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HIV/AIDS Behavioural Challenges in Lagos State Schools: An Empirical Study

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Abstract - *This paper evaluates the extent of the behavioural challenges concerning HIV/AIDS among senior secondary school (SSS) and tertiary institution students in Lagos, Nigeria. The study, part of a large research project evaluating knowledge-based HIV/AIDS education initiatives in Lagos, has been carried out in collaboration with the Lagos State Ministry of Education. Questionnaires (n=958 copies) were administered to selected senior secondary schools in the Lagos State administrative divisions (urban and rural) and the Lagos State University (LASU). The study aimed to record information about students' behaviour related to HIV/AIDS as this would provide information relating to the factors responsible for its transmission. This included (a) behavioural change information – BCI, (b) sexually transmitted infections (STIs) and clinical understanding (c) sexual activities (d) condom use and (e) fear of HIV/AIDS-related stigma and discrimination (HASD). The results show that the behaviour of the respondents with regard to HIV/AIDS puts them at risk of contracting the virus. We conclude by suggesting the use of Knowledge Management (KM) techniques as an appropriate modern approach to tackling the problem and that the availability of behavioural change communication (BCC) materials in all Lagos State schools should be increased.*

Keywords: HIV, Knowledge Management, Behavioural Change and Stigmatisation.

1.0 Introduction

Behavioural Change Communication (BCC) is the process of communicating with individuals and the larger community with the purpose of changing behaviours and attitudes (RTI International, 2004). In the case of HIV/AIDS, this approach can be use to tackle particular issues such as the use of condoms, HIV/AIDS stigmatisation, inappropriate religious practices and can also change inaccurate perceptions. The recognised objectives of HIV/AIDS BCC are to: increase HIV knowledge, promote essential attitudinal change, reduce HIV/AIDS stigma and discrimination, create demand for HIV information sharing and services on STIs, be an advocate on HIV/AIDS issues and improve community skills with regard to HIV/AIDS prevention strategies such as sexual abstinence and the use of condoms. HIV prevention education initiatives are stated to be the foremost concern among young people (Pearlman *et al*, 2002).

Students are rated as a potentially high-risk group in both formal and informal environments as they link communities together and are prone to outbreaks of STIs and

sexually transmitted diseases (STDs). They are recognised as a vulnerable risk group due to their lack of health education and decision making. The factors that make them vulnerable are sexual behaviours and drugs. The extents of sexual initiation, degree of sexual activity and propensity of multiple sexual partnerships among this group have been suggested as risk factors for contracting HIV/AIDS infections (Buseh *et al*, 2002). Previous researchers have established that sexual activities are more pronounced among urban pupils than their rural counterparts. However, there has been little published work regarding sexual behavioural issues in Nigerian secondary schools. No articles have focused on Lagos State schools which consider developmental features and social effects on students. This paper uses indicators to evaluate the understanding of the respondents regarding HIV/AIDS transmission, and STIs. It should be noted that current research has identified that public schools are inherently a socio-economic risk factor for HIV/AIDS due to issues relating to prevailing poverty and parental inequalities.

2.0 Methods

2.1 Sample and Data collection

The data used for this paper were collected in selected secondary schools at all Lagos State administrative divisions including Lagos State University, Lagos. Schools were selected in each division (2-5 schools) using a stratified proportional random sampling principle. The questionnaire was developed based on empirical evaluation of transmission and prevention indicators (Table 1). It was administered to 1000 students (senior secondary school 1-3 and Lagos State University students) through their guiding and counselling units. The pupils returned 958 (95.8%) questionnaires from 10 participating senior secondary schools and Lagos State University (Agege and Isolo campus) and these were grouped by settlement (rural and urban). The data breakdown by gender is 421 for males and 535 for females, with 2 (0.2%) missing values. There were 30 (3.1%) students who did not state their marital status and they were treated as a risk group with regard to the other variable(s). Written consent was obtained from the Lagos State Ministry of Education, Guiding and Counselling Unit and the students were informed that their participation was optional.

Table 1 Demographic characteristics of the sample by settlement (rural vs. urban)

Characteristic N = 958	Non- Lagos Residence		Rural		Urban		Total		P-value
	n	%	n	%	n	%	N	%	
Gender									
Male	5	0.5	177	18.5	239	25	421	44	
Female	15	1.6	249	26	271	28.3	535	56	0.059
Age Groups									
15-16	2	0.2	205	21.7	126	13.8	333	35.2	
17-18	1	0.1	115	12.2	79	8.4	195	20.6	
19-20	0	0	14	1.5	8	0.8	22	2.3	
21-22	1	0.1	12	1.3	17	1.8	30	3.2	
23-24	4	0.4	32	3.4	76	8	112	11.9	
25 and above	11	1.2	45	4.8	197	20.8	253	26.8	0.001
Educational Class									
SSS 1-3	3	0.3	349	36.5	219	22.9	571	59.7	
Tertiary	17	1.8	79	8.3	289	30.2	385	40.3	0.001
Marital Status									
Single	16	1.7	389	41.9	417	44.9	822	88.6	
Married	4	0.4	24	2.6	78	8.4	106	11.4	0.001

*p-value significant < 0.05

2.2 Description of the data

The data was acquired from pupils and students in the Lagos State administrative divisions and LASU (n=958) and was then grouped into their respective locations of settlement. The survey included 428 (44.7%) participants from rural areas and 510 (53.2%) pupils in the urban centres of Lagos State, including non-Lagos State residents 20 (2.1%). The survey included teenagers and adolescents, 822 (88.6%) of whom were single. Most of the respondents were from the urban metropolis, as revealed in Table 1 but more secondary school students (571, 59.7%) participated than university students (385, 40.3%) and this is statistically significant (p-value < 0.001) with regard to where they lived. Apena *et al*. (2012) stated that "Lagos State topographic features cut off the rural areas from the urban metropolis and undermine the HIV information and awareness activities". This factor makes pupils in the rural areas significantly different from the urban metropolis. As expected, there are more social activities among urban-based students than in the rural areas.

2.3 Data management and statistical analysis

The data was analysed using SPSS®17 software, and its characteristics were examined using cross-tabulation. The level of significance and association between the variables were assessed using the Chi-square test. The analysis examined respondents' gender, age groups, marital status, educational class and locality as independent variables. This study

considered the dependent variables (risk factors) responsible for HIV/AIDS prevalence among students such as their definition of HIV, STI and clinical understanding, sexual activities, condom use and fear of stigmatisation. The analysis found results that were statistically significant at a *p*-value < 0.05 and these were supported by the descriptive analysis.

3.0 Results

3.1 HIV/AIDS behavioural change information (BCI)

The study evaluates the extent of HIV/AIDS BCI in the selected schools in order to collect information about transmission and prevention knowledge among the risk group. Some of the respondents revealed that they had attended an HIV/AIDS lecture as shown in Table 2 (community/schools based indicator with *p*-value of 0.001). Gender-wise, some students 76 male (8.2%) and 85 female (9.2%) claimed that they had not attended HIV/AIDS lecture(s) and the geographical factors (school location) could account for the lack of BCI activities. School location may also be responsible for the lack of HIV/AIDS lectures in Lagos State schools as shown by the educational level of 100 SSS (10.8%) and 61 tertiary (6.6%) pupils. Although this is a relatively small number of students, nevertheless it is a reflection of the potential significance in relation to HIV/AIDS transmission. The same factor affects the pace of HIV/AIDS media activities and risk behaviour information in Lagos State schools, as revealed in Table 2. The survey shows that a significant numbers of students are aware of HIV/AIDS. The question is whether young students are knowledgeable about HIV/AIDS transmission and prevention (risk factors) such as sexual activities, STIs and fear of stigmatisation.

Table 2 Behavioural Change Information (BCI) in Lagos State Schools

HIV/AIDS BCI	Gender		School Location		Educational Class	
	Male	**Female**	**Rural**	**Urban**	**SSS1-3**	**Tertiary**
Lesson/Lectures	*p* -value = 0.362		*p* -value = 0.001		*p* -value = 0.366	
Yes	331 (35.8%)	431 (46.6%)	314 (33.9%)	435 (47%)	450 (48.6%)	313 (33.8%)
No	76 (8.2%)	85 (9.2%)	97 (10.5%)	60 (6.5%)	100 (10.8%)	61 (6.6%)
Media (How often)	*p*-value = 0.065		*p* -value = 0.057		*p* -value = 0.014	
Very Common	276 (30.2%)	381 (41.6%)	290 (31.6%)	356 (38.8%)	381 (41.6%)	278 (30.3%
Common	80 (8.7%)	92 (10.1%)	71 (7.7%)	94 (10.3%)	99 (10.8%)	73 (8.0%)
Uncommon	47 (5.1%)	39 (4.3%)	48 (5.2%)	38 (4.1%)	63 (6.9%)	22 (2.4%)

3.2 Students' risk of contracting sexually transmitted infections – STIs

STIs are driving factors of HIV infection among peer groups and commercial sex workers. The students' perception about STIs in terms of definition and clinical awareness was verified in the survey, as shown in Table 3. A significant percentage of the respondents, 369 males (39.8%) and 468 females (50.5%) reported that they knew what an STI was, 64 students had never heard of STIs and 25 claimed to be unsure whether STIs contributed to HIV/AIDS

prevalence. The location of schools also influences information sharing on STIs. Respondents from urban centres 464 (50%) were significantly more likely to know what STIs were ($p < 0.05$) including senior secondary pupils 486 (52.4%). The concern is that a significant number of the respondents, (117 male, 12.9%) and 133 female (14.6%), had no clinical knowledge regarding remedies and precautions. Considering location and educational level, this survey indicates that Lagos State students are vulnerable to STIs due to their lack of knowledge and clinical awareness. The study further examines the extent of sexual practice and STIs protection among the students, such as the use of condoms.

Table 3 STIs Clinical Remedy Awareness in Lagos School

STIs Awareness N = 958	Gender		School Location		Educational Class	
	Male	Female	Rural	Urban	SSS1-3	Tertiary
What is STI?	*p*-value = 0.925		*p* -value = 0.001		*p* -value = 0.001	
Correct	369 (39.8%)	468 (50.5%)	355 (38.3%)	464 (50%)	486 (52.4%)	352 (38%)
Incorrect	28 (3%)	36 (3.9%)	39 (4.2%)	25 (2.7%)	51 (5.5%)	13 (1.4%)
Unsure	12 (1.3%)	18 (1.9%)	18 (1.9%)	7 (0.8%)	17 (1.8%)	08 (0.9%)
Clinical Remedy	*p* -value = 0.236		*p* -value = 0.001		*p* -value = 0.001	
Aware	238 (26.2%)	322 (35.4%)	208 (22.8%)	340 (37.3%)	269 (29.6%)	291 (32%)
Unaware	50 (5.5%)	49 (5.4%)	58 (6.4%)	40 (4.4%)	75 (8.2%)	24 (2.6%)
Unsure	117 (12.9%)	133 (14.6%)	136 (14.9%)	110 (12.1%)	192 (21.1%)	59 (6.5%)

3.3 Sexual Behaviour and Practice

Nigerian cultural practice and religions prevent public discussion of sexual practice and this has had an adverse effect on HIV/AIDS transmission. Belief about the right age to discuss sexual practice also affects the responses of the secondary students. Table 4 shows that a significant ($p < 0.05$) number of the respondents - 94 male (10.8%) and 44 females (5%) - engage in sexual practices (both oral and intercourse). Of the sample, 129 males (23.6%) and 87 females (16%) stated that they have been sexually active with more than 2 partners in the last 2years. There was a significant difference ($p<0.05$) between males and females. Of those reporting that they had more than 2 sexual partners in the last 2 years (males and females), 138 (25.8%) were between 15 and 24 years of age.

Table 4 Respondents Sexual practice and behaviour

Sexual Behaviours	Gender						
	Male		Female		Total		
	N	%	n	%	N	%	P-value
Do have a Sexual Partner?							
Yes	94	10.8	44	5	138	15.8	
No	296	33.9	437	50.1	733	84.1	0.001
Sex with more than a partner in 2yrs.							
None or with one person	149	27.3	180	33	329	60.3	
With more than 2 persons	129	23.6	87	16	216	39.6	0.001

3.4 Condom use

The study assessed the respondents' attitudes towards condom use during sex. Table 5 shows gender, age, educational class and attitudes toward safe sex. Approximately 25% of the sample reported not having used condoms at all during sexual acts and the other characteristics associated with this fact were: age range 235 (24.8%), gender 239 (25%) and educational class 239 (25%). Of those who reported that they used condoms during sex, there were significantly more males (26.8%) than females (20.9%) ($p < 0.05$). Among the age range 15-24 years, a significant proportion (16.8%) admitted engaging in unsafe sexual acts, more than respondents of 25 years of age and above. Secondary school students (14.6%) were significantly less likely to use condoms than their counterparts in the higher institutions (10.4%). However, many respondents refused to disclose their activities during sex.

Table 5 Students attitudes to condom use

Characteristic	Educational Class				Gender				Age Groups (yrs)			
	SSS1-3		Tertiary		Male		Female		15-24		25 and above	
Do you use Condom during sex?	n	%	n	%	n	%	n	%	n	%	n	%
Yes	253	26.5	203	21.2	256	26.8	200	20.9	325	34.5	126	13.3
No	140	14.6	99	10.4	90	9.4	149	15.6	159	16.8	76	8
No Response	178	18.6	83	8.7	75	7.8	186	19.5	208	21.9	51	5.4

3.5 Fear of HIV/AIDS-related stigma and discrimination (HASD)

The HIV stigmatisation questions were characterised by factors of avoidance, social fear of abuse and shame. HIV/AIDS-related stigma and discrimination (HASD) and declaration of individual HIV/AIDS status affect the HIV incidence rate and prevalence. Anderson *et al*. (2008) stated that HASD usually occurred where HIV respondents/hosts had lost trust or were unable to have control over disclosure. The survey verified the extent of HASD in Lagos State schools by asking if the respondents would inform their peers or disclose their HIV/AIDS status, as shown in Table 6. Over 25% of the participants reported fears over HASD. Gender-wise, 142 males (16%) and 148 females (16.7%) stated that they would not disclose their status if they were HIV positive. When considering the educational class of 270 respondents, secondary school students (161, 20.3%) appear to be more afraid of HASD than tertiary students (109, 12.3%). With regard to location, 156 urban respondents (17.6%) and 128 rural respondents (14.4%) stated that they would not declare their status to their friends. Two-thirds of the participants reported that they would disclose their HIV/AIDS status, while a significant number of respondents refused to state their view, opting for "don't know". Stigmatisation is statistically insignificant but was nonetheless important to consider in this study as it is a contributing factor to HIV incidence rate.

Table 6 Fear of Stigmatisation and discrimination

Characteristic	Gender				Educational Class				Location			
	Male		Female		SSS1-3		Tertiary Student		Rural		Urban	
HASD	n	%	n	%	n	%	n	%	n	%	n	%
Would you tell friends of your HIV/AIDS Status?												
Yes	170	19.2	224	25.3	234	26.4	161	18.2	181	20.4	204	23
No	142	16	148	16.7	161	20.3	109	12.3	128	14.4	156	17.6
Don't Know	85	9.6	117	13.2	117	13.2	86	9.7	90	10.1	109	12.3

4.0 Use of Knowledge Management

Knowledge Management (KM) has been described as organizational knowledge with meaningful interaction of people, processes, activities and technologies that enable the sharing, creation and communication of knowledge (Bali *et al*, 2011). Apena *et al,* (2010) showed that correct application of KM tools and techniques could enhance current HIV/AIDS activities and synchronise disjointed knowledge leading to a more coordinated approach towards tackling the HIV/AIDS epidemic. Such KM techniques could help improve the effectiveness of complex networks such as the organizations that are dealing with HIV/AIDS in Nigeria. The benefits of KM to HIV/AIDS organizations in Lagos could span improved information sharing, greater teamwork, better preparedness, reduced duplication of efforts and increased levels of coordination.

5.0 Discussion

This study examined HIV/AIDS behavioural challenges in the context of transmission and prevention among the Lagos State students. Sexually transmitted infections (STIs) and sexually transmitted diseases (STDs) are categorised as HIV/AIDS risk factors by the public and community health officers working in epidemiology. They have been used as an index to monitor the HIV incidence rate in the developed world (Calentano *et al*, 1998; and Fleming and Wasserheit, 1999). STIs and STDs are grouped as blood-borne transmission diseases and contribute to approximately 80% of HIV viral transmission globally. There are many tropical forms of sexual infections and diseases that are responsible and contribute to a high HIV prevalence in Nigeria. They include gonorrhea, syphilis, chancroid and thrush (Olawoye *et al,* 2007). According to public health officers at the Ifako/Ijaye general hospital (Ikeja Division), most HIV infections are recorded following treatment for STIs and/or STDs. They cause lesions on the sexual organs and predispose the skin and internal system for HIV infection.

The research further established the importance to test students' understanding of STIs as a risk factor contributing to the state of HIV/AIDS in Nigeria (Table 3). The vulnerability of students to casual sexual practice and behaviours poses a high risk of HIV/AIDS incidence. Casual sexual activities are recognised as a societal menace, dictating the range of coverage of STIs. Past research has revealed the extent of casual sexual activities among the selected age range (15-24 years) in the developed nations. Lagos State students are prone to engage

in casual sexual activities in order to meet economic needs. The literature has shown that students contribute to the growth of commercial sex activities in some urban areas of Ikeja and Surulere. The survey included pupils who had engaged in casual sexual activities with more than one partner in the last 2 years and showed casual sex activities in Lagos State schools (Table 4). It also established the possibility of respondents living with HIV/AIDS, as the number of pupils who had engaging in casual sex has a much higher chance of contracting STIs. The survey enabled more pupils to reveal their multi-sexual activities than had previously been known. This should be of concern to stakeholders working against HIV/AIDS sexual transmission in Lagos State.

Students having more than two sexual partners could be identified as potential actors of casual sexual activity. HIV/AIDS prevention is undermined by STIs and sexual behaviours. The use of condoms is a vital component of STIs/STDs prevention strategies and family planning. The use of condoms especially prevents the contact of reproductive organs and the anus, or the mouth in the case of oral sex. Public health officers have always advocated the use of condoms in the case of casual sex in order to prevent un-wanted pregnancies and the spread of diseases. The use of condoms will positively address the fear of HIV/AIDS transmission among Lagos State students. Ekanem *et al*, (2005) described the potential actors of sexual networks as irregular partners' (or couples') sexual behaviours, sex workers, young female hawkers, schoolgirls, market women within and outside the motor parks. This follows typical trends regarding the spread of diseases within communities. Knowledge of the importance of condom use is likely to break or truncate the negative repercussion of sexual networks. The use of condoms is classified as a sexual behaviour issue. Availability, quality and cost of condoms are of great concern to public health professionals as these are three driving factors associated with their use. It is essential to evaluate the use of condoms among Lagos State Students and Table 5 revealed respondents' use of condoms.

The empirical studies of Adebajo *et al*. (2003) reaffirmed the level of HIV stigmatisation and discrimination in the Lagos State health care sector. Fear of being identified with the HIV infection often keeps hosts from declaring their HIV status, discussing prevention, changing unsafe behaviour with other risk groups and supporting care for people living with HIV/AIDS. Globally, stigmatisation is still the most important issue that hinders HIV prevention and transmission - thus threatening the utilisation and effectiveness of HIV/AIDS prevention and care efforts (Meiberg *et al.* 2008). The respondents were asked to indicate the level of transmission and stigmatisation avoidance in Lagos State Schools. Table 6 revealed the extent of HASD among Lagos State students. These are important outcomes for all the stakeholders working on HIV transmission and prevention and should encourage them to intensify efforts regarding behavioural issues. Tables 2 – 5 reaffirmed that schools in developing nations are a threat to public health by their distinct lack of prevention programmes for the spread of diseases such as HIV, viral infections (nose-chest), cholera, tuberculosis (TB), small and chicken pox. By raising awareness of HIV behavioural risk factors, opportunistic infections such as STIs/STDs will promote early detection of HIV in official gatherings and schools.

6.0 Conclusion

This study confirmed that the levels of HIV transmission in Lagos schools could be significant. Knowledge Management (KM) is suggested as an appropriate concept that could address the organisational issues (Bali *et al*, 2011). The KM approach could increase

HIV/AIDS stakeholders' activities and increase at risk groups' knowledge about transmission and prevention. Sexual behavioural change communication (BCC) information such as STIs/STDs outbreaks could be synchronised with students using KM. Mobile learning and pharmacies could bridge the gaps in STIs clinical awareness information. More initiatives promoting safe sexual activities should be encouraged. However, sexual behavioural variables (such as condoms use) need to be promoted through a series of school seminars. The availability of safe sexual educative leaflets, tracks and condoms should be improved. Students should be encouraged to know and disclose their HIV status so that appropriate precautions can be undertaken during sex. Public discussion on sexual education and STI prevention needs to be considered in the Lagos State schools curriculum.

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