyd, Ashford, Haub and Cornelius, 2000). University students in Nigeria, mostly youths are particularly vulnerable to HIV infection. Many are forced into unsafe sexual practices because of the harsh economic situation in country (Asuquo, Inaja and Asuquo, 2003; Chng, 2005). Many youths, chiefly female undergraduates, have turned to commercial sex work to supplement their income. Indeed, intergenerational relationship coined “sugar daddies” have contributed to the spread of HIV/AIDS among youths. These men entice young women with money to have unprotected sex with them (Chng, 2005; UNFPA, 2003/2004; Nyanzi and Nyanzi-Wakholis, 2004).

Furthermore, Nigerian youths are reported to be poorly informed about key basic information on HIV/AIDS, an assertion further supported by the work carried out by among secondary school students in Akwa Ibom State, Nigeria which identified knowledge gaps related to HIV/AIDS and

negative attitudes towards its prevention (FMOH, 2004; Akpabio, Asuzu, Fajemilehin & Ofi, 2007). Another challenge confronting HIV/AIDS prevention is the issue of sexual risk perception among youths. It is reported that although majority of youths are aware that HIV/AIDS exist, they underestimate personal risk (Omorepie, 2003). A study among 1000 youths of both sexes in Ilorin, Kwara state, Nigeria reported that the participants had sex with casual partners/prostitutes without using condom regularly which could be related to lack of awareness among the female participants that HIV infected persons could be asymptomatic (Ubi, 2003).

The issue of stigmatization constitutes another barrier to HIV infection prevention. A study carried out among University students in India, South Africa and United States on attitudes towards PLWHA observed that stigmatizing attitudes towards PLWHA may reduce people's willingness to have themselves tested for HIV, thereby increasing the risk of transmission. The study further suggested that positive HIV testing attitudes were positively associated with contact readiness with PLWHA (Peltzer, Nsewi and Mohan, 2004). A household study of HIV-related behaviour in the general population and youth in Nigeria showed that the level of stigma towards PLWHA was high (FMOH, 2004). The study further reported that only 19.6% of males and 28.2% of females would buy fresh vegetables from a vendor with HIV/AIDS. Similarly only 23.0% of male and 26.8% of females believed that a female PLWHA should be allowed to continue teaching. Less than half of the participants were willing to care for a family member who is living with HIV/AIDS. Although studies from other parts of Nigeria have reported findings on HIV/AIDS knowledge and attitudes among youths, similar studies from South South Zone, Nigeria appear to be scanty in literature, particularly the issue of stigmatization. The purpose of this study was therefore to assess knowledge, risk perception, attitudes and social distance towards PLWHA among undergraduate students in Calabar.

Specifically the study aimed to:

1. determine the proportion of participants who have been tested for HIV/AIDS.
2. determine the level of knowledge of HIV/AIDS among undergraduates in Calabar.
3. determine the proportion of students able to identify high risk, low risk, and no risk practices with regards to HIV.
4. explore HIV/AIDS related attitudes among undergraduate students in Calabar.
5. explore the degree of closeness participants are willing to maintain with persons living positively (PLWHA).

The following null hypotheses were formulated and tested at the 0.05 level of significance.

Hypotheses

1. There is no significant association between HIV/AIDS related knowledge and gender, previous encounter with PLWHA and experience of HIV counseling and testing (HCT).
2. There is no significant association between HIV/AIDS related attitudes and gender, previous encounter with PLWHA and experience of HIV counseling and testing (HCT).

MATERIALS AND METHODS

The descriptive survey research design was used in this study. A total population study of 165 undergraduate students registered to attend an annual HIV-AIDS awareness campaign in University of Calabar, Nigeria was undertaken.

Responses to a validated self-reporting questionnaire provided the source of data. The instrument used to gather data for this study was titled "HIV/AIDS related knowledge, attitudes and social distance towards PLWHA". It is divided into six sections. Section A consisting of 13 items elicited information on the bio-data of participants, previous experience with PLWHA and HIV testing. Sections B to E consisted of 55 items. Section B was on HIV/AIDS related knowledge while Section C was on perception of risky practices. Section D was on HIV/AIDS related attitudes. The items were

designed in the 3- 4 – point Likert-type scale except for section B which had a Yes, No or Unsure options.

Section E elicited information on social distance, using a modified type of Bogardus social distance scale adapted by Isangedighi, Joshua, Asim and Ekuri (2004). It was used to assess the desire for social distance towards PLWHA. The scale asks participants to rate the extent to which they would accept PLWHA in terms of choosing as a partner for class assignment, going on excursion with, taking a walk with, visit when in hospital, have lunch with, attending night party with and allow to be married to a close relation. The participants were asked to state whether they would carry out the activities outlined earlier with none, a few, most or almost all PLWHA. With respect to the social distance scale in section B, a score of 1 means no distance, 2 mild social distance, 3 moderate social distance, 4 severe social distance.

The questionnaire was validated using both theoretical analysis and face validity. Questionnaires were distributed directly to the students before attending the seminar and collected on the spot. Correct answer to a knowledge question in section B attracted 1 mark while any wrong answer attracted a 0 score. All positively worded items on the Likert-type scale were scored as follows: Agree (2 point) Disagree (1 point) and Uncertain (0 point) while negatively worded items were scored in a reverse manner.

The basic ethical principles of the Helsinki Declaration applied in research involving human participants were adhered to in the study. These are respect for persons (autonomy), beneficence (and non-maleficence) and justice (CIOMS and WHO, 2002). The participants were informed that they have the right to decide voluntarily, whether to participate in the study or not without the risk of exposure to any penalty or detrimental treatment. The participants were allowed to ask questions, allowed to give information or terminate their participation at will; they were not exposed to any form of coercion during the course of the study. Informed consent form was obtained from the participants prior to taking part in the study.

Data entry and analysis was performed using the Statistical Package for the Social Sciences (SPSS) software version 15 for Windows. Statistical relationships between subject groups and variables were tested using group independent two tailed test of significance at 0.05 level.

RESULTS

Table 1 shows that the mean (SD) age of participants was 21 +/- 3.6. They were predominantly male 124 (75.2%), females constituted only 41 (24.8%) of the participants. Majority of the participants 161 (98.0%) were never married, only 4 (2.0%) were married. Ninety-six point 4 percent (159) of the participants were Christians, 1 (0.6%) was a Muslim while 5 (3.0%) belong to Eckankar. Most of the participants 101 (61.2%) have had previous encounter with PLWHA while 64 (38.8%) have not had any encounter. In relation to previous HIV test, only 70 (42.4%) have been tested, 95 (57.6%) have not.

Table 1: ***Background characteristics of participants***

Characteristics	Number	Percent	Mean	SD
Gender				
Male	124	75.2		
Female	41	24.8		
Age				
			21	3.6
Marital Status				
Single	161	98.0		
Married	4	2.0		
Religion				
Christianity	159	96.4		
Islam	1	0.6		
Eckankar	5	3.0		
Previous exposure to PLWHA				
YES	101	61.2		
NO	64	38.8		
Previous HIV test				
YES	70	42.4		
NO	95	57.6		

(N = 165)

Table 2 shows students' knowledge about HIV/AIDS. Majority 148 (89.7%) of the participants held the view that dry sex increases the risk of HIV/AIDS; only 17 (10.3%) knew the prevalence of the syndrome at the time of study, 133 (80.6%) did not know that perceiving a PLWHA as inferior is a form of stigmatization, 99 (60.0%) did not know that a negative HIV test is not an indication that the client is not infected. Responses to other knowledge variables are shown on the table. Overall the mean knowledge score was 11.0 +/- 3.9 out of a total score of 21. The percentage of those who scored above the mean 78 (47.0%) was lower than that of those who scored below 87 (53.0%).

Table 2: ***Participants knowledge of HIV/AIDS***

Knowledge variables	Correct response N0	%	Incorrect response N0	%
The common type of HIV in Nigeria is CRF 02/A/G recombinant	29	17.6	136	82.4
Prevalence of HIV in Nigeria based on 2005 sentinel survey is more than 5%	17	10.3	148	89.7
A negative HIV test may mean that a person is infected but not yet produced antibodies	66	40.0	99	60.0
HIV/AIDS can be transmitted from mother to child during pregnancy and delivery	118	71.5	47	28.5
Dry sex increases the risk of STIs & HIV/AIDS	17	10.3	148	89.7
An HIV positive but asymptomatic person is infectious	93	56.4	72	43.6
HIV preferentially affects & destroys the immune system of the body	139	84.2	26	15.8
Unexplained weight loss, fever & diarrhoea are major symptoms of AIDS	122	73.9	43	26.1
AIDS is an early manifestation of HIV infection	57	34.5	108	65.5
Stigmatization means a spoilt identity	113	68.5	52	31.5
Not sharing utensils with PLWHA is discriminatory	78	47.3	87	52.7
Students are obliged to reveal their HIV/AIDS status to the University authority	60	36.4	105	63.6
Perceiving PLWHA as inferior is a type of stigmatization	32	19.4	133	80.6
HIV infection or AIDS constitute a basis for termination of a student's admission	97	58.8	68	41.2
Blaming and isolating oneself is a type of felt stigma	111	67.3	54	32.7
PLWHA cannot be productive as other members of the society	79	47.9	86	52.1
Once a person starts taking anti-retroviral treatment for HIV/AIDS, he has to take it for life	95	57.6	70	42.4
HIV positive test does not mean instant death	132	80.0	33	20.0
Students can protect themselves from HIV/AIDS by using condom correctly every time they have sex	103	62.4	62	37.6
Abstinence is the best form of prevention against HIV/AIDS for singles	135	81.8	30	18.2
Having sex with a virgin can cure HIV/AIDS	128	77.6	37	22.4

N = 165

Although as shown in Table 3 most of the participants had correct perception of risky practices, some myths still exist among the students. Having many sexual partners was perceived as high risk by 154 (93.0%), low risk by 8 (5.0%) and not risky at all by 3 (2.0%). One hundred and forty three (87.0%) students perceived transfusion with unscreened blood as high risk, 8 (5.0%) as low risk

while 14 (9.0%) saw it as not risky at all. Using contaminated needles was perceived as high risk by 135(82.0%), low risk by 15 (9.0%) and not risky at all 13 (8.0%) while breastfeeding by a PLWHA was perceived as high risk by 112 (68.0%), low risk by 33 (20.0%) and not risky at all by 20 (12.0%). Body piercing/ tattooing/acupuncture was perceived as high risk by 91 (55.0%), low risk by 27 (16.0%) and not risky at all by 45 (27.0%). Table 3 further shows that engaging in oral sex was viewed as high risk by 79 (48.0%), low risk by 49 (30.0%) and not risky at all by 37 (22.0%). Bathing PLWA or bites from mosquitoes or fleas and kissing /hugging a PLWHA was seen as high risk by 18 (11.0%), low risk by 29 (18.0%) and not risky at all by 118 (71.0%). Sharing sheets, towels and clothing was viewed as high risk by 17 (10.0%), low risk by 40 (24.0%) and not risky at all by 108 (66.0%). Thirty two (20.0%) considered touching a PLWHA with bare hands a high risk practice, 22(13.0%) view it as low risk while 133 (81.0%) did not see it as risky. Sleeping in the same room with a PLWHA was perceived as high risk by 5 (3.0%), low risk by 20 (12.0%) and not risky at all by 140 (85.0%). Overall, 97 (59.0%) of the participants, perceived moderate to great risk of contracting HIV/AIDS while 68 (41.0%) perceived no risk.

Table 3: ***Participants' perception of HIV related risky practices***

Transmission of HIV	High Risk N0	%	Low Risk N0	%	No Risk N0	%
Having many sexual partners	154	93.0	8	5.0	3	2.0
Transfusion of unscreened blood	143	87.0	8	5.0	14	9.0
Using contaminated needles/razor blades	135	82.0	15	9.0	13	8.0
Breastfeeding by PLWHA	112	68.0	33	20.0	20	12.0
Body piercing / tattooing / acupuncture	91	55.0	27	16.0	45	27.0
Engaging in oral sex	79	48.0	49	30.0	37	22.0
Cleaning or bathing HIV+ person	18	11.0	32	19.0	115	70.0
Bites from mosquitoes or fleas	18	11.0	29	18.0	118	71.0
Kissing or hugging an HIV + person	18	11.0	60	36.0	87	53.0
Sharing sheets, towels and clothing	17	10.0	40	24.0	108	66.0
Touching a PLWHA with bare hands	10	6.0	22	13.0	133	81.0
Sleeping in the room of an HIV+ person	5	3.0	20	12.0	140	85.0

As shown in Table 4, the study showed that 56 (33.9%) of the participants opined that PLWHA are to be blamed for their condition, 33 (20.0%) were undecided, only 76 (46.1%) of the respondents disagreed with this view. Some participants 52 (31.5%) opined that if they had a choice they would not sleep in same room with a PLWHA. Some 47 (28.5%) expressed that living in same room with a PLHWA is stressful. Many 65 (36.4%) participants believed that fear of contracting HIV/AIDS make students avoid eating with PLWHA. Sixty (36.4%) of the participants suggested that a negative HIV test should be a criteria for admission to the University. Some 16 (9.7%) students would rather ease themselves in the bush than share toilet with a PLWHA. In general the attitudes of undergraduates towards persons living positively, was favourable as expressed by most participants 105 (64.0%), while 60 (36.0%) had less favourable outlook.

Table 4: ***Participants attitudes towards PLWHA***

Attitudinal Statements	Agree		Disagree		Undecided	
	N0	%	N0	%	N0	%
Persons living with HIV/AIDS are to be blamed	56	33.9	76	46.1	33	20.0
Persons with HIV/AIDS deserve what they got	22	13.3	88	53.3	55	33.3
Clients with HIV/AIDS deserve the same quality care as other ill persons	125	75.8	20	12.1	20	12.1
I will rather transfer to another course than stay in the same class with PLWHA	18	10.9	99	60.0	48	29.1
I would willingly and freely care for my friend with HIV/AIDS	128	77.6	12	7.3	25	15.2
I feel uncomfortable witnessing the misery and distress caused by HIV/AIDS diagnosis	98	59.4	30	18.2	37	22.4
If I have a choice, I would not sleep in the same room with PLWHA	52	31.5	60	36.4	53	32.1
I will socialize closely with any HIV positive student in my class	94	57.0	38	23.0	33	20.0
PLWHA should not be admitted into the University	19	11.5	101	61.2	45	27.3
PLWHA should be withdrawn from living in University hall of residence	15	9.1	101	61.2	49	29.7
Living in the same room with PLWHA is a stressful experience	47	28.5	62	37.6	56	33.9
Fear of contracting HIV/AIDS make students avoid eating with PLWHA	65	39.4	64	38.8	36	21.8
A negative HIV test should be one of the admission criteria into the University	60	36.4	69	41.8	36	21.8
Students who HIV positive should not be discriminated against	131	79.4	14	8.5	20	12.1
I will rather ease myself in the bush rather than share the same toilet with a PLWHA	16	9.7	99	60.0	50	30.3

N = 165

Table 5 shows detailed opinion of social distance participants are willing to maintain with PLWHA in relation to specific activities. With regards to visiting a PLWHA in hospital, 80 (49.0%) of the participants expressed willingness to visit almost all PLWHA if in hospital, 25 (15.0%) would visit most, 15 (9.0%) would visit a few while 45 (27.0%) would visit none. With respect to taking a walk with a PLWHA, 69 (42.0%) of the participants expressed willingness to do this, with almost all PLWHA, 26 (16.0%) with most, 23 (14.0%) with a few while 47 (28.0%) would not go with any. With regards to going on excursion with a PLWHA, 63 (38.0%) of the participants expressed willingness to undertake the trip with almost all PLWHA, 29 (18.0%) with most, 27 (16.0%) with a few while 46 (28.0%) would not go with any. With reference to choosing a PLWHA as a partner for a class assignment, 59 (36.0%) of the participants are willing to accept almost all PLWHA for this activity, 25 (15.0%) would accept most, 27

(16.0%) a few while 54 (33.0%) would accept none. In connection to taking lunch with a PLWHA, 51 (31.0%) of the participants expressed willingness to do this with almost all PLWHA, 24 (15.0%) with most, 30 (18.0%) with a few while 60 (36.0%) would not take lunch with any PLWHA. In relation to attending night party with a PLWHA, 35 (21.0%) of the participants expressed willingness to do this with almost all PLWHA, 16 (10.0%) would have party with most, 18 (11.0%) with a few while 96 (58.0%) would not carry out the activity with any PLWHA. With reference to allowing a PLWHA to be married to participants' close relation, only 7 (4.0%) of the participants would allow his close relation to be married to almost all PLWHA, 5 (3.0%) would allow marriage to most, 13 (8.0%) to a few while 140 (85.0%) would not allow any of their close relation to be married to a PLWHA. Overall most 109 (66.0%) were classified as desiring moderate to severe distance towards PLWHA.

Table 5 ***showing participants' opinion of social distance to maintain with PLWHA***

Specific activities	Almost all NO DISTANCE		Most MILD DISTANCE		A few MODERATE DISTANCE		None SEVERE DISTANCE	
	n	%	n	%	n	%	n	%
Choose as a partner for class assignment	59	36	25	15	27	16	54	33
Go on excursion with	63	38	29	18	27	16	46	28
Take a walk with	69	42	26	16	23	14	47	28
Visit when in the hospital	80	49	25	15	15	9	45	27
Have lunch with	51	31	24	15	30	18	60	36
Attend night party with	35	21	16	10	18	11	96	58
Allow to be married to your close relations	7	4	5	3	13	8	140	85

Table 6 shows that previous encounter with PLWHA and experience of HCT were positively statistically significantly associated with knowledge and attitudes of undergraduates towards PLWHA ($P<0.05$) and not with gender.

Table 6: ***Independent t-test statistical analysis of the difference in HIV/AIDS related knowledge and attitudes of participants and gender, previous encounter with PLWHA and prior personal experience of voluntary counseling and testing***

Variable	GROUP	N	Mean	SD	Cal t	df	Crit t	P Value
HIV/AIDS related knowledge	Male	124	11.50	2.78				
	Female	41	11.95	3.76	-.820	163	1.96	0.413
HIV/AIDS related attitudes	Male	124	19.22	7.34				
	Female	41	18.07	6.65	.891	163	1.96	0.374
HIV/AIDS related knowledge	Prior encounter with PLWHA	101	12.19	3.24				
	No Prior encounter with PLWHA	64	10.68	2.46	3.183*	163	1.96	0.002
HIV/AIDS related attitudes	Prior encounter with PLWHA	101	19.98	7.06				
	No Prior encounter with PLWHA	64	17.29	7.09	2.372*	163	1.96	0.019
HIV/AIDS related knowledge	Prior experience of HIV Test	70	12.21	3.45				
	No Prior HIV Test	95	11.16	2.64	2.201*	163	1.96	0.029
HIV/AIDS related attitudes	Prior experience of HIV Test	70	20.11	3.45				
	No Prior HIV Test	95	18.07	2.64	1.817	163	1.96	0.710

**** Significant at 0.05 level, critical t = 1.96; df = 163***

DISCUSSIONS

Most of the participants had encountered a person living positively due to high prevalence of HIV/AIDS among the general population in Cross River State at the time of study. The Federal Ministry of Health (FMOH) sentinel survey indicated that the national prevalence of HIV/AIDS was 5.0% and 4.4% while prevalence in Cross River state was 12.0% and 6.1% in 2003 and 2005 respectively (FMOH, 2003; FMOH, 2005; Adeyi, Kanki, Odutolu and Idoko, 2006). Persons aged 15 – 49 years made up 12,000 of those infected, 50.0% of whom are aged between 15 – 24 years. The mean age of 21 found in this study fall within the definition of youth by UNAIDS (2010). Many of the youths in this age bracket are undergraduates in

Nigerian Universities (Oshi, Ezugwu, Oshi, Dimkpa, Korie & Okperi, 2007). The study showed that less than half of the participants have been tested for HIV which is supported by findings from previous studies. Jimoh (2003) and Alao (2004) identified inadequate HIV testing as one of the factors aggravating the HIV pandemic in Nigeria. Yahaya, Jimoh and Balogun (2010) reported very low patronage of Voluntary Counseling and Testing. A study carried out among undergraduate students of University of Ilorin reported negative attitudes towards Voluntary Counseling and Testing (VCT) among the students and recommended establishment of VCT centers in tertiary institutions (Okpoto, 2009). Currently the institution where this study was carried out houses a VCT center manned by trained counselors with nursing background. The situation still calls for more than just creating the centers but also mobilizing the students to use the service possible through peer educators.

The second specific objective was used to collect information about participants' knowledge of basic HIV/AIDS information, transmission, associated stigma and prevention of HIV/AIDS. The finding of the study shows that the students have average knowledge of HIV/AIDS, less than half of the participants obtained the overall mean (SD) knowledge score of 11.0 + / - 3.9. The students were particularly deficient in knowledge of prevalence, causative agent in Nigeria, stigmatization and clinical features of HIV/AIDS. The findings in this study is consistent with the report of UNFPA (2010) that far too many youths (15-24 years old) do not know how to prevent HIV infections and still hold misconceptions about transmission of the virus. Similarly, UNAIDS (2008) also reported that past studies have shown that only 40.0% of young men and 38.0% of young women had accurate and comprehensive knowledge of HIV. Although the percentage obtained in this study is higher than what obtained in the reports, it is still below the 90.0% target set to be achieved by 2005 (UNFPA, 2010). Chng (2005) and Akpabio *et al* (2007) had also identified gaps in HIV knowledge among secondary students in Akwa Ibom state, Nigeria. The findings is however in contrast to the report by Odu (2003) and Odu and Akanle (2008) who independently found a very high level of knowledge of key basic concept on HIV/AIDS and risk reduction among youths in South West. Odu and Akanle (2008) further observed that youths have misconceptions about the cure of the syndrome. The current study is supported by the report from the National HIV/AIDS Reproductive Health Survey Nigeria which indicated that accurate knowledge on key basic information on HIV/AIDS is generally low (FMOH, 2004). The finding indicates that it is of paramount importance to continue the yearly HIV/AIDS seminar organized by Student Union Government of University of Calabar with support of the authorities for all students. However noting the low turnout of students during such events, it very necessary to create other avenues at the faculty and departmental levels, to urgently expose undergraduates to learning experiences which would improve their knowledge of key issues in HIV/AIDS. It is hoped that this will close the knowledge gap. Additionally the results showed that previous encounter with PLWHA and experience of HCT were significantly, positively associated with level knowledge of undergraduates. This means that participants with previous experience with PLWHA and HCT were more knowledgeable compared to others. This view is supported by Pelzer, Nsewi and Mohan (2004). This implies that part of the learning experiences undergraduates should be exposed to include meeting fellow undergraduates who are PLWHA or even reflecting on their own relations/friends who may be living positively. Opportunity should be presented for undertaking HCT (HIV Counseling and Testing) during educational programmes focused at youths as this may enhance the learning experience.

The third specific objective guided collection of information on how the participants rated selected activities. Majority of the participants rated activities such as having multiple sexual partners, using contaminated needles and razor blade and transfusion of unscreened blood as high risk while about a fifth perceive them as a low or no risk

activities. Of note too is the fact that more than half of the participants did not perceive oral sex a high risk behavior, about a third of the participants did not consider breastfeeding by a PLWHA a high risk activity while almost half of the participants viewed body piercing, tattooing and acupuncture as low or no risk activities. On a general note, many of the participants perceived moderate to great risk of contracting HIV/AIDS. The risk perception may be related to their vulnerability (Boyd, Ashford, Haub and Cornelius, 2000; Herstad, 2000; Udoh, 2000). These findings are supported by past studies of University students' risk perception in relation to HIV/AIDS ((Joshi, Khatri, Rosyara, Malla, 2008; Huang, Bova, Kristopher, Fennie, Rogers and Williams, 2005; Trepka, Kim, Pekovic, Zamor, Velez, Gabaroni, 2004). The results further shows that some myths still exist among the students such as their view that touching a PLWHA, mosquito bites and sharing of personal effects are practices that are capable of transmitting HIV/AIDS. These misconceptions may be related to inadequate knowledge about the mode of transmission of the virus as reported by Chng (2005) and Akpabio et al (2007). The myths may as well be related to the fear of death associated with HIV/AIDS. These views are capable of generating fear which ultimately promote stigmatization and social distance as noted by Peltzer, Nsewi and Mohan (2004). The finding is in consonance with other studies on University students' perception of risky behaviour as noted by Haung *et al* (2005) and Joshi *et al* (2008). Furthermore in affirmation of the report on multiple sexual partners Chng (2005) noted that many Nigerians including University students do not perceive infection with HIV/AIDS as a serious illness which further decreases the likelihood of using preventive methods.

The results also revealed that most of the participants had positive attitudes towards PLWHA, contrary to the observation of Pelzer, Nsewi and Mohan (2004) who reported that University students stigmatizing attitudes towards PLWHA reduced their willingness to avail themselves of HIV testing. The finding that there is a significant positive association between previous voluntary HIV counseling and testing suggests that participants who have had previous encounter with PLWHA demonstrated more positive attitudes towards PLWHA compared to those who have not. The finding of the study is consistent with the finding in the study carried out by Peltzer, Nsewi and Mohan in (2004), who found that positive HIV testing attitudes were positively associated with contact readiness with PLWHA. It is noteworthy that HIV related knowledge and attitudes influence the use of condoms and other protective practices against HIV/AIDS as reported by Data bank (2005), Rahamefy et.al. (2008) and Chng 2005. It is therefore hoped that the positive attitudes observed in this study would translate into positive actions towards PLWHA.

The study sought to find out the level of social distance undergraduates were willing to maintain with PLWHA. The findings suggested that readiness of the participants to engage in personal contact with PLWHA was higher in the current study compared with what obtained in previous studies. For instance in the study carried out among Nigerian general population and youths only 43.8% females and 39.9% males would willingly care for a PLWHA who is a family member whereas 49.0% of the participants in this study would visit almost all PLWHA when admitted in hospital (FMOH, 2004) while 77.6% would willingly and freely care for their friend with HIV/AIDS. Correspondingly, still in same study only 23.0% males and 26.8% females believed a PLWHA who is a teacher should continue in the job while 36.0% participants in this study would choose almost all PLWHA as a partner for class assignment.

Furthermore, the findings of this study showed that overall, most of the participants desired moderate to severe distance towards PLWHA. This is in agreement with the observation of Deacon and Boulle (2006) who noted that HIV/AIDS is a highly stigmatized health condition and that PLWHA are most likely to be discriminated against more than other patients by the medical students. The activity which many 80 (49.0%) of the participants were prepared to engage in with PLWHA was visiting in

hospital. This tend to be consistent with the finding of Peltzer Nsewi and Mohan (2004) who observed that independent predictor of the readiness to engage in personal contact, with PLWHA were pity, irritation among African and American students. It could therefore mean that the participants were willing to connect with PLWHA in this activity because they are sympathetic towards them during illness. The study revealed that fewer participants were willing to undertake other activities like taking a walk, going on excursion, partnering with PLWHAs for a class assignment, taking lunch and attending night party. Majority 140 (85.0%) of the participants would not allow a PLWHA to be married to any of their close relations. This view is not a surprise since marriage is an intimate relationship, which may result in transmission of the virus to the relation. The participants view could be because they are protective of their relations' health.

The results of the study also showed that there was no significant association between gender and HIV related knowledge and attitudes; this result is not consistent with that of Chng (2005) who noted that gender differences in sexual attitudes and behaviour among Nigerians, contribute to the incidence of HIV/ AIDS. The statistical insignificance with regards to gender and HIV related knowledge and attitudes may be related to equal accessibility of participants of both sexes to the mass media and internet facilities in Calabar.

CONCLUSION

The proportion of participants in this study who had undertaken HCT was low. Furthermore, the study showed that the participants were not adequately informed about HIV/AIDS mode of transmission and related risky practices. The proportion that perceives no risk of contracting the virus is bothersome while most desire to maintain some distance with PLWHA. This stance could be related to lack of knowledge and experience with PLWHA. The study also showed that previous encounter with PLWHA and experience of HCT was positively associated with knowledge and attitudes of undergraduates towards PLWHA. It is therefore recommended when conducting sensitization seminars with the aim of improving KAP of HIV/AIDS and curbing the myths and stigma associated with HIV/AIDS among undergraduates, the programme should include opportunities for interactive sessions with PLWHA and exposure to HCT.

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