

Effect of health education on knowledge and attitude of tertiary school students towards sexually transmitted infections

¹Sofela E. Oridota, ¹Adebayo T. Onajole, ²Thomas O. Olajide, ³Olanrewaju N. Akanmu, ⁴Oyetunji O. Soriyan

Abstract

Background: In order to make good decisions about their sexual and reproductive health, young people need reliable information. This study assessed the effect of health education on the knowledge and attitude of tertiary school students towards sexually transmitted infections.

Methods: The study employed a quasi-experimental study design in which students of the two Colleges of Education in Lagos, Nigeria were selected by multistage sampling technique. These colleges were randomized into intervention and control groups. Health education sessions were given to students in the intervention groups, while the control group did not receive any health education session.

Results: At post-intervention, respondents with poor knowledge reduced from 187 (74.2%) to 135 (53.1%) and those with good knowledge of STIs increased from 18 (7.1%) to 44 (17.2%) in the intervention group ($p < 0.0001$). However, respondents with poor knowledge in the control group reduced from 191 (74.6%) to 175 (68.1%) and those with good knowledge increased from

12 (4.7%) to 17 (6.6%); $p = 0.25$. Respondents with poor attitude towards condom use increased from 37.3% to 50.2% in the intervention group ($p = 0.12$) and reduced from 38.3% to 35% in the control group ($p = 0.44$). The poor attitude towards abstinence increased from 19.8% to 36.1% and from 18.8% to 29.2% in the intervention and control groups; $p = 0.004$ and 0.14 respectively.

Conversely, those with good attitude towards abstinence reduced from 36.5% to 36.1% and from 30% to 29.6% in both intervention and control groups respectively.

Conclusion: Educational intervention results in significant knowledge about sexually transmitted infections but produced little or no change in attitude and practice. There is a need for more research in the prevention of sexually transmitted infections among students of tertiary institutions.

Keywords: Attitude, Education, Knowledge, Sexually Transmitted Infections

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Introduction

The WHO estimated in 2005 that there are 448 million new cases of curable sexually transmitted infections (syphilis, gonorrhoea, chlamydia and trichomoniasis) yearly in adults aged 15-49 years¹. Sexually transmitted infections (STIs) and their complications rank in the top five disease categories for which adults seek health care¹. The disease burden is highest in sub-Saharan Africa and about 60% of these infections occur in young people less than 25 years of age, and 30% of the infected young people are less than 20 years². HIV infections are rising fastest among those aged less than

25 years, especially women³⁻⁵. Overall, 29% of women and 78% of men aged 15-24 years engage in high-risk sex⁶.

Several factors that make youth particularly vulnerable to sexually transmitted infections include their age, biological and emotional development and financial dependence⁷⁻⁹. In many parts of the world, they have limited access to health care services and reliable information about sexual activity and its implications⁷⁻⁹. They are often unlikely or unable to protect themselves appropriately as they demonstrate an inclination to sexual experimentation often with multiple partners⁹.

While ignorance of STIs and AIDS can exist in all age groups, it is likely to be more widespread among young people who are likely to be more sexually active than others, have poor access to STIs care services and are unlikely to be in stable sexual relationship^{8,10}. STIs challenge the future well-being, fecundity and the survival of infected youths. Health Education is an integral part of STIs control programmes and helps individuals to alter their behaviour in an effort to avoid STIs. In order to make good decisions about their sexual and reproductive health, young people need reliable information, an opportunity to develop values

¹Department of Community Health & Primary care, College of Medicine, University of Lagos; ²Department of Surgery, College of Medicine, University of Lagos; ³Department of Anaesthesia, College of Medicine, University of Lagos; ⁴Department of Chemical Pathology, College of Medicine, University of Lagos

Corresponding Author:

Oridota E.S.

Department of Community Health & Primary Care College of Medicine, University of Lagos

E-mail: esoridota@cmul.edu.ng

and attitudes consistent with health goals, and the skills to behave consistently with their knowledge and values^{2,11,12}.

Studies of the effectiveness of sex education in achieving its goals have shown variable results^{13,14}. Every type of health education has its own merits, drawbacks as well as its own sphere of effectiveness¹⁵. A particular mode of communication is more useful in a specific setting on a specific group than others¹⁴. Consistently, sex education has been found to increase youth's knowledge about sexual issues, provide modeling and practice to enhance interpersonal skills relative to sexual behaviour, and reinforce appropriate values, but most approaches have not had the desired impact on actual sexual behaviour or contraceptive use^{13,14}. It is expected that the health education sessions in this study will bring about an increase in knowledge and change in attitude which will help in the prevention of STIs and its numerous complications among the students who are mainly in the vulnerable age group^{6,16,17}.

Materials and Methods

Study design

This was a quasi-experimental study in which health education sessions were given to students in one of the two colleges of education in Lagos while the other served as a control group.

Sampling Techniques

A multi-stage sampling technique was used to recruit students of the two colleges of education in Lagos, Nigeria. The Adeniran Ogunsanya College of Education, Ijanikin (AOCOED) was selected by simple random sampling as the intervention group while the Federal College of Education, Akoka (FCT) was the control. Only full time students of the colleges in the first to three years of education were involved in the study and the calculated minimum sample size using the formula for the comparison of two proportions was 163 for each group. The students were first stratified to schools and then into the various class levels, two departments were picked by simple random sampling from the list of the departments in each of the five schools. The required numbers of students from each of the department were selected using simple random sampling by balloting. The study was conducted between December 2007 and June 2008, with the intervention from January 14th to 8th February 2008.

Data collection

Two hundred and sixty five questionnaires were distributed to students from each arm of the study. Data was collected using a pre tested semi-structured self-administered questionnaire with sections on socio-demographic data, knowledge of types of STIs, risk factors, symptoms and complications of STIs. It also

contains sections on attitude towards abstinence, condom use and practice of prevention of STIs. The scoring for the fifty-one questions on knowledge was calculated by assigning one point for each correct response. The possible range of score was from 0 to 51. The scores was divided into three, with less than or equal to 17 graded as "poor", 18-34 as "fair" and 35 and above as "good". For the questions on attitude there were on a five point Likert scale with strongly disagree taken as 5 and strongly agree as 1. For this scoring, 1-2 was termed as poor, 3 as fair and 4-5 as good.

The intervention group had health education sessions on STIs conducted weekly for four weeks with each session lasting for 30-45 minutes. The health education materials included handbills, pamphlets, posters, and talks on male and female condoms and demonstration classes on the use of condoms using pelvic and penile models with the audiovisual aids. The control group did not receive any intervention.

After a period of three months post-intervention, the same questionnaires were administered to the students from the same schools.

Ethical considerations

Ethical clearance was obtained from the ethical committee of the Lagos University Teaching Hospital. Written consent was obtained from the authority of the participating schools.

Statistical analysis

The data entry, cleaning and analysis was done using Epi info version 6.04. Appropriate statistical tests of significance between pre and post intervention data were done using chi-square and student's t-tests as appropriate. P values less 0.05 were considered significant.

Results

Baseline characteristics of subjects

Two hundred and sixty five questionnaires were distributed at both pre-intervention and post-intervention stage in the intervention and control schools making a total of one thousand and sixty questionnaires. However, only 1020 questionnaires were completed and returned at the end of the study (252 and 256 at baseline for intervention and control groups and 255 and 256 at post intervention for both intervention and control groups respectively). There were no significant differences in the sex, age, religion and marital status of the respondents in the intervention group when compared with the control at pre-intervention (Table 1).

The majority of respondents in the intervention group {212 (84.1%)} and control {223 (87.1%)} were aware of STIs. The electronic media was the commonest first source of information on STIs in the intervention group 222 (88.1%) and control group 240

(93.8%). The mean age at initiation of sexual intercourse was 18 ± 3.6 and 18.8 ± 4.35 years in the intervention and control groups respectively. At pre-intervention, the majority of the respondents in intervention group {144 (57.1%)} and control group {153 (59.8%)} had not initiated sexual intercourse. However, the majority of the respondents who had initiated sexual intercourse in the intervention group {63 (60%)} and control group {70 (68.6%)} did not use condom during initiation of sexual intercourse.

Table 1. Characteristics and awareness of sexually transmitted infections among students of colleges of education in Lagos, Nigeria

Variable	Intervention	Control	P-value
Sex, females, n (%)	127 (50.4)	128 (50)	0.80
Age, years, mean \pm SD	21.01 ± 3.6	21.4 ± 3.4	0.19
Christianity, n (%)	177 (70.2)	194 (76.1)	0.22
Single, n (%)	200 (79.4)	207 (81.2)	0.70
Aware of STI, n (%)	212 (84.1)	223 (87.1)	0.60
Initiated sexual activities, n(%)	144 (57.1)	153 (59.8)	0.55
Condom use at initiation of sexual activities, n (%)	44 (40)	32 (31.4)	0.20

Table 2. Effect of educational intervention on knowledge and attitudes towards prevention of sexually transmitted infections

Variable	Intervention group			Control group		
	Pre N (%)	Post N (%)	% change	Pre N (%)	Post N (%)	% change
Knowledge						
Poor	187 (74.2)	135 (53.1)	-21.1*	191 (74.6)	175 (68.1)	-6.5
Fair	47 (18.7)	76 (29.7)	11	53 (20.7)	65 (25.3)	4.9
Good	18 (7.1)	44 (17.2)	10.1	12 (4.7)	17 (6.6)	1.9
Regular condom use						
Poor	94 (37.3)	128 (50.2)	+12.9	98 (38.3)	90 (35.0)	-3.3
Fair	73 (29)	72 (28.2)	-0.8	62 (24.2)	(29.6)	+5.4
Good	28 (11.1)	22 (8.6)	-2.5	28 (10.9)	29 (11.3)	-2.5
No response	57 (22.6)	33 (13)		68 (26.6)	62 (24.1)	
Abstinence						
Poor	50 (19.8)	92 (36.1)	16.3**	48 (18.8)	75 (29.2)	10.4
Fair						
Good	67 (26.6)	57 (22.3)	-4.3	62 (24.1)	62 (24.1)	1.1
No response	92 (36.5)	92 (36.1)	-0.4	77 (30.0)	76 (29.6)	-0.4
	43 (17.1)	14 (5.5)		72 (28.2)		
One sexual partner	48 (64)	46 (53.5)	-10.5	45 (65.2)	43 (60.6)	-4.6
Condom use at last sexual intercourse	40 (54.1)	40 (54.1)	10.3	30(62.5)	32 (55.2)	-7.3

among students of colleges of education in Lagos

* $p < 0.0001$; ** $p = 0.004$

Effect of educational interventions on knowledge of STIs

The proportion of students who have heard of STIs increased to 230 (90.2%) at post intervention from 212 (84.1%) in the intervention group, while it reduces to 222 (86.4%) at the end of the study period from 223 (87.1%) in the control group as shown in Table 2. At post-intervention, generally there was a statistically significant improvement in the knowledge of sexually transmitted infections amongst respondents in the intervention group, respondents with poor knowledge reduced from 74.1% to 53.1% and good knowledge increased from 7.1% to 17.2%. In the control group, respondents with poor knowledge reduced from 74.6% to 68.1%, and good knowledge of STIs increases from 4.7% to 6.6%. The changes in the control group were found not to be statistically significant. Specific areas of improvement in the knowledge of the intervention group included the cause and routes of transmission of STIs. Additional increments of statistical proportions were also noted in the intervention group with regards to the risk factors for STIs, notably multiple sexual partners, unprotected sex and homosexuality.

Effect of educational intervention on attitude towards STIs

In the intervention group, the proportion of respondents with poor attitude towards the use of condom increased from 37.3% pre-intervention to 50.2% post-intervention, $p = 0.12$ as shown in Table 3. There was no statistically significant difference in the use of condom during last sexual intercourse in both intervention and control group at post intervention. The proportion of respondents who used condom during the last sexual intercourse increased from 43.8% to 54.1% in the intervention group ($p = 0.26$) while in the control group, it decreased from 62.5% to 55.2% at post intervention ($p = 0.44$). The proportion of students with multiple partners at post-intervention compared to baseline in both intervention and control group increased, however the changes were not significant.

Discussion

At post intervention, there was a significant change in knowledge of routes of transmission and the causes of STIs in the intervention group. Generally, there was a statistically significant improvement in the knowledge of sexually transmitted infections amongst respondents in the intervention group when compared with the control group. Several studies have also reported a similar improvement in the knowledge of prevention of STIs as a result of educational intervention²⁰. However, there was no significant difference in the attitude of

respondents towards condom use in both intervention and control group. Despite the fact that most of the students were aware of condoms, the majority did not have good attitude towards its use. Additionally, the proportion of students with multiple partners at post-intervention in both intervention and control group increased. The results of this study reveal a knowledge attitude gap towards STIs. Researches have shown that among youths, awareness does not necessarily translate to positive attitude or expected positive behavioural change⁹.

There was no significant difference in the use of condom during last sexual intercourse in both intervention and control group at the end of the study. It has been found from previous studies that much sexual intercourse among young people are not planned and negotiating skill is poor alongside misconception and sexual violence against young people, especially women are some reasons why youths engaged in unprotected sexual intercourse²¹.

These findings implies that STIs would continue to be spread with its attendant consequences since among youths awareness does not necessarily translate to positive attitude or expected positive behavioural change. The fact that sex education is not freely taught in our schools and homes have also kept majority of the youth uninformed about STIs⁷.

The limitations of this study includes the fact that the respondents at pre-intervention and post intervention stage in both the intervention and control might not all be the same individuals since the selection at each of the stages was by a multistage sampling technique. It is also possible that the respondents may not give accurate responses since the study is questionnaire based and is subject to recall bias. Attitude could not be objectively assessed since 'Sex' is largely not talked about in our environment, hence there may be under reporting of sexual activities given the high number of non-response in the attitude section. Our results however provide a fulcrum for further studies to improve knowledge and attitude of young people towards STIs prevention.

In this study, educational intervention results in increased knowledge of STIs and their transmission, but had no effect on the attitude and practice of these young people towards its prevention. There remains the need for measures that would improve attitudinal change towards STIs prevention. More studies of this nature should also be conducted on a larger scale to document the enormity of this problem and identify possible targets for intervention.

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