Effect of Peer Education on Deaf Secondary School Students' HIV/AIDS Knowledge, Attitudes and Sexual Behaviour

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ABSTRACT

This study evaluated the effect of an AIDS education program on deaf secondary school students' knowledge, attitude and perceived susceptibility to AIDS using peer education. Two secondary schools matched for ownership (government), composition (mixture of hearing and deaf) and teaching arrangement (separate teaching of deaf students using sign language) were used, and each school was randomly allocated the intervention or control status. All students completed a questionnaire on AIDS at baseline and post-intervention. Following baseline, volunteers from the intervention group received four weeks training as peer educators, after which they provided HIV/AIDS information to their peers on one-to-one basis and in group, using a variety of approaches for a period of eight months, while the control subjects did not. Pre-post group differential scores for knowledge of the causes, modes of transmission and methods of prevention of AIDS among intervention group compared with the control group were significant ($p<0.0000001$) but not to perceived personal susceptibility ($p = 0.64217$). This study suggests the influence of peer education on health knowledge of youth but a limitation in changing perception of susceptibility. (*Afr J Reprod Health* 2000; 4[2]: 93-103)

RÉSUMÉ

L'effet de l'éducation de pairs sur la connaissance, les attitudes et le comportement sexuels des étudiants secondaires sourds par rapport au VIH/SIDA. L'étude a évalué l'effet qu'un programme d'éducation sur du SIDA a sur la connaissance, les attitudes et la susceptibilité apercue des étudiants secondaires sourds vis-à-vis le SIDA. L'étude a été faite à l'aide de l'éducation de pairs. On s'est servi de deux écoles considérées comme pareilles du point de vue de la propriété (elles appartiennent au gouvernment), de la composition (mélange des étudiants sourds et les étudiants normaux) et la modalité de l'enseignement (les étudiants sourds sont enseignés à part à l'aide du langage par signe). Chaque école a été assignée au hasard le statut d'intervention ou de témoins. Tous les étudiants ont rempli un questionnaire sur le SIDA à la ligne de base et à la poste-intervention. Suivant la ligne de base, des volontaires du groupe d'intervention ont bénéficié d' une formation de quatre semaines comme formateurs de pairs après quoi ils ont fourni des renseignements sur le VIH/SIDA à leurs pairs de manière univoque et en groupe, à l'aide des approches diverses pendant huit mois, tandis que les sujets témoins n'en ont pas bénéficié. Les cotations différentielles du groupe pre-post pour la connaissance des causes, la manière de transmission et les méthodes de prévention du SIDA au sein du groupe d'intervention étaient significatives par rapport au groupe témoin ($P < 0,0000001$) mais pas à la susceptibilité personnelle aperçue ($P = 0,64217$). Cette étude laisse croire à une influence de l'éducation de pairs sur la connaissance sanitaire des jeunes sourds mais à une limitation quant à la perception de la prédispostion à la maladie. (*Rev Afr Santé Reprod* 2000; 4[2]: 93-103)

KEY WORDS: *HIV/AIDS, deaf, peer education, secondary school students, knowledge, attitude, behaviour*

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Introduction

Around the world, there is increasing concern about young people's sexual activities and the risk of early and unprotected sexual relations. The AIDS epidemic has made it necessary to teach young people effective sexual health and AIDS prevention programs that can increase their knowledge and skills, to adopt and maintain desirable behaviour that can virtually eliminate their risk of becoming infected with the human immunodeficiency virus (HIV). Such educational programs have made use of different strategies, one of which is peer education. Peer education is a method of training individuals to instruct other members of their peer group about health with the goal of influencing health behaviour.[1]

The use of peer education in reaching out to adolescents on various health-related issues with tangible outcomes, have been documented. One peer education intervention targeting African-American adolescent females showed a decrease in sexual activity from 21% at baseline to 14% at follow-up. Intermittent use of condoms increased from 26% to 39%, and the number of women who never used condoms decreased from 44% to 33%.[2]

The effectiveness of this intervention among youth may be associated with their susceptibility to peer influences as they go through a stage in their life when they find it difficult to trust, communicate or identify with adults.[1] In these situations youth turn to their peers as their most important and credible source of information especially in areas such as human sexuality, drugs and alcohol.[3] Studies have also shown that they also seek information from magazines, newspapers and movies.[4] Seeking information from uninformed sources may place youth at health risks and to protect the upcoming generation, the utilisation of peer health educators has been recommended.[5] While majority of these educational programs has targeted apparently normal adolescents, the sensory handicapped (deaf) seemed to have received little or no attention in Nigeria. This is coupled with results of studies carried out in other parts of the world, which show that the deaf lack adequate knowledge about HIV and AIDS.[6,7] To bridge this gap, this study was carried out to assess the effectiveness of peer education strategy in passing AIDS information to deaf secondary school students.

The health belief model[8] offers a framework for understanding young people's willingness to undertake preventive health action against HIV/AIDS. This model assumes that the perception and knowledge of people about a particular subject such as HIV/AIDS are critical determinants of their health-related behaviour. It further holds that when cues to actions such as information from peer educators and drama are present, then the likelihood of undertaking a recommended preventive health measure such as use of condom during each sexual activity is dependent upon an individual's view of his own vulnerability to HIV/AIDS, belief about severity, perception of the benefits of recommended action to reduce level of threat or vulnerability and evaluation of potential barriers associated with the proposed action compared with potential benefits.

The Theory of Reasoned Action[9] assumes that an individual's behaviour is under volitional control and can be predicted from intention. According to this model, the intention of an individual to perform a behaviour is based on his positive or negative assessment of the performance of such behaviour. It further proposes that different types of external variables influence intention, normative belief, motivation to comply, or the relative weights of the attitudinal and normative components. Demographic variables (age, sex, occupation, socioeconomic status, religion and education) and personality traits can influence the relative importance of the two components (attitudinal and normative). From this theory, it can be deduced that before a deaf peer educator decides to perform, he/she has to consider her attitude towards peer education and his/her belief of what other people (e.g., school authority, other deaf peer educators and deaf students) think about his/her role as a peer educator. These factors are used to explain factors enhancing or inhibiting deaf peer educators' functioning.

The objectives of this study were to assess:

i. level of awareness and knowledge of HIV/AIDS among deaf secondary school students;
ii. respondents' attitude towards HIV/AIDS;
iii. respondents' degree of perceived susceptibility to HIV/AIDS; and
iv. risk behaviours (unprotected sex) that predispose respondents to HIV infection.

Methodist Grammar School (MGS), Bodija, Ibadan, Nigeria, the intervention school, was established on September 22, 1978, by the Methodist Church of Nigeria, Ibadan Diocese, but it was subsequently taken over by the Government of Oyo State. The unit for the deaf was established on November 5, 1979. At inception of the deaf unit, only 22 deaf students (14 boys and 8 girls) were enrolled. Enrolment for the 1996/97 session (during data collection) included 150 deaf students (85 boys and 65 girls). The staff strength was nine. Both the deaf and hearing students are within the same school compound but they are taught differently. The same educational curriculum is used by both the deaf and hearing, but HIV/AIDS component is not included.

The State Grammar School (SGS), Lagos, the control school, was established in 1980 by the Lagos State Government in furtherance of the free education program of the defunct Unity Party of Nigeria (UPN), which controlled that government. The unit for the deaf was established in 1985. School enrolment at the time of data collection (1996/97 session) was 211 deaf students (145 boys and 66 girls). Both the deaf and hearing students are within the same school compound but are taught differently. The same educational curriculum is used by both the deaf and hearing with no HIV/AIDS component.

Methods

Program Development/Implementation

Program design and strategies were developed from information derived from qualitative (focus group discussion [FGD], in-depth interview and key informants' interview) and quantitative (structured questionnaire) data collected from the study population. The peer education approach was selected as the strategy for the implementation of the AIDS education intervention among the intervention group.

Ten volunteers among the deaf students were trained as peer educators using the curriculum derived from information gathered at baseline. The curriculum covered the definition of AIDS, causes, mode of transmission, behaviours that put people at risk of HIV infection, working with deaf peers and practice on how to talk to peers. The training lasted for four weeks with two sessions per week. The medium of instruction was the sign language, as one of the authors is proficient in its oral expression and use. Following this training, the peer educators were exposed to a second training on drama, the text of which was written by one of the deaf peer educators. An outcome of this training was the production of a drama titled "HIV Prevention".

Service delivery by deaf peer educators was two-fold, comprising person-to-person education, group education complemented by educational materials, followed by drama presentation to all the deaf students. These intervention activities lasted for eight months. A monitoring instrument that documented the daily activities of the deaf peer educators was developed. This was filled and submitted weekly by deaf peer educators to the authors.

Development of Instrument and Administration Procedure

Research instruments were developed for both the qualitative and quantitative data collection. The former comprised focus group discussions (FGDs) that were administered to deaf students, in-depth interviews for class prefects, and key informants' interview for teachers. Information sought by these instruments include deaf students' knowledge of AIDS, male-female relationship among deaf students, AIDS education, teachers' awareness and knowledge of AIDS, preparedness to teach deaf students about HIV/AIDS, and behaviours that put deaf students at risk of HIV infection. The information derived from the quantitative instruments was used to design a self-administered structured questionnaire. The content validity of these instruments was verified from literature, which was later pre-tested on a group similar to the intended respondents. Pretest findings for the questionnaire showed that, unlike the hearing students, deaf students encountered difficulties in reading, understanding and correctly interpreting open-ended questions. This finding led to a reconstruction of all open-ended questions.

The FGD at baseline was conducted among two gender-based groups of deaf students using the developed guide. Each discussion session consisted of six deaf students and it lasted for one hour. The second set of FGD was conducted at

post-intervention among deaf peer educators and two groups of deaf students (gender-based). The discussion was based on deaf students' perception about peer education activities going on in their school. Moreover, class prefects in both junior and senior classes were interviewed using the in-depth interview guide already prepared on a one-to-one basis. Using the key informants' interview guide, four teachers, comprising two females and two males were interviewed. Furthermore, the revised questionnaire was completed by all deaf students in both intervention and control schools. The average administration time per questionnaire was one hour. Asking respondents not to put their names on questionnaires ensured anonymity. During administration of this instrument, research assistants who were fluent in sign language assisted in verifying the completeness of questionnaires on submission by the students.

Data Analysis

The FGDs were transcribed and themes generated. Information from in-depth interview and key informants' interviews was collated and edited manually, and the data was presented mainly in descriptive form. Questionnaire data were cleaned, coded, entered into computer and analysed using *EPI Info Version 6* software. Statistical analysis included frequency counts, means and standard deviation. Chi square analysis was used to assess the relationships between the two groups.

Results

The results are presented in three parts.

Part I — Service Delivery

A total of 77 out of the 150 deaf students in the school were reached. This comprised 31(40.3%) males and 46(59.7%) females (ratio 1:1.4). Of these 77, 6 were reached in October 1996, 21 in November 1996, 31 in January 1997, 12 in February 1997, 4 in March 1997 and 3 in April 1997. On the type of information provided by deaf peer educators, definition of HIV/AIDS topped the list, (40.3%), followed by 27.2% who obtained information on prevention of AIDS, 20.8% on transmission, 10.4% on causation and 1.3% on the difference between HIV and AIDS. A total of 120 people (deaf students, hearing students and teachers comprising 65 [54.2%] females and 55 [45.8%] males) watched the drama presentation. In addition, deaf peer educators pasted posters about AIDS in classes with assistance from class prefects. The major problem reportedly encountered during the service delivery was inadequate time to do peer education work. This problem was solved by using other avenues in reaching out to the deaf students. The avenues employed were re-introducing deaf peer educators to deaf students and assembling deaf students in front of their unit block for group education activity for 5 to 10 minutes once a week immediately after general assembly.

Part II — Survey Results

Demographic characteristics

The ages of respondents ranged from 10 to 22 years in both schools. A higher proportion falls within the 16 to 22 years age group with mean ages of 17 and 18 years in both schools. There was a higher proportion of males in both schools (50.9% males and 49.1% females in the intervention school; compared with 63.8% males and 36.2% females in the control school). Regarding respondents' educational level, 76(70.4%) respondents in the intervention schools were in junior classes while 31(28.7%) were in senior secondary classes. This compared favourably with 129(65.8%) students in junior secondary and 73(34.2%) in senior secondary in the control school. This trend was also found at post-intervention.

Sexual behaviour and condom use

Most of the respondents in both groups (52.8% intervention, 64.8% control) reported having boy/girlfriend at baseline and at post-intervention (59.3% intervention; 58.1% control). Further analysis showed that more than a quarter in both groups (39.8% intervention; 43.9% control) had had sex before. Age at first sexual intercourse ranged from 10 to 22 years with a large concentration in the 10 to 15 years age group. The mean age at first sexual intercourse in the intervention group was 14.5 years, compared with 15.3 years in the control. On frequency of sexual intercourse in the last three months preceding baseline data collection, 50.9% at the intervention and 56.1% at the control school had sex more than once. A decrease from 50.9% to 34.7% was however ob-

served among the intervention group after the program, which contrasted with an increase from 56.1% to 57.5% among the control group. The types of people that the deaf students had had sex with include fellow students (37.0% intervention and 43.4% control), casual acquaintances and sugar daddies/mummies (29.6% intervention and 22.9% control) (see Table 1).

Condom use during sexual activities in the last three months preceding data collection was examined. Use was low among the two groups (35.2% intervention and 36.7% control) at baseline. A decrease in use was found in both groups (from 35.2% to 26.3% intervention and from 36.7% to 33.9% control) after the program. Correct use of condom was low in both groups at baseline. Only 29.6% among the intervention group knew when to put it on, 31.5% knew when condom should be thrown away and 29.6% knew what to do when condom breaks during sexual intercourse. This compared with 25.0%, 20.4% and 20.6% respectively in the control group. An increase in knowledge of correct use of condom was observed at post-intervention follow-up in both groups on all the variables measured (from 29.6%, 29.6%, and 31.5% to 29.7%, 29.7%, and 42.4% among the intervention group; from 29.0%, 25.0%, 20.4% to %, 36.2%, and 33.3% among the control group). As regards condom effectiveness in preventing HIV transmission, 66.7% of respondents in the intervention group and 63.2% in control were affirmative at baseline. At post-intervention, a decrease in knowledge of effectiveness of condom in prevention was observed in both groups (from 66.7% to 59.3% intervention and from 63.2% to 60.3% control).

Awareness and knowledge of AIDS

At baseline, more respondents in the intervention (55.6%) and control (71.9%) schools were aware of HIV/AIDS. The main source of information was deaf friends (32.4%). Post-intervention findings revealed an increase in awareness level of respondents in the intervention group from 55.6% at baseline to 89.0%, compared with a decrease from 71.9% to 48.9% in the control. Further analysis revealed that knowledge of different issues about HIV/AIDS, i.e., causation, transmission and prevention, were low among both groups at baseline (intervention group 42.6%, 54.2% and 50.0%; control group 55.1%, 50.5% and 48.0%). However, at post-intervention, knowledge increase was observed more among respondents in the intervention group (64.0%, 47.5% and 57.6%), as compared with 49.7%, 51.2% and 59.3% in the control group (see Tables 2 & 3).

Attitude towards AIDS

Baseline results showed that attitudinal disposition of respondents in both groups was low with respect to being worried about contacting AIDS, thinking of AIDS as a big problem and wanting to hear more about AIDS. A more favourable attitude was noted among the intervention group at the end of the program (from 33.3%, 32.4% and 27.8% at baseline to 47.5%, 51.7% and 30.5%) at post-survey. Similarly, more respondents in the control group were favourably disposed at post-intervention (from 30.6%, 31.3% and 33.9% at baseline to 31.6%, 33.9% and 33.9%). These differences were statistically significant at post-intervention. However, attitude towards people with AIDS was not affected (Table 4).

Perceived susceptibility to AIDS

Results show that most respondents (76.9% among intervention group and 68.8% among the control) were worried about contacting AIDS. Group susceptibility, measured by the question "Do you see AIDS as a threat to deaf students?" was high at baseline (57.4% intervention and 52.5% control), which at post-survey increased to 61.0% among the intervention group but decreased slightly to 52.5% among the control. Gender susceptibility, which was measured by infection from infected male to female and vice versa, was found to be high among the intervention group (infection from infected male to female 60.1%, infection from infected female to male 60.2%) and the control (56.6% and 60.2% respectively). At post-intervention, a decrease was observed among the intervention group (from 60.2% to 53.4%) on infection from infected male to female, which contrasted with an increase (from 56.6% to 59.8% and from 60.2% to 60.3% respectively) among the control group. No difference was found at baseline and post-intervention among intervention group with respect to infection from infected male to female and vice-versa.

Table 1 **Respondents' Sexual Behaviour**

	Intervention group		Control group		p - value	
	Pre N = 108	Post N = 118	Pre N = 196	Post N = 174	Pre	Post
Have you ever had sex before?						
Yes	43 (39.8%)	41 (34.7%)	86 (43.9%)	83 (47.7%)		
No	57 (52.8%)	73 (61.9%)	104 (53.1%)	84 (48.3%)	0.20930	0.07302
*Not specified	8 (7.4%)	4 (3.4%)	6 (3.0%)	7 (4.0%)		
Age at first sexual intercourse						
10–15 years	57 (52.8%)	49 (41.5%)	90 (45.9%)	81 (46.6%)		
16–22 years	37 (34.2%)	30 (25.4%)	88 (44.9%)	70 (40.2%)		0.00024
*Not specified	14 (13.0%)	39 (33.1%)	18 (9.2%)	23 (13.2%)	0.18223	
	Mean age = 14.5	Mean age = 15.2	Mean age = 15.3	Mean age = 15.8		
Frequency of sexual intercourse						
Once a month	40 (37.0%)	28 (23.7%)	64 (32.7%)	69 (39.7%)		
Once in a while	30 (27.8%)	31 (26.3%)	56 (28.6%)	54 (31.0%)	0.01259	0.00016
Regularly	20 (18.5%)	21 (17.8%)	62 (31.6%)	289 (16.1%)		
*Not specified	18 (16.7%)	38 (32.2%)	14 (7.1%)	23 (13.2%)		
Number of people ever had sex with						
1 Person	58 (53.7%)	59 (50.0%)	108 (55.1%)	106 (60.9%)		
2 Persons	33 (30.6%)	22 (10.2%)	65 (33.2%)	47 (27.0%)	0.47746	0.00024
*Not specified	17 (15.7%)	37 (31.4%)	23 (11.7%)	21 (12.0%)		
Number of people respondents had had sex with						
Fellow student	40 (37.0%)	29 (24.6%)	85 (43.4%)	76 (43.7%)	0.50206	0.00009
Boy/girlfriend	44 (40.7%)	35 (29.7%)	110 (56.1%)	73 (42.0%)	0.03701	0.00077
Someone you met for the fun of it	28 (25.2%)	23 (19.5%)	71 (36.2%)	68 (39.1%)	0.13904	0.00006
Someone you have met a few times for money	32 (29.6%)	23 (19.5%)	91 (46.4%)	49 (28.2%)	0.01412	0.00674
Sugar daddy/mummy	32 (29.6%)	27 (22.9%)	66 (33.7%)	49 (28.2%)	0.69833	0.01378
Someone of the same gender as you	32 (29.6%)	21 (17.8%)	69 (35.2%)	49 (28.2%)	0.60165	0.00727
Prostitute	24 (22.2%)	24 (20.3%)	70 (35.7%)	42 (24.1%)	0.04729	0.0227
Frequency of sex in the last 3 months						
None	47 (43.5%)	62 (52.5%)	81 (41.3%)	64 (36.8%)		
1 or more times	55 (50.9%)	41 (34.7%)	110 (56.1%)	110 (57.5%)	0.57724	0.00028
*Not specified	6 (5.6%)	15 (12.7%)	5 (2.6%)	10 (5.7%)		

**Not specified excluded from* χ^2 $p = 0.498998$

Part III — Perception about the Program

1. From deaf peer educators

Results from FGDs conducted with deaf peer educators indicated that they believed that the program met the needs of deaf students with respect to HIV/AIDS and also benefited them as peer educators. First, it served as ego booster and motivator. Secondly, they felt the skills acquired are very useful to them both personally and their peers because the program helped to change their attitude towards the disease. Finally, most of them felt that it provided them with the feeling that they could be trusted with responsibilities.

On the target group served, more deaf peer educators said they observed that many deaf boys thought they were not vulnerable to HIV infection and as a result do not want to listen to them or ask question. Furthermore, they thought more females approached them because they were beginning to be conscious and aware that apart from being infected with HIV, they could get pregnant and this could put an end to their academic pursuit. In addition, most of them felt that they were highly accepted by their peers, which also served as a morale booster.

2. From peers

Most of the FGD participants (deaf students) said they were of the opinion that the project had been well timed, providing opportunity for them to know what AIDS is, its modes of transmission and prevention. They reported that the educational input had helped to clear the misconceptions they previously had about HIV/AIDS. When asked which aspect of the program had the greatest impact, all FGD participants unanimously identified drama. The greatest benefit derived (according to FGD participants) is the awareness that anybody can contact AIDS, a knowledge that has stimulated decision-making about condom use during sex. Some of the deaf male students now have the intention of requesting their sexual partners to go for HIV test, while refusal skills gained by females had empowered them to resist unprotected sex.

Table 2 **Awareness of AIDS among Respondents**

	Intervention group		Control group	
	Pre N = 108	Post N = 118	Pre N = 196	Post N = 174
Do you know about AIDS?				
Yes	60 (55.6%)	105 (89.0)	141 (71.9%)	85 (48.9%)
No	42 (38.9%)	13 (11.0%)	45 (23.0%)	86 (49.4%)
*Not specified	6 (5.5%)	0 (0.0%)	10 (5.1%)	3 (1.7%)
Source of information				
Deaf friends	35 (32.4%)	33 (28.0%)	77 (39.3%)	51 (29.3%)
Mother	26 (24.1%)	5 (4.2%)	18 (9.2%)	26 (14.9%)
Father	10 (9.3%)	7 (5.9%)	13 (6.6%)	13 (7.5%)
Teachers	8 (7.4%)	15 (12.7%)	29 (14.8%)	22 (12.6%)
Posters	3 (2.8%)	4 (3.4%)	5 (2.6%)	3 (1.7%)
Newspapers, etc	12 (11.1%)	17 (14.4%)	18 (9.2%)	29 (16.7%)
TV	6 (5.5%)	23 (19.5%)	22 (11.2%)	19 (11.0%)
Church/mosque	5 (4.6%)	9 (7.6%)	8 (4.1%)	6 (3.4%)
*Not specified	3 (2.8%)	5 (4.2%)	6 (3.1%)	5 (2.9%)

Table 3 **Respondents' Knowledge of AIDS**

Knowledge statements	Intervention group		Control group		p - value	
	Pre N = 108	Post N = 118	Pre N = 196	Post N = 174	Pre	Post
AIDS is a medical condition in which your body cannot fight diseases	48 (44.4%)	64 (54.2%)	92 (42.9%)	76 (43.9%)	0.17308	0.16934
AIDS is caused by a virus	46 (42.6)	75 (64.1%)	108 (55.1%)	86 (49.7%)	0.02164	0.20934
Anybody can have AIDS	67 (62.0%)	71 (60.2%)	113 (57.7%)	88 (50.9%)	0.6996	0.16833
AIDS cannot be spread through mosquito bite	42 (38.9%)	67 (56.8%)	80 (40.8%)	66 (38.2%)	0.41732	0.00753
You cannot have AIDS by using public toilet	50 (46.3%)	77 (65.3%)	87 (44.4%)	74 (42.8%)	0.0853	0.00009
AIDS can be cured	41 (38.0%)	53 (44.9%)	48 (24.5%)	61 (36.1%)	0.03994	0.20308
Having sex with someone who has AIDS is one way of contacting AIDS	58 (54.2%)	56 (47.5%)	99 (50.5%)	88 (51.2%)	0.24666	0.76069
Taking infected blood can give one AIDS	52 (37.0%)	71 (60.2%)	102 (52.0%)	96 (55.8%)	0.21174	0.11316
You cannot get AIDS through blood donation	40 (37.0%)	64 (54.2%)	67 (34.2%)	68 (39.5%)	0.25568	0.0113
There is no cure for AIDS	61 (56.5%)	70 (59.3%)	67 (34.2%)	78 (45.3%)	0.00016	0.01565
Most people who have AIDS usually die of the disease	67 (62.0%)	65 (55.1%)	105 (53.6%)	95 (55.2%)	0.49578	0.28265
AIDS is spread through kissing, using someone's comb or hair brush	33 (30.6%)	61 (51.7%)	47 (24.0%)	70 (40.7%)	0.09882	0.05260
You can prevent AIDS transmission by keeping away from sex	54 (50.0%)	68 (57.6%)	94 (48.0%)	102 (59.3%)	0.00391	0.32342
Having sex with only one partner	51 (47.2%)	64 (54.2%)	83 (42.3%)	85 (49.4%)	0.75581	0.75406
Using condom during each sexual intercourse	44 (40.7%)	65 (55.1%)	80 (41.0%)	86 (50.0%)	0.00309	0.01379
Taking injections only from hospital or clinic	59 (54.6%)	82 (69.5%)	121 (61.7%)	115 (66.9%)	0.13639	0.66699

**Only correct responses are displayed*

Expected group mean = 3

Pre

Group mean intervention group = 2.2
Group mean control group = 2.2
p = 0.0000001

Post

Group mean intervention group = 2.4
Group mean control = 2.2

Table 4 **Respondents' Attitude towards AIDS**

Attitudinal statements	Intervention group		Control group		p - value	
	Pre N = 108	Post N = 118	Pre N = 196	Post N = 174	Pre	Post
AIDS is not a big problem as people think it is	35 (32.4%)	61 (51.7%)	61 (31.3%)	59 (33.9%)	0.04132	0.00355
I am not worried about contacting AIDS	36 (33.3%)	56 (47.5%)	60 (30.6%)	55 (31.6%)	0.03917	0.0185836
I have heard enough about AIDS and I don't want to hear more	30 (27.8%)	36 (30.5%)	52 (26.5%)	59 (33.9%)	0.33199	0.37446
People with AIDS should be kept somewhere and not be allowed to move around	29 (26.9%)	28 (23.7%)	48 (24.5%)	55 (31.6%)	0.24416	0.00000
One should show love and care to people with AIDS	52 (48.1%)	63 (53.4%)	96 (49.0%)	68 (39.0%)	0.17741	0.01855

**Only correct responses are displayed* *Expected group* $\chi^2 = 3$

Pre
Group mean (intervention group) = 1.9
Group mean (control group) = 2.0

Post
Group mean (intervention group) = 2.1
Group mean (control group) = 1.9

$p = 4.70165 \times 10^{-03}$

3. From opinion leaders

All the opinion leaders were impressed about peer education activities carried out by peer educators although the school authorities acknowledged at the beginning of the program that they were uncomfortable with sexuality education in the school setting. Most of them felt that the program had increased the self-esteem of deaf students probably because they felt they had been recognised. On benefits derived from the program, most opinion leaders felt that many deaf students' knowledge of HIV/AIDS had increased and this was reflected in how some of the female students comport themselves. The opinion leaders felt that the program should be sustained in the school and probably extended to students in other schools, as this is the first of its kind they were aware of.

Discussion

The results show that deaf students in secondary schools are sexually active. The finding that more than half of respondents in both groups had had sex more than once within three months preceding data collection is important, as people often believe people with disabilities are not sexually active. This behaviour may increase their risk of HIV infection. The finding that sexual intercourse decreased among the intervention group, compared with an increase among the control, suggests that peer-led HIV/AIDS education interventions can influence young deaf adolescents in reducing sexual behaviour. Furthermore, on condom use, the results show an increase in knowledge of correct use of condom, but the proportion of respondents who used condom within three months preceding data collection was low, indicating that the students engage in unprotected sex. This finding seems to suggest that information alone may not be sufficient to motivate condom use.

The level of awareness of AIDS was found to be high among the respondents, with the major source of information being deaf peers. However, it was clear that part of this information is incom-

plete and technically inaccurate. It should be noted that despite increase in knowledge of the respondents, a few misconceptions still persist and these might influence decision making on HIV/AIDS compromising behaviours. One tangible outcome of the program was that intervention worked better in influencing knowledge of the cause, mode of transmission and methods of prevention of AIDS, indicating that peer-based HIV/AIDS education program might have succeeded in building deaf students' knowledge about HIV/AIDS. However, intervention seems not to affect their attitude towards people with AIDS (PWA), which showed that some attitudes are more difficult to change[1] with peer education.

In respect of perceived susceptibility to AIDS, there was an observed decrease at post-program follow-up in the intervention school. This might be a function of educational outcome in which respondents felt they were no longer engaging in at-risk behaviour and, therefore, no longer at risk of contacting HIV/AIDS risk-taking behaviour. This is not surprising because due to the long incubation period of HIV, youth rarely see their friends sick and dying of AIDS even though they may have already been infected with HIV. This study, therefore, shows that information alone is not sufficient to alter adolescents' attitude about being at risk.

Finally, concerning the peer education program, deaf peer educators acted as educators, role models, organisers, and discussion leaders on HIV/AIDS issues. The effect of these activities seems to have culminated in the changes observed in knowledge and sexual behaviour among the intervention group, as compared with control. The successes reported in this study have been documented elsewhere by Howard and Mc Cabe.[10] Mutual benefits were observed in the program, which suggests that using adolescents as peer educators in the school setting for deaf adolescents is a good strategy for reaching deaf youth with information about HIV./AIDS. However, it may be necessary to go beyond peer education if better changes in attitude and behaviour with respect to HIV/AIDS are envisaged. This has become imperative in view of the findings that deaf children have sex with fellow students, sugar daddies/mummies, and for money, and as the existence of deafness can make deaf students more vulnerable, as reported by Watson.[11] These abuses are usually unreported because deaf children do not have the vocabulary or communication skill to report, and when reported they are not likely to be believed, as there is difficulty in understanding them without an interpreter.

Lessons Learnt

Three major lessons were learnt form this study. The first is that deaf students are as sexually active as their hearing counterparts. It is therefore unrealistic and unwise to leave out this group of youth in the educational control of HIV/AIDS. Secondly, peer education approach appears to have worked in influencing deaf adolescents' HIV knowledge, attitude and belief in school setting and, therefore, becomes a promising intervention strategy for this population. Finally, it was observed that the school authorities are still uncomfortable with sexuality education but are willing to observe whether it would work or not. The challenge of these lessons is the need to conduct more of the type of studies and diffuse its findings widely especially among parents of deaf students and policy makers.

Conclusion

This study has explored the use of peer education strategy in passing on AIDS education to deaf secondary school students. Results showed that this strategy has been effective in improving the HIV/AIDS knowledge and decreasing sexual intercourse among deaf students. However, its limitation in affecting perception of susceptibility and sexual behaviour among the target group is noted. Therefore, the findings from this study suggest that peer education strategy alone may not be enough for adolescents in the school setting but may need to encompass other strategies involving families, religious institutions and community-based organisations, among others.

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