

HIV/AIDS awareness among secondary schools' adolescents in south-western Nigeria: A correlate to strengthen advocacy and strategic sexuality education programs

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Abstract: *Background:* The magnitude of the HIV epidemic and the prevailing lack of sexual health interventions targeting young people in sub-Saharan Africa calls for a wider awareness and strategic approach-based advocacy. Although adolescents are pivotal to manpower development and technological advancement in Nigeria, HIV epidemic is on the increase among this vulnerable group due to lack of sexuality education and rightful intervention programs. *Design:* This is a cross-sectional descriptive study. *Objective:* The main objective of the study was to determine the level of awareness, knowledge and attitude towards HIV/AIDS among secondary school students in Atisbo Local Government Area, Nigeria. *Methods:* Two-stage clustered sampling method was deployed to recruit participants into the study. *Instrument:* A pilot-tested questionnaire developed from review of literatures was administered on 343 participants upon their consent. *Result:* The Mean age of the participants was 16 ±2 years and nearly two-third (209, 63.0%) of them were females. The study discovered that half of the participants (165, 50.9%) live with both parents and a little more than one-third (113, 34.5%) belong to well-educated parents. Most participants (296, 91.9%) were quite aware of HIV/AIDS and about a quarter (79, 24.2%) of them have had sexual encounter. A greater portion of them (213, 64.9%) discuss sexual matters with their parents and the majority (205, 63.9%) would care for their HIV/AIDS positive relatives. Overall, father's education, discussion of sexual matters with parents and age were all associated with participants' awareness and behaviour toward sex and sexuality, HIV/AIDS and people living with HIV/AIDS. *Conclusion:* The surveyed secondary school students possess relatively good knowledge of HIV/AIDS, reasonable sexual practices and positive attitude towards sexuality, HIV/AIDS and people living with HIV/AIDS. Social settings and parental sexuality communication as a result of educational attainment, played significant roles in the attitude of their children. Efforts should be intensified to provide more comprehensive information on sexuality and HIV/AIDS through the mass media. This possibly will improve students' attitudes toward abstinence, safer sex and behaviour toward people already infected with HIV/AIDS.

Keywords: Adolescent, Awareness, Attitude, Comprehensive Knowledge, Health Information, HIV/AIDS, Knowledge, Medical Confidentiality, Nigeria

1. Introduction

Human immunodeficiency virus (HIV) is a retrovirus that infects cells of the immune system, destroy or impair their function and it is the aetiology of the epidemic disease - acquired immune deficiency syndrome (AIDS) [1]. Since its discovery among New York and California homosexuals in 1981 and as subsequently discovered in Nigeria by 1986 [2], HIV infection and AIDS's epidemic has attracted a global importance and there is a need to strategize and re-chart efforts to focus adolescents, on whose most new infections occur [3]. HIV/AIDS has become the leading cause of death in Africa and it is responsible for one in every five deaths in sub-Saharan Africa [2]. It is also the leading cause of death and disease burden among women of reproductive age (15 – 49 years) in Nigeria [4]. Some section of the world's population have little or no control over their sexual lives and childbearing, others engage in behaviour that puts them and their partners at risk, while yet others simply do not have access to the right kind of information and services [5]. The magnitude of HIV epidemic and current evidence of relative lack of sexual health interventions targeting young people in sub-Saharan Africa calls for wider awareness and strategic approach-based advocacy.

Global public health campaigns offer great potentials to raise awareness and understanding about health issues. The World Health Organization initiated annual World AIDS Day since 1988 and there have been national and regional HIV/AIDS awareness initiatives across the globe [6]. In Nigeria, media campaign by VISION and its partners is reaching a large portion of the target population, and exposure to these mass media programs can help increase HIV/AIDS awareness [7] especially, among adolescents at secondary schools. Major aspects of reproductive ill-health arise first during adolescence. It is a time when behaviours are adopted, which may have major consequences later on. A study from Ghana [8] raised important concerns about the reluctance of senior high school girls to use condoms as a preventive measure and the need to reorient HIV/AIDS awareness interventions among them. Similarly, another study [9] reported low levels of awareness and knowledge of STIs among adolescents. Conversely, researchers have reported that 99% of secondary school students in a Kenyan study indicated that they have heard about AIDS [10] and about a quarter had comprehensive HIV/AIDS knowledge in Ethiopia [11]. In the same vein, sexuality education and communication between parents and their children has been identified [12] as a protective factor for sexual and reproductive health among adolescents. Therefore, stakeholders such as parents and teachers should be involved in sexuality education of their wards right from the design of the intervention [3].

Sexuality education aims to reduce the risks of negative outcome from sexual behaviour. Parent-child sexuality communication has been identified as a protective factor for adolescent sexual and reproductive health, including HIV

infection [13]. Likewise, school-based sexuality education is an effective medium to convey health information and skills about preventing STIs especially, HIV/AIDS and unwanted pregnancies among adolescents [14]. As such, the role of family as a source of accurate HIV knowledge transmission routes and prevention strategies is of paramount significance. However, Dimbuene & Defo [13] reveals that families have been poorly integrated in the design and implementation of the first generation of HIV interventions and opined that there is an urgent need for policymakers to work together with families to improve the efficiency of these interventions. Studies have shown that comprehensive HIV/AIDS knowledge is associated with communication with guardians or parents and peers about sexual topics [15, 13]. However, some African countries considered it a taboo for teachers and parents to talk with children about sexual matters including STDs in schools and at home because of cultural and religious barriers [16]. Political pressure also keeps sexuality education out of classrooms as there is disagreement over what to teach, by whom, and to what extent [16].

1.1. Aim of the Study

Students are pivotal to manpower development and technological advancement of any nation. However, the epidemic of HIV/AIDS among the adolescent students is on the increase in Nigeria and sexuality education which is not always available, remains a rightful intervention program. Therefore, this study sought to determine awareness, knowledge and behaviour of students towards HIV/AIDS among secondary school students in Atisbo Local Government Area, Nigeria.

2. Methods

2.1. Background to the Study Areas

The study was carried out at six selected secondary schools in Atisbo Local Government Area (LGA) of Oyo State, Nigeria. Atisbo is an acronym formed from seven major settlements that made up the area. These include Agoare, Tede, Irawo, Sabe, Baasi and Ofiki/Owo. Tede is the headquarters of the LGA. The LGA has an area of 2,997 km², and according to the 2006 report of the National Population Commission, had an estimated population of 110,792 and a density of 36.7 inh./km² (Wikipedia). The Local Government comprises of ten political wards with ten public and two private secondary schools. Each of the public schools has both junior and senior classes while the private schools only run junior secondary classes. Six of these twelve schools were randomly selected from six wards and they include:

- 1 Progressive Secondary School, Tede (public)
- 2 Christ Comprehensive Secondary School, Agoare (public)
- 3 Comprehensive Secondary School, Irawo (public)

- 4 Community Secondary School, Owo (public)
- 5 Sharon Rose College, Agoare (private)
- 6 Gad Academy Secondary School, Tede (private)

2.2. Study Design

This is a cross sectional study conducted among schooling adolescents in Atisbo Local Government Area in 2014.

2.3. Study Population

Study participants include students of Junior Secondary Class III and all students of Senior Secondary classes in the six selected schools regardless of their ages.

2.4. Data Collection Tools

The questionnaire was developed by the authors from review of relevant literatures. The tool is divided into four basic sections which include nine items on participants' socio-demographic characteristics, twenty four items on knowledge on HIV/AIDS, twelve questions on sexual practices and HIV/AIDS and ten items which determine participants' attitude towards HIV/AIDS. Data collection exercise took place between 13th and 21st January 2014.

2.5. Sampling Technique and Sample Size

The study deployed a two-stage clustered sampling method wherein primary sampling units were schools. In the second stage, eligible classes within the school were randomly selected. All the students were given the opportunity to participate and 343 of them gave their consent. Online sample size calculation software (www.surveysystem.com/sscalc.htm) was used to compute the sample size.

2.6. Inclusion and Exclusion Criteria

All senior secondary school students in the selected schools were eligible, including students in the junior secondary school III. Students at the junior secondary I & II were excluded.

2.7. Data Analysis and Management

The statistical software SPSS V19.0 (2010) was used to analyze the data. Categorical data was expressed as proportions and percentages while continuous variables, were expressed as mean \pm standard deviation. Association between categorical variables was expressed using Chi square (χ^2) and test of statistical significance (p -value) was set at $p=0.05$.

2.8. Ethics

Permission was sought from principals of the selected schools after detail explanation of the purpose of the study. Subsequently, a clearly worded informed consent was made available to the participants and the study detail was vividly explained to them with a view to obtaining their consent

before the administration of questionnaire.

3. Results

3.1. Socio-Demographic Characteristics

Three hundred and thirty two (96.8%) of the 343 questionnaires were returned. Female constituted nearly two-third (209, 63.0%) of the participants and the majority of the participants (297, 89.5%) were between fourteen and nineteen years old, with a Mean age of 16 ± 2 years. One quarter (83, 25.0%) of the participants were in senior secondary II with relative percentages in the three other classes (JS III, 23.3%; SS I, 24.1%; and SS III, 27.7%). A little above half (165, 50.9%) of the participants live with both parents and more than one-third (113, 34.5%) belong to well-educated parents [34.9% of fathers and 34.0% of mothers possess tertiary education).

3.2. Awareness on HIV/AIDS and Sexuality Education among Participants

Of the 322 secondary students in the study, Table 1 below shows that the majority (296, 91.9%) have heard about HIV/AIDS mostly (141, 42.5%) from their school teachers while a small segment (42, 12.7%) heard about it through mass media. A greater portion of the participants (213, 64.9%) discuss sexual matters with their parents and the majority (314, 95.7%) received sexuality education from their various schools. Newspaper was most selected (266, 83.6%) as a suitable platform for disseminating sexuality education among the participants. There was association between awareness and the following: teachers as the major source of awareness ($p=.000$); discussing sexuality with parents ($p=.009$); sexuality education from school ($p=.030$) and the choice of newspaper as the best platform for advocacy ($p=.000$).

3.3. Basic Knowledge of HIV/AIDS Pathogenesis

Basic knowledge about transmission, cure and some misconceptions about HIV/AIDS are illustrated on Table 2 below. In every ten of the surveyed students, eight (266, 80.6%) knew that HIV/AIDS is transmitted through sexual intercourse and more than two-third (217, 68.0%) of participants knew that HIV/AIDS is still transmissible irrespective of the manifestation of symptoms. Of all participants, almost two-fifth (126, 39.3%) held the misconceptions that witchcrafts can cause HIV/AIDS, a significantly smaller portion (50, 15.5%) did not agree to the fact that proper use of condom can prevent HIV/AIDS and a discernible number (43, 13.8%) were not sure whether or not herbal medicine could cure HIV/AIDS. Father's education attainment, discussion of sexuality with parents and sexuality education at school were all associated ($p=.000$) with knowledge of HIV/AIDS among participants.

Table 1. Awareness of HIV/AIDS and sexuality education

	Class or level				Yes (%)	No (%)
	JS III (%)	SS I (%)	SS II (%)	SS III (%)		
<i>Awareness</i>						
Had sexuality education in school (n=328)	76(24.2)	76 (24.2)	79 (25.2)	83 (26.4)	314(95.7)	14 (4.3)
Discuss sexual matter with parents (n=328)	25(11.7)	69 (32.4)	62 (29.1)	57 (26.8)	213(64.9)	115(35.1)
Have heard about HIV/AIDS (n=322)	70(23.6)	76 (25.7)	72 (24.3)	78 (26.4)	296(91.2)	26 (8.1)
<i>Sources of awareness</i>						
Teachers (n=332)	47(33.3)	28 (19.9)	22 (15.6)	44 (31.2)	141(42.5)	191(57.5)
Health workers (n=332)	25(21.7)	30 (26.1)	23 (20.0)	37 (32.2)	115(34.6)	217(65.4)
Parents and family members (n=322)	1 (1.1)	37 (41.6)	16 (18.0)	35 (39.3)	89 (26.8)	243(73.2)
Friends and classmates (n=322)	3 (6.8)	12 (27.3)	6 (13.6)	23 (52.3)	44 (13.3)	288(86.7)
Mass media (n=322)	0 (0)	9 (21.4)	15 (35.7)	18 (42.9)	42 (12.7)	290(87.3)
<i>Suitable means of further sexuality education</i>						
Newspaper and magazine (n=318)	72(27.1)	64 (24.1)	53 (19.9)	77 (28.9)	266(83.6)	52 (16.4)
Teachers (n=318)	69(27.5)	59 (23.5)	53 (21.1)	70 (27.9)	251(78.9)	67 (21.1)
Family and friends (n=317)	53(23.9)	54 (24.3)	48 (21.6)	67 (30.2)	222(70.0)	95 (30.0)
TV shows and movies (n=317)	67(27.0)	64 (25.8)	48 (19.4)	69 (27.8)	248(78.2)	69 (21.8)
The internet (n=316)	67(27.7)	53 (21.9)	48 (19.8)	74 (30.6)	242(76.6)	74 (23.4)

Table 2. Basic knowledge of HIV/AIDS pathogenesis

Knowledge item	Knowledge impact					Total
	Strongly agreed (%)	Agreed (%)	Disagreed (%)	Strongly disagreed (%)	Don't know (%)	
HIV/AIDS can be transmitted from mother-to-child	91 (27.5)	141 (42.6)	42 (12.7)	16 (4.8)	41 (12.4)	331
HIV/AIDS is transmitted through sexual intercourse	144 (43.6)	122 (37.0)	32 (9.7)	13 (3.9)	19 (5.8)	330
HIV/AIDS is transmitted by handshaking	23 (7.0)	39 (11.9)	137 (41.9)	96 (29.4)	32 (9.8)	327
HIV can live in the body for 10 – 15 years before being detected	67 (20.6)	124 (38.2)	41 (12.6)	25 (7.7)	68 (20.9)	325
HIV/AIDS is transmitted through bodily fluids	145 (44.9)	122 (37.8)	20 (6.2)	17 (5.3)	19 (5.9)	323
HIV/AIDS can be prevented with the proper use of condom	124 (38.5)	135 (41.9)	37 (11.5)	13 (4.0)	13 (4.0)	322
Witchcraft can cause HIV/AIDS	55 (17.1)	71 (22.1)	67 (20.9)	72 (22.4)	56 (17.4)	321
Symptoms may not be present but, HIV/AIDS is still transmissible	103 (32.3)	114 (35.7)	44 (13.8)	23 (7.2)	35 (11.0)	319
HIV/AIDS can be prevented by not sharing needle, syringe and razor	141 (44.2)	119 (37.3)	27 (8.5)	11 (3.4)	21 (6.6)	319
HIV/AIDS can be cured with herbal medicine	38 (12.2)	70 (22.4)	83 (26.6)	78 (25.0)	43 (13.8)	312
HIV/AIDS can be avoided by being faithful with one partner	116 (37.2)	93 (29.8)	52 (16.7)	16 (5.1)	35 (11.2)	312
Cure exists for HIV/AIDS	61 (19.6)	101 (32.5)	66 (21.2)	40 (12.9)	43 (13.8)	311

3.4. Comprehensive Knowledge of HIV/AIDS among Participants

Knowledge about various groups at risk of HIV/AIDS infection is presented in Fig 1below. The majority (258, 79.4%) of the participants correctly acknowledged that those with multiple sexual partners are at risk of contracting HIV/AIDS, half of the participants (161, 50.3%) indicated that drug addicts are at risk while a simple majority (151, 51.0%) admitted that everybody irrespective of precautions could still contract HIV/AIDS.

3.5. Participants' Sexual Experience

A major index of sexuality education, sexual perversion and self-restraint with regards to HIV/AIDS is sexual intercourse. Figure 2below clearly shows that nearly a quarter of the participants (79, 24.2%) have had sexual intercourse. Discussion of sexuality issues with parents ($p=.000$) and age ($p=.005$) were associated with whether

participants had sex or not.

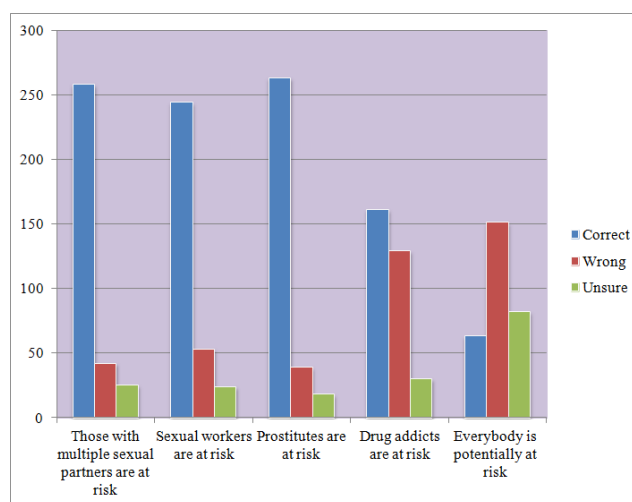


Fig 1. Comprehensive knowledge of HIV/AIDS

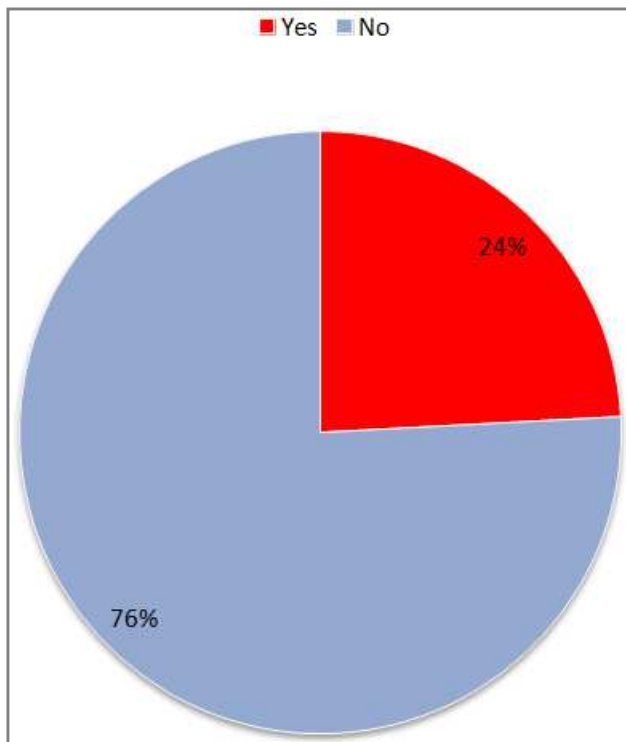


Fig 2. Sexual encounter among participants

3.6. Sexual Attitudes and Practices among Participants

One-fifth of the participants (66, 20.4%) used condom in their first sexual encounter, many of them (173, 53.1%) promised to use condom in future sexual relationships, while a reasonable percentage (191, 58.8%) emphasized that they would not have sexual intercourse with whosoever is averse to condom use. Notably, few of them (27, 8.6%) have had sexual intercourse under the influence of alcohol. Participants showed good disposition to people living with HIV/AIDS (PLWHA) as the majority (205, 63.9%) indicated that they would care for their HIV/AIDS relatives even in the same house. However, nearly two-fifth (116, 36.0%) of the participants would consume food prepared by an HIV/AIDS food vendor. Furthermore, a greater portion (187, 57.4%) of the students advocated that teenagers should stop sex without marriage and three in every five (192, 59.8%) of them reiterated that the risk of getting infected with HIV/AIDS should be enough to deter teenage sexual encounter without marriage. Father's education attainment ($p=0.021$), discussion with parents ($p=0.000$) and age ($p=0.032$) were all associated with participants' attitude.

4. Discussion

Effective HIV/AIDS awareness and knowledge as obtainable through sexuality education from teacher to students, and from parent to child has the potential to improve the public's attitude towards sexual activities in relation to HIV/AIDS and other STIs. This tends to change the public's sexual orientation and repeal the current threats to public health and healthcare services occasioned by

ignorance, unwholesome practices and negative attitude toward HIV/AIDS and PLWHA. Major factors that contributed to the level of awareness, knowledge, sexuality practices and the way adolescents in this study behave towards HIV/AIDS and related matters were father's education, discussion of sexual matters with parents and age. For instance, 92% of participants whose father's education attainment was high have heard about HIV/AIDS. Similarly, 81% have heard about HIV/AIDS through discussion of sexual matter with parents. Statistically, father's education was associated ($p=0.000$) with knowledge of HIV/AIDS transmission, discussion of sexual matters with parents ($p=0.000$) was associated with sexual encounters as 58% of those who had ever discussed sexual matters with their parents never had sex. In actual fact, fathers' role in child's development is quite pertinent and the higher the education attainment, the better their level of awareness and orientation on HIV/AIDS, and the worthier the training they offer to their children. *Charity-begins-at-home* they say, as a first source of education to the children, much is expected from the parents especially, the father whose leadership role is expected to determine the pattern of the household.

The social setting of our study's participants put them at advantage for better sexual orientation and indeed, HIV/AIDS education. More than half of them (51%) live with both parents and over a third (35%) of them belong to well-educated parents. This accorded them the opportunity to discuss sexual matters with their parents. Besides, there is a strong association ($p=0.000$) between KAP of HIV/AIDS and discussion of sexual matters with parents. On one hand, these findings coincide with others findings [13-15] where students who had sexual communication with their parents and schools had better knowledge and positive attitudes toward sexuality and HIV/AIDS. On the other hand, the findings is at variant with findings by Mwambete & Mtaturu [16] that some African countries considered it a taboo for teachers and parents to talk with children about sexual matters including sexually transmitted diseases (STDs). On awareness about HIV/AIDS, the majority (92%) of our study's participants have heard about HIV/AIDS through their school teachers while only few heard about it through mass media. This agrees with studies such as Mwambete & Mtaturu [16] and Ongwara & Odenyo [10] which reported that higher portion of their participants have heard about HIV/AIDS.

Most participants in this study have considerably good knowledge of transmission routes of HIV/AIDS and less of misconceptions about the disease. For instance, in every ten of the surveyed population, eight knew that HIV/AIDS is transmitted through sexual intercourse (81%) and that proper use of condom can prevent transmission (80%). Whereas, only 12% of them strongly held the misconception that HIV/AIDS can be cured with herbal medicine. The participants also exhibited some levels of comprehensive knowledge such as knowledge that those with multiple sexual partners are at risk of HIV/AIDS infection (79%). It was not the same for participants in other studies [9, 4, 17 and 11] where inadequate knowledge was reported about HIV/AIDS

transmission modes and preventive measures with high rate of misconceptions. Assessing the translation of knowledge into practice among the studied adolescents, our study outcome shows that nearly onequarter (24%) of them have had sexual intercourse and 20% of them used condom in their first sexual encounter. Furthermore, our study suggests that more of the students would use condom in future sexual relationships and most of them would not engage in sexual intercourse with whosoever is averse to condom use. Consistent condom use is an indication of good preventive measure occasioned by intensive knowledge and positive attitude to sexuality and HIV/AIDS. Our findings on sexual experience correspond with the work of Adu-Mireku [18] where 25% of secondary schools students explored in Ghana were sexually experienced, though many (56%) did not use a condom at their last sexual intercourse [18].

One major predisposing factor contributing to the decline in attendance at HIV/AIDS counselling and testing centres is stigmatization. At the notice of any breach of privacy or for fear of rumour mongers about their status, those who are HIV/AIDS positive feel unsafe owing to stigmatization. This has been one of the major reasons for higher prevalence rate and growing case fatality rate (CFR) of HIV/AIDS. At this juncture, healthcare providers need to promote the tenets of medical confidentiality (especially as regards disclosure) as a precursor to less discriminating attitude towards PLWHA. This is especially necessary since healthcare atmosphere across the globe depicts that most players do not fully understand their obligations towards medical confidentiality [19-20]. Students in this study would have good disposition towards people living with HIV/AIDS (PLWHA) as the majority (64%) indicated passionate care for their HIV/AIDS loved ones. In addition, many of them reiterated that the risk of getting infected with HIV/AIDS should be enough to deter teenage sex before marriage. Our findings differ from the report from Lau & Tsui [21] where discriminatory attitudes towards PLWHA were common and across different aspects of participants' life. Finally, participants recommended more comprehensive dissemination of knowledge especially, through newspaper and magazines, TV shows, teachers and the Internet.

4.1. Study Limitations

We had to contend with some transportation problems while conveying the completed questionnaires from the point of administration to the analysis table among the authors. Secondly, the researchers had to simplify the meaning of used terms such as strongly agreed and so on, to the understanding of the participants.

5. Conclusion

Secondary school students in Atisbo local government area of Oyo State are quite aware and possess relatively good knowledge of HIV/AIDS, reasonable sexual practices and positive attitude towards sexuality, HIV/AIDS and people living with HIV/AIDS. Social settings, parental sexuality

communication as a result of educational attainment play significant roles in the attitude of their children. Efforts should be intensified to provide more comprehensive information on sexuality and HIV/AIDS through the mass media. This possibly will improve students' attitude toward abstinence, safer sex and behaviour toward people already infected with HIV/AIDS.

Recommendations

- i Strengthening of communication between parents and child on matters relating to sex.
- ii School-based sexuality education should be formalized and strengthened.
- iii The mass media should be deployed in the dissemination of information on sexuality, HIV/AIDS and other STIs.

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