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CATCHING THEM YOUNG: ASSESSING KNOWLEDGE AND ATTITUDE REGARDING HIV/AIDS AMONG PRIMARY SCHOOL PUPILS IN CALABAR, NIGERIA.

Aniekan Etokidem[1,2], Wilfred Ndifon[1,2], Bassey Ikpeme[2] and Comfort Ekanem[3]

[1]*Department of Community Medicine, University of Calabar, Calabar, Nigeria*
[2]*Department of Community Medicine, University of Calabar Teaching Hospital, Calabar, Nigeria*
[3]*Ministry of Health, Calabar, Cross River State, Nigeria.*

CONTEXT

Nigeria has the second heaviest burden of Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome (HIV/AIDS) in Africa. There is growing debate in favor of starting HIV/AIDS education early in life in order to equip pupils with the knowledge and skills to delay sexual debut and to utilize appropriate preventive measures thereafter.

Objectives: To assess the knowledge and attitude of primary school pupils regarding HIV/AIDS and to determine their attitude towards People living with HIV/AIDS (PLWHAs).

Materials and Methods

A descriptive cross-sectional study carried out among primary schools pupils. A semi-structured self-administered questionnaire was used to collect data from 275 respondents in primary four to six. The study utilized multi-stage sampling method.

Results

Out of the 275 respondents recruited, 249 questionnaires were analyzable. Out of the 249 respondents, 116 (46.6%) were males while 133 (53.4%) were females. One hundred and eighty-seven (75.1%) respondents indicated that HIV /AIDS can be contracted through sexual intercourse; 50.1% indicated that it was caused by witches and wizards and 48% indicated that it was due to mosquito bite. More respondents in class six (11.7%) than those in class five (5.2%) and class four (0%) were willing to eat from the same plate with someone with HIV/AIDS. The difference was statistically significant (X^2=9.547, df=2, P=0.008). Similarly, more respondents in class six (12.5%) than those in class five (6.4%) and class four (0.4%) indicated that they would live in the same room with someone with HIV/AIDS. The difference was statistically significant (X^2=6.605, df=2, P=0.037).

Conclusion

Majority of respondents demonstrated gaps in knowledge of HIV/AIDS. Majority showed evidence of stigmatizing and discriminating attitude towards PLWHAs. Inclusion of HIV/AIDS education in the school curriculum and attitudinal re-orientation is recommended.

Keywords: HIV/AIDS, knowledge, attitude, primary school, pupils, Nigeria.

INTRODUCTION

The first diagnosis of Human Immunodeficiency Virus (HIV) was made in Nigeria in 1986.[1] The first National HIV prevalence survey conducted among antenatal clinic attendees in Nigeria showed a prevalence of 1.8%.[2] This was followed by a gradual increase to 3.8% in 1993, 4.5% in 1996, 5.4% in 1999 and 5.8 percent in 2001.[2] Thereafter, there was a decline to 5.0 % in 2003 and a further rise to 4.4 % in 2005.[1] This was followed by a rise to 4.6 % in 2008 and then a recent decline to 4.1 % in 2010.[2] The National Human Immunodeficiency Virus/

Corresponding Author: DR. ANIEKAN ETOKIDEM

Department of Community Medicine,
Faculty of Medicine,
University of Calabar, Calabar, Nigeria.
E-mail: etokidem@etokidem.com

Acquired Immune Deficiency Syndrome and Reproductive Health Survey (NARHS) conducted by the Federal Ministry of Health in 2013 among the general population shows a national HIV prevalence of 3.4%.[3] Nigeria currently has the second heaviest burden of human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) in Africa, after South Africa.[2] There are about 3.5 million Nigerians currently living with HIV/AIDS. There were 388,864 new infections, 217,148 AIDS deaths and 2,193,745 HIV/AIDS orphans in 2012.[2-3]

Cross River State had the highest HIV prevalence (12%) in Nigeria in 2003 and currently has a prevalence of 7.1% which is above the national prevalence of 4.1%.[1-2]

There is a growing debate in favor of starting HIV/AIDS education early in life, among primary school children who are not yet sexually active.[4] Most of the HIV/AIDS education programs in Nigeria tend to focus on youths aged 15 to 24.[5] As a result, there is paucity of life skills based HIV /AIDS education in Primary Schools in the country. To make matters worse, individuals and agencies have shown reluctance to work with young children regarding the promotion of HIV/AIDS education for fear that the program may fail.[6] Sexuality education (which incorporates HIV/AIDS education) is part of the school curriculum in Nigeria at the secondary school level. At the Primary school level, it is embedded in subjects such as Physical and Health Education and Social studies. This lack of emphasis may lead to poor knowledge and attitude regarding HIV/AIDS and people living with HIV/AIDS among primary school children. It is the belief that starting at this early age in the primary school and thereafter sustaining it through secondary school to tertiary levels of education is one of the best ways of guaranteeing an HIV-free Nigeria.[7] Another compelling argument in favor of starting HIV/AIDS education at the primary school level is that at this stage, the children are easily amendable to moulding.[6]

Children are sometimes enticed into sexual risk-taking behavior by adults while some are outrightly sexually abused.[8] All these predispose them to STIs, including HIV. Children may also contact HIV through sharing of sharp instruments with infected persons.[9] In sub-Saharan Africa, about 80% of HIV transmission is due to hetero-sexual intercourse.[10] The World Health Organization, in 2002, reported that worldwide, at least 150 million girls and 73 million boys under 18 had been subjected to forced sexual intercourse or some other forms of sexual violence involving physical contacts.[11]

A review covering a 24- year period between 1980 and 2005 found that 70-79% of abused children with a mean age of 8 years had experienced penetrative sex.[12] A related study in 2004 also found that about 0.6-1.8% of children aged less than 18 years were subjected to penetrative sexual intercourse by an HIV-positive abuser.[13]

Despite all these, children would often not disclose their sexual abuses to their parents or adults, who may be in a position to caution them. More often than not, they would report to a friend or a peer. Some children may not report abuse for fear of punishment by the abuser or even by their parents or due to shame.[14-15]

Various studies have found knowledge gaps and myths and misconceptions regarding HIV/AIDS among primary school pupils that need to be addressed. A study carried out in Port Harcourt metropolis in Rivers State of Nigeria found that only 47.6% of primary school pupils interviewed knew the correct meaning of AIDS. The study also documented that nearly 50% of the respondents knew that AIDS was transmitted sexually and only 1.3% knew about vertical transmission.[16] In a related study done in Rural Kisarawe, in Tanzania, it was found that 81% of the respondents had good overall knowledge of HIV/AIDS while, regarding HIV/AIDS and its transmission, 38% of the respondents were fully aware while 49% knew condom use and abstinence as methods of STD prevention.[17] Another study found that the main source of HIV/AIDS information among primary school pupils studied in Iran was TV and Radio as indicated by 66.8% of the respondents.[18] The same study also found some knowledge gaps as 33.7% of respondents indicated that there is a cure for HIV/AIDS, 63.4% indicated that there is an effective vaccine for the prevention of HIV transmission.[18] Other misconceptions found among the pupils included believe that HIV can be transmitted through water and food.[18] Similar misconceptions regarding the transmission of HIV

was expressed in a study among Primary School pupils in Ethiopia where researchers found that 32.2% of respondents indicated that HIV can be transmitted through mosquito bite.[19]

Objectives: The objectives of this study were to assess the knowledge and attitude of primary school children regarding HIV/AIDS and its prevention and to determine their attitude towards people living with HIV/AIDS.

MATERIALS AND METHODS

Study area

This study was carried out in Calabar, the capital of Cross River State of Nigeria. The state is one of the states in the Niger Delta Region of Nigeria. Calabar is made up of two Local Government Areas (LGAs) namely, Calabar South and Calabar Municipality.

Study design

This was a descriptive, cross-sectional study carried out among primary school pupils in classes 4 to 6.

Sample size determination

The sample size was calculated using the Cochran formula. This formula has been found useful in determining single proportions in descriptive studies.[20]

In a study by Owusu (2010), it was found that 79.5% of primary school pupils studied had positive attitude towards PLWHAs.[21] Thus, the proportion with the desired positive attitude was taken as 0.795. The calculated sample size was 250. Allowing for 10% attrition rate, a total of 275 respondents were recruited.

Sampling methodology

The study involved multi-stage sampling. In the first stage, three primary schools were selected from Calabar South LGA and three from Calabar Municipality. A list of all the primary schools in Calabar South LGA was used as the sampling frame. Sampling interval was calculated and a table of random numbers was used to select three primary schools in Calabar South. Using a similar procedure, three primary schools were also selected in Calabar Municipality. The second stage sampling took place at the level of the six participating schools. In each school, pupils in all arms of classes four to six who were present in school were assembled and sampling interval was calculated. This was done separately for classes four, five and six. The sample size was proportionately allocated to each class such that the senior classes had more participants than the junior classes. Thus, primary six had more respondents than primary five which in turn had more respondents than primary four. The pupils were thereafter sampled using systematic random sampling. A total of 275 pupils were thus selected as respondents from the six participating schools.

Inclusion and Exclusion criteria: Pupils whose parents signed and gave them the consent forms to return and who themselves gave assent were included in the study while those whose parents did not complete and return the forms were excluded. Pupils in primaries one to three were excluded from the study.

Study instrument

A semi-structured self-administered questionnaire was used to collect data from pupils in classes four to six in their schools. The instrument contained questions on pupils' socio-demographic characteristics, their knowledge of HIV/AIDS and attitude towards people living with HIV/AIDS. The instrument was administered to the pupils in their schools.

Data analysis

Data obtained from the study were analyzed using SPSS version 20. Results were presented in tables as frequencies and percentages. Association between categorical variables was explored using chi-squared test.

Ethical clearance

Ethical clearance for this study was obtained from the Cross River State Health Research Ethics Committee. Parents or guardians of the pupils gave written consent while the pupils gave assent.

RESULTS

Socio-demographic characteristics of respondents.

Sixteen questionnaires were not returned while ten

were not properly filled. The remaining 249 questionnaires were analyzed. The age range of the respondents was 7 to 19 while the mean age was 10 + 1.8 years. Majority of the pupils, 133(53.4%) were females while 116 (46.6%) were males. Similarly, majority, 246(98.8%) were Christians; 100 (40.2%) pupils were of the Efik tribe. (Table 1).

Respondents' knowledge regarding HIV/AIDS.
All the respondents indicated that they had prior knowledge of HIV/AIDS. For 122 (49%) respondents, their first source of information about HIV/AIDS was television while 40 (16.1%) heard from a school teacher. One hundred and eighty-seven (75.1%) respondents indicated that HIV can be transmitted through sexual intercourse while 120 (48%) indicated that it was contacted through mosquito bite (Table 2).
Regarding ways of preventing HIV transmission, abstinence from sex was the method indicated by

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Variable	Frequency	Percent
Age Group		
5--9	116	46.6%
10-14	130	52.2%
15-19	3	1.2%
Sex		
Male	116	46.6%
Female	133	53.4%
Religion		
Christianity	246	98.8%
African Traditional Religion	3	1.2%
Tribe		
Efik	100	40.2%
Ibibio	23	9.2%
Ejagham	17	6.8%
Annang	13	5.2%
Igbo	36	14.5%
Oron	5	2.0%
Bekwara	3	1.2%
Others	52	20.9%

TABLE 2: RESPONDENTS' KNOWLEDGE REGARDING HIV/AIDS

Knowledge-related question	Frequency	Percent
Have you ever heard about HIV/AIDS?		
Yes	249	100%
What was your first source of information about HIV/AIDS		
Television	122	49.0%
School teacher	40	16.1%
Radio	45	18.1%
Parents	38	15.2%
Brother/Sister	2	0.8%
Friend	1	0.4%
Others	1	0.4%
What are the ways of contacting HIV*		
Sexual intercourse	187	75.1%
Witches and wizards	125	50.1%
From the devil	100	40.2%
As punishment from God	50	20%
From mother to child	92	37.0%
Transfusion of unscreened blood	120	48%
Through mosquito bite	120	48%
Female circumcision	17	7%
Sharing of sharp instruments	130	52%
Is there a cure for HIV/AIDS?		
Yes	129	51.8%
No	120	48.2%

*Multiple responses were allowed.

150 (60.2%) respondents, while 48 (19.3%) indicated that HIV transmission can be prevented by sleeping under mosquito net. Multiple responses were allowed (Figure 1). Regarding the causative agent of HIV, 48.2% of respondents indicated that it is caused by a virus while 28.9% indicated that it is caused by malaria parasite (Figure 2).

Association between sex and attitude of respondents towards people living with HIV/AIDS.

As shown in table 3, although more females (9.6%) than males (7.2%) indicated willingness to eat from the same plate with someone with HIV/AIDS, the difference between both sexes was not statistically significant (X^2=0.282, df=1, P=0.595). Conversely, more males (12.9%) than females (11.6%) indicated willingness to befriend a classmate with HIV/AIDS. The difference between both sexes was not statistically significant (X^2=1.120, df=1, P=0.290).

Association between class of respondents and attitude towards people living with HIV/AIDS.

As shown in table 4, with respect to eating from the same plate with someone with HIV/AIDS, none of the respondents in class four, 13 (5.2%) respondents in class five and 29 (11.7%) respondents in class 6 indicated that they would do so. The difference was statistically significant (X^2=9.547, df=2, P=0.008). Only 1 (0.4%) respondent in class 4; 16 (6.4%) respondents in class 5 and 31 (12.5%) respondents in class 6 indicated that they would live in the same room with someone with HIV/AIDS. The difference was statistically significant (X^2=6.605, df=2, P=0.037).

TABLE 3: ASSOCIATION BETWEEN SEX AND SOME ATTITUDE VARIABLES

Outcome variable	Independent variable		Total	Chi Square	df	P-value
	Sex					
Would you eat from the same plate with someone with HIV/AIDS?	Male	Female				
Yes	18 (7.2%)	24 (9.6%)	42(16.8%)			
No	98 (39.4%)	109 (43.8%)	207 (83.2%)	0.282	1	0.595
Total	116 (46.6%)	133 (53.4 %)	249(100 %)			
Would you live in the same room with someone with HIV/AIDS?						
Yes	24 (9.6%)	24 (9.6%)	48(19.2%)			
No	92 (37%)	109 (43.8%)	201(80.8%)	0.278	1	0.598
Total	116 (46.6%)	133 (53.4%)	249 (100%)			
Would you sit on the same bench with a pupil with HIV/AIDS?						
Yes	30 (12.1%)	35 (14.0%)	65 (26.1%)	0.007	1	0.935
No	86 (34.5%)	98(39.4%)	184(73.9%)			
Total	116(46.6%)	133(53.4%)	249(100%)			
Would you shake hands with someone with HIV/AIDS?						
Yes	30 (12.1%)	31 (12.4%)	61(24.5%)	0.218	1	0.640
No	86 (34.5%)	102 (41%)	188(75.5%)			
Total	116(46.6%)	133(53.4%)	249(100%)			
Would you be a friend of a classmate with HIV/AIDS?						
Yes	32 (12.9%)	29 (11.6%)	61(24.5%)			
No	84 (33.7%)	104 (41.8%)	188(75.5%)	1.120	1	0.290
Total	116(46.6%)	133(53.4%)	249(100%)			

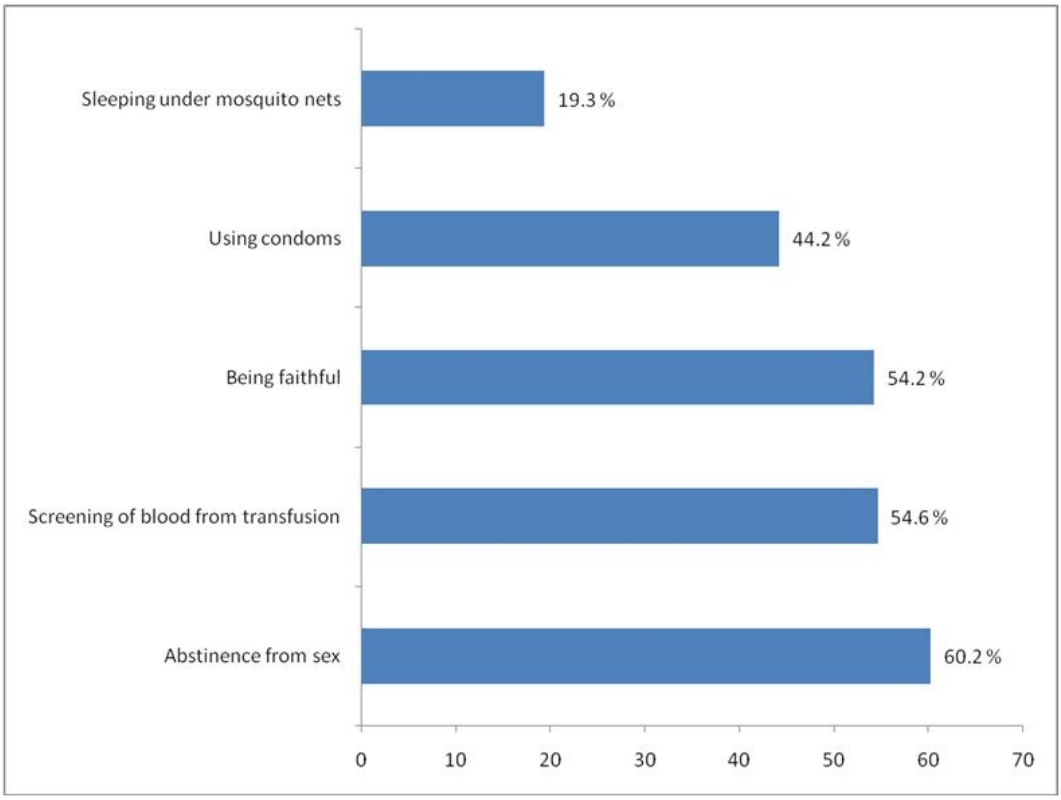

Figure 1: Ways of preventing HIV infection*.

Multiple responses allowed*

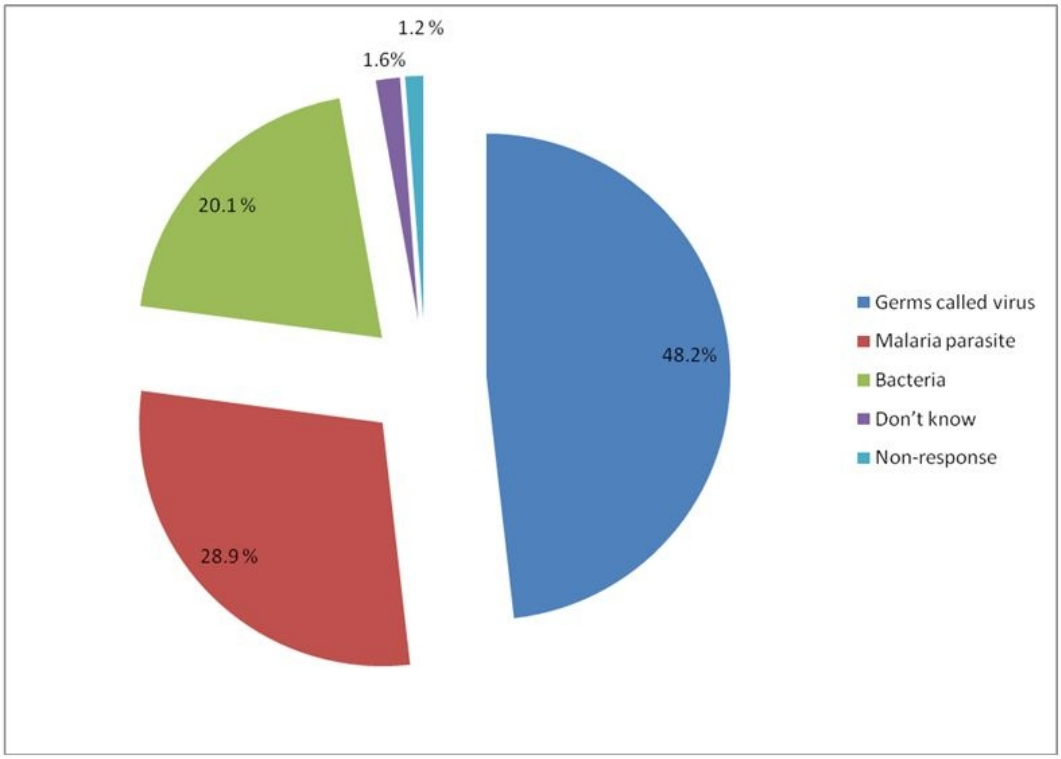

Figure 2: The cause of HIV infection

TABLE 4: ASSOCIATION BETWEEN CLASS OF STUDY AND SOME ATTITUDE VARIABLES

Outcome variable	Independent variable: Class 4	5	6	Total	Chi square	df	P-value
Would you eat from the same plate with someone with HIV/AIDS?							
Yes	0 (0%)	13 (5.2%)	29 (11.7%)	16.9%			
No	22 (8.8%)	90 (36.1%)	95 (38.2%)	83.1%			
Total	22(8.8%)	103(41.3%)	124(49.9%)	100%	9.547	2	0.008
Would you live in the same room with someone with HIV/AIDS?							
Yes	1 (0.4%)	16 (6.4%)	31 (12.5%)	48(19.3%)			
No	21(8.4%)	87 (34.9%)	93 (37.4%)	201(80.7%)	6.605	2	0.037
Total	22(8.8%)	103(41.3%)	124(49.8%)	249(100%)			
Would you sit on the same bench with a pupil with HIV/AIDS?							
Yes	0(0%)	23 (9.2%)	42 (16.9%)	65(26.1%)			
No	22(8.8%)	80 (32.1%)	82 (33%)	184(73.9%)	12.410	2	0.002
Total	22(8.8%)	103(41.3%)	124(49.9%)	249(100)			
Would you shake hands with someone with HIV/AIDS?							
Yes	0 (0%)	17 (6.8%)	44 (17.8%)	61(24.6%)	18.787	2	0.000
No	22 (8.8%)	86 (34.5%)	80 (32.1%)	188(75.4%)			
Total	22(8.8%)	103(41.3%)	124(49.9%)	249(100%)			
Would you be a friend of a classmate with HIV/AIDS?							
Yes	0 (0%)	21 (8.4%)	40 (16.1%)	61(24.5%)			
No	22 (8.8%)	82 (33%)	84 (33.7%)	188(75.5%)	12.116	2	0.002
Total	22(8.8%)	103 (41.4%)	124(49.8%)	249 (100%)			

DISCUSSION

All the pupils interviewed had heard about HIV/AIDS prior to the study. This is a very healthy development. This finding is comparable to that of a Tanzanian study which found that almost all pupils from the three primary schools studied had heard about HIV/AIDS.[22]

Concerning source of information regarding HIV/AIDS, while 49% of the respondents learnt about it from the television, 15.2% learnt about it from their parents. The proportion that learnt about HIV/AIDS from their parents is high when compared to the 9.4% found in a similar study in Ethiopia.[19] However, both proportions are low compared to the 35% reported in a study among primary school pupils in the North Central zone of Nigeria.[23] The low proportion of pupils who learnt about HIV/AIDS from their parents in this study and the related Ethiopian study is worrisome considering the fact that parents are supposed to be their children's first teachers.[24-25]

Majority of the respondents (75.1%) indicated that

sexual intercourse was the main mode of transmission of HIV. This is similar to the finding of a related study in North Central Nigeria which showed that most of the respondents identified sexual intercourse as the main mode of transmission.[23] About 50% of respondents indicated that HIV/AIDS is caused by witches and wizards. Although this is worrisome, it is not unexpected because belief in the ability of witches and wizards and other evil forces to cause sickness is rife in this part of the country. An earlier study in Calabar found that 30% of youths believed that HIV/AIDS is caused by witchcraft.[26] Similarly, the Communication for Change project also found that youths in Cross River and Kogi states believe that an enemy can "conjure" HIV on someone from the witchcraft world.[27] Such misconception can easily pass from the youths to the primary school pupils in the course of interaction with each other. Belief in the ability of witches and wizards to transmit HIV is not limited to Nigeria. A study in Ghana found that 61.7% of primary school children studied indicated that HIV could be transmitted by witches and wizards.[14]

Although 58.2% of respondents indicated that HIV/AIDS was caused by a germ called virus, 28.9% indicated that it was caused by malaria parasite. In a related study in Ethiopia, 32.2% of primary school pupils interviewed indicated that HIV can be transmitted through mosquito bite.[19] A related study in Ghana found that 48.4% of respondents indicated that HIV is transmitted by malaria parasite.[21] This misconception has its implications. UNAIDS had noted that: *"the belief that HIV is transmitted through mosquito bites can weaken the motivation to adopt safer sexual behavior".*[29]

Majority of respondents indicated that they would not eat from the same plate with someone with HIV/AIDS. However, a related study found that generally, 52.5% of primary school pupils studied knew that HIV cannot be transmitted through sharing food with someone with AIDS.[21] UNAIDS had opined that: *"the belief that HIV can be transmitted through sharing food reinforces the stigma faced by people living with AIDS".*[30]

Most respondents indicated that they would not live in the same room with someone who has HIV/AIDS. These findings indicate that the pupils have poor attitude towards people living with HIV/AIDS. With this kind of attitude, these pupils are likely to discriminate against and stigmatize people living with HIV/AIDS. In a related study, majority of primary school pupils were not willing to buy vegetables from someone with HIV/AIDS.[21] Another study also found that 70.8% of respondents would not buy wares from someone living with HIV/AIDS.[21] In a related study in Calabar, Nigeria, it was found that 38.1% of school children would not want AIDS patients to be taken care of at home.[31] This is worrisome especially because in this part of the world, children are often required to provide some form of care for the sick. Children could be required to help with minor domestic chores like fetching water, washing plates and preparing food. Pupils in the higher classes appeared to have better attitude towards PLWHAs than those in the lower classes. This could be because with age and as they advance in their studies, the pupils become more mature in their reasoning and also have better understanding of how HIV can and cannot be transmitted. It is in a bid to stem the tide of stigma and discrimination against people living with HIV/AIDS in the state that the Cross River state government recently enacted the HIV/AIDS Anti-Stigmatization law.

CONCLUSION

The identified gaps in knowledge and attitude regarding HIV/AIDS and people living with HIV/AIDS is not unexpected given the little emphasis placed on HIV/AIDS education in primary school curriculum. The Ministry of Education should review the primary school curriculum to ensure a rich content of HIV/AIDS education. Parents should give their children basic HIV/AIDS education at home. Both parents and teachers should carry out attitudinal orientation and re-orientation of the children. These measures will address the identified gaps and ensure that these children grow up with the right attitude towards PLWHAs. Such children would also grow up to be advocates of the Cross River State HIV/AIDS Anti-stigmatization law.

Conflict of interest disclosure: The authors hereby declare that they have no conflict of interest to disclose.

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