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Original Research Article

Intervention programmes for HIV and AIDS prevention: a study of in-school adolescents in Orlu Senatorial Zone of Imo State, Nigeria

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ABSTRACT

Background: Helpful strategies to prevent human immuno-deficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) among adolescents remain the greatest challenge in developing countries including Nigeria. In Nigeria, interventions for preventing HIV and AIDS for in-school adolescents are limited. This study used class-room instruction (CI) and drama (DR) for HIV and AIDS prevention among in-school adolescents in Orlu Senatorial Zone.
Methods: A quasi-experimental design using 165 students from three randomly selected co-educational secondary schools was adopted. Two experimental groups (CI and DR) and a control group were used for the study. Baseline data were collected using a semi-structured questionnaire with 29-point knowledge and 9-point attitudinal scales. Knowledge was analysed using the scores <15 and ≥15 for low and high knowledge respectively. For attitude, scores of <5 and ≥5 were categorised as negative and positive respectively. The results for baseline studies were used to design interventions that were implemented for 8 weeks. Also, mid-term and follow-up evaluations were conducted during the study. Data were analysed using descriptive statistics, t-test and ANOVA at p=0.05.
Results: The mean ages of the respondents in CI, DR and control groups were 13.4±1.2, 13.9±1.5 and 13.8±1.2 years respectively. Knowledge scores on HIV and AIDS at baseline were 20.5±2.7, 20.4±2.6 and 21.1±2.7 for CI, DR and Control groups respectively. These scores increased to 22.7±2.7, 22.6±1.8 and 21.2±0.3 at mid-term for CI, DR and control, respectively. At follow-up, scores for CI and DR increased to 23.9±1.8 and 24.5±1.4 respectively while the score for the control dropped to 20.0±2.8. Scores for attitude for CI, DR and control groups during baseline study were 5.3±1.4, 4.9±1.5 and 5.3±1.0 respectively. For mid-term, attitude scores were 5.1±1.2, 5.0±0.9 and 4.7±1.5 for CI, DR and control respectively while scores for follow-up were 5.3±1.2, 5.6±0.7 and 4.5±1.2, indicating greater increase among the intervention groups than that of control.
Conclusions: Based on the results of the study, drama yielded more positive outcomes in both knowledge gained and in attitudinal change among in-school adolescents than classroom instruction. Drama intervention is therefore, an important HIV and AIDS prevention strategy for in- school adolescents.

Keywords: HIV, AIDS, School-based intervention, Knowledge, Attitudinal change, Adolescents

INTRODUCTION

Infection with human immune-deficiency virus (HIV) remains the greatest trait to the sexual health of adolescents who are very vulnerable to the infection. Adolescents constitute 20% of the world population and 85% of them are in developing countries. New infections occur in adolescents within the age group of 15-24 years and these account for 40% of infections among this group. Adolescents' new infection constitutes a great

burden to the epidemics. Currently, about 82% of the estimated 2.1 million adolescents aged 10-19 years living with HIV and AIDS are in Sub-Sahara Africa and 58% of them are females. For AIDS cases, 80% of them worldwide are in the age range of 15 and 24 years.[1-6] The fact that 80% of AIDS cases worldwide are in the age range of 15 and 24 years calls for intervention to reduce the prevalence.

In Nigeria, where 22.1 %(28 million) of the population are adolescents aged 10-19 years, HIV prevalence was estimated at 4.1%. National prevalence rate among primary school pupils was given as 6.2%, secondary school 6.1%, and for tertiary institution 4.9%. In Imo State alone, HIV prevalence in 2010 for adolescents aged 15 - 24 years in both urban and rural areas were estimated as 2.2% and 3.4% respectively.[7-9]

Studies have shown that in developing countries, a good proportion of early adolescents (11-14 years) have had unprotected sexual relationship, making them vulnerable to HIV infection. A good number of such adolescents, share unsterile instruments such as clippers, razors, syringes, scissors and others. Unless interventions capable of increasing in-school adolescents' knowledge on HIV prevention are provided, incidence of HIV infection among adolescents will continue to increase.[10-13]

In the absence of a cure for AIDS, primary prevention through targeted intervention is the only feasible means of controlling HIV infection among the adolescents, especially the in- school adolescents. Unfortunately, HIV and AIDS prevention programmes are not adequate in many secondary schools including those in Orlu senatorial zone.[14,15]

Currently, adequate information on strategies to increase HIV risk reduction behaviours and attitudes among adolescents is limited in developing countries including Nigeria.[16-19] The most important is the inability to highlight interventions capable of communicating adequate knowledge and attitudes that will prevent adolescents especially those living with HIV and AID from infections with other strands of HIV.[20,21]

Apart from the occasional HIV and AIDS messages given by some health workers and teachers, organized interventions such as classroom-based teaching and drama have not been effectively utilized.[22,23] The study used classroom instruction and drama-based communication interventions to improve HIV and AIDS knowledge and attitudes among in-school adolescents.

Providing the two intervention strategies complemented the existing school HIV and AIDS prevention programmes as given by the Ministries of Education and Health. The objective of this study was to ensure the sustainability of these interventions for improved HIV prevention among in-school adolescents.

METHODS

A quasi-experimental design using three randomly selected co-educational secondary schools was adopted. A random sample of 165 students, comprising 55 students from each of the schools chosen was used. Two experimental groups, class room instruction (CI) and drama (DR) and also a control was used. To create more awareness on both sexes, co-educational (mixed) schools in the rural areas were studied. Third year students who were assumed to be sexually naïve and innocent were studied.

Baseline data were collected using a semi-structured questionnaire which included 29-point knowledge and 9-point attitudinal scales. The results got from the baseline study were used to design interventions that were implemented for 8 weeks. The gaps and wrong practices noted during the baseline study were used to develop the training curriculum (teacher's manual) for the interventions. The manual targeted the two intervention groups Classroom Instruction (CI) and the Drama (DR). The manual had six modules used for classroom instruction and five episodes for drama interventions. The control group was not exposed to any intervention.

Students for classroom instructions were taught for 2 hours per day for 2 days in a week and this lasted for a period of 2 months (8 weeks). Relevant teaching methods like group discussion, role play, demonstration, charts, hand bill and posters were used to facilitate the learning of the students. Also, students for drama were exposed for 2 hours per day for 2 days in a week and this lasted for 2 months (8 weeks). The drama used interactive session which explained some local issues that were not included among variables examined during the classroom discussions. At the end of the 2 months (8 weeks) intervention, mid-term and follow-up evaluations were conducted using the same instrument. Data were analysed with descriptive statistics, t-test and ANOVA at p=0.05.

Approval for the study was obtained from the Ethical Review Committees of the Imo State University and Ministry of Education. Informed consents were obtained from the Principals of the schools studied and also from the respondents.

RESULTS

Respondents' socio-demographic characteristics are presented in Table 1. The mean ages of respondents in experimental group 1 (C1), experimental group 2 (DR) and Control (C) groups were 13.4±1.2, 13.9±1.5 and 13.8±1.2 respectively. Table 1 for details of the respondents' socio-demographic characteristics.

Respondents' knowledge of HIV and AIDS prevention for baseline, midterm and end lines

The respondents' knowledge on HIV and AIDS was compared for both interventions (C1, DR) as well as for the control group. From the result of the midterm assessment, 88.5% of those who received C1, 92.6% of those who had DR and 76.4% of the control group had good knowledge of HIV and AIDS. Figure 1 for more details.

Table 1: Socio-demographic characteristics of the respondents.

Variable	Intervention 1 (classroom instruction) (N=55) № (%)	Intervention 2 (Use of drama) (N=55) № (%)	Control (N=55) № (%)	Statistics	p-value
Location					
Rural	55 (100.0)	55 (100.0)	55 (100.0)		
Urban	0 (0.0)	0 (0.0)	0 (0.0)		
Age (in group)					
10-14 years	47 (85.5)	35 (63.6)	44 (80.0)		
15 years above	8 (14.5)	20 (36.4)	11 (20.0)	F=2.344	0.09
Mean ± SD	13.4 ± 1.2	13.9 ± 1.5	13.8±1.2		
Minimum-Maximum	10-16	10-16	12-17		
Sex				$\chi 2$ =	
Male	33 (60.0)	24 (43.6)	28 (50.9)	2.960	0.22
Female	22 (40.0)	31 (56.4)	27 (49.1)	df = 2	
Religion					
Christianity	55 (100.0)	55 (100.0)	55 (100.0)		
Ethnicity					
Igbo	55 (100.0)	55 (100.0)	55 (100.0)		

Table 2: Summary of ANOVA of Mean Scores on knowledge of HIV and AIDS prevention.

Study group	Baseline Mean (SD)	Mid term Mean (SD)	End line Mean (SD)	Total Mean (SD)	F test (p-value)
Experimental 1	20.5±2.7	22.7±2.7	24.0±1.9	22.4±3.0	0.279
Experimental 2	20.4±2.6	22.6±1.8	25.0±1.4	22.7±3.1	0.001*
Control	21.2±2.7	21.2±2.2	20.1±2.8	20.8±3.8	0.000*
Over all	165 20.7±2.7	161 22.2±2.3	158 23.0±2.9	484 22.0±	

* Significant at p=0.05.

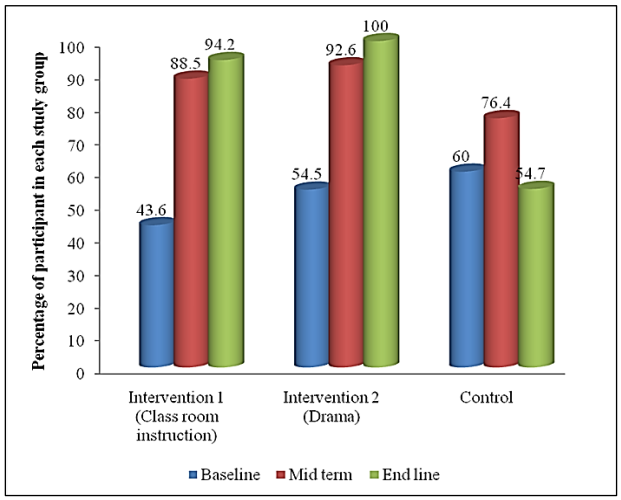

Figure 1: Respondents knowledge on HIV and AIDS prevention for baseline, midterm and end lines.

The mean score for respondents' knowledge on HIV and AIDS prevention for baseline midterm and follow-up studies using the 29-point scale was examined. The Table below contains the summary of ANOVA for the respondents' mean score.

From this Table, the mean scores for intervention 2 (DR) with p=0.001 and control group with p=0.000 are significant while the score for intervention 1 (CI) with p=0.279 is not significant.

Respondents' attitude towards associating with persons living with HIV and AIDS at baseline and end line.

The respondents' attitudinal disposition towards associating with those living with HIV and AIDS was assessed. The findings at midterm showed that respondents in C1 (82.7%) and DR (81.1%) were of the view that people living with HIV and AIDS should not be

stigmatized or rejected. At baseline, a small proportion of respondents in C1 (3.6%) and DR, (5.5%) opted that they could stay in the same classroom with those living with HIV and AIDS. Later finding during the follow-up evaluation showed significant increase in the willingness of the respondents to stay in the same classroom with those HIV positive, the result showed that respondents in C1 (76.9%) and DR (90.6%) respectively decided that they would be willing to stay in same classroom with those HIV positive, while the control group 18.2%, showed the willingness to stay in same classroom with those HIV positives.

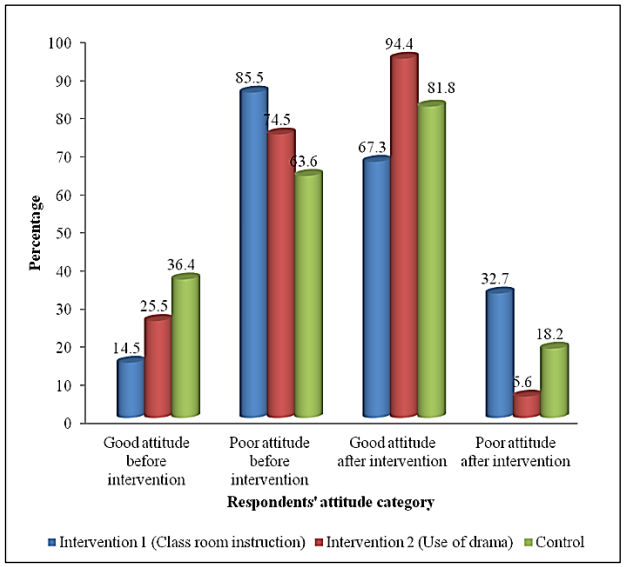

Figure 2: Respondents' attitude toward associating with those living with HIV and AIDS.

The mean score for the respondents' attitude towards associating with those living positively with HIV and AIDS was examined. Table 3 contains the mean score of the respondents' responses. From the findings, intervention 2 (DR) and control group with p=0.002 respectively are significant while intervention 1 (CI) with p=0.640 is not significant. See the Table for details.

Hypotheses testing

Hypothesis one

H01: There is no significant difference on HIV and AIDS knowledge gained by respondents in intervention 1 (C1) and intervention 2 (DR) at baseline and follow-up interventions.

Comparison on the extent of HIV and AIDS knowledge gained between respondents in intervention 1 and intervention 2 at baseline and follow-up was examined.

The ANOVA table below contained the significant levels of knowledge gained on HIV and AIDS between respondents on intervention 1 (C1) and intervention 2 (DR) groups. From the findings, there is significant difference on the knowledge of HIV and AIDS gained among the respondents. The result contained on Table 4 showed that the mean knowledge score gained by the respondents in intervention 1 (CI) was (24.0±1.9) and that of intervention 2 (DR) was (25.0±1.4) revealing some difference. Based on this result, the null hypothesis as stated above is rejected (p>0.05).

Table 3: Mean score on respondents' attitude towards persons living with HIV and AIDS.

Study group	Baseline Mean±SD	Follow-up		Total Mean±SD	F test	p-value
		Mid term Mean±SD)	End line Mean±SD			
Intervention 1	5.3±1.4	5.1±1.2	5.3±1.2	5.2±1.3	0.436	0.640
Intervention 2	4.9±1.5	5.0±0.9	5.6±0.7	5.2±1.1	6.268	0.002*
Control	5.3±1.0	4.7±1.5	4.5±1.2	4.9±1.3	6.670	0.002*
Overall	5.2±1.4	4.9±1.2	5.1±1.1	5.1±1.3	2.003	0.13
	1.267±0.28	1.046±0.35	16.201±0.00*	3.759±0.02*		

* Significant at p=0.05.

Table 4: Respondents' overall knowledge score on HIV and AIDS for interventions 1, 2 and control at (baseline, midterm and end line.

Study group	Baseline Mean (SD)	Mid-term Mean (SD)	End line Mean (SD)	Total Mean (SD)
Intervention 1	20.5±2.7	22.7±2.7	24.0±1.9	22.4±3.0
Intervention 2	20.4±2.6	22.6±1.8	25.0±1.4	22.7±3.1
Control	21.2±2.7	21.2±2.2	20.1±2.8	20.8±3.8
Overall	20.7±2.7	22.2±2.3	23.0±2.9	22.0±3.3
F test	1.323	6.841	71.266	
p-value	0.279	0.001*	0.000*	

* Significant at p=0.05

Hypothesis two

H02: There is no significant difference in the overall HIV and AIDS knowledge score between intervention 1 (C1), intervention 2 (DR) and Control at baseline, midterm and follow-up.

Table 4 above contains the significant knowledge score levels for the intervention groups 1, 2 and the control. From the result in the Table, scores for the respondents at baseline studies with p= 0.279 is not significant, while the scores for midterm and end line with p=0.001 and 0.000 respectively are significant. Based on this result, hypothesis two above which states that there is no difference in the overall knowledge is rejected.

DISCUSSION

The study used two interventions, classroom instruction (CI) and drama (DR) as strategies to prevent HIV and AIDS among in-school adolescents. The two interventions had positive impact on students' knowledge on basic facts about HIV and AIDS including mode of transmission and methods of prevention. The interventions therefore, created awareness on HIV prevention among the respondents. The fact that the two interventions drama and classroom instruction made positive impact on the respondents' HIV and AIDS knowledge implies that using edu-entertainment medium in communicating basic health information will enhance adolescents' knowledge on health-related issues including that of HIV and AIDS as well as other sexually transmitted infections. This finding agrees with that of which confirmed knowledge increase among adolescents after providing educational interventions and coincides with the popular view that "knowledge is power".[10,11] This agrees with the views of that knowledge, attitudes and values acquired at the secondary school levels play critical roles in increasing HIV and AIDS prevention as well as healthy life styles.[5,9]

The finding that the interventions provided to the respondents enabled them to understand transmission modes, preventive measures and the causative agent of HIV and AIDS was evidenced by the high proportion of the respondents who opted to stay in the same classroom with those living positively with HIV and AIDS as well as the mean number of respondents who held the view that students with HIV and AIDS should not be stigmatized or rejected.

Further evaluation of the findings during midterm and follow-up revealed significant increase in the respondents' knowledge on HIV modes of transmission and prevention more than at baseline. This increase was more pronounced among the respondents who received drama intervention than those who received classroom intervention. The positive effects recorded among drama intervention groups could be due to the appealing, catching, influencing, and motivational attributes inherent in drama presentations as highlighted in the Social Learning Theory (SLT) of Bandura. Basically, attention is important for a learner. The learner learns better when a model that induce attention is presented. Actors and actresses in drama presentations work hard to capture the interest of their audience so as to induce learning. The result of increased knowledge after drama presentation highlights the importance of drama as a behaviour change communication. Therefore, drama should be used as an appropriate medium for communicating health messages to in-school adolescents.

The attitude of the respondents towards people living with HIV and AIDS showed positive attitudes. The positive attitude was noticed more among the respondents who received drama than the classroom instruction intervention. That is, drama yielded more positive attitudes towards persons living with HIV and AIDS than classroom instruction. This was shown by the high mean score of the respondents who had drama. The respondents who received drama were more willing to share classrooms as well as associate with those living with HIV and AIDS more than those who had classroom instruction.

The positive attitude noted among those who received drama intervention might have been influenced by the length of time the drama took. Presenting the drama for a long period offered the opportunity for repeated exposures in the same theme. Repeated exposures guaranteed increased learning and appreciation of the magnitude of the problem under review and contributed to the respondents' readily acceptance of those living with HIV and AIDS. The positive attitude of the respondents who received drama as noted in the study is not surprising and could be linked to the communication strategies in drama presentation which make long lasting impression in the minds of the audience after intervention. This is in consonance with the findings of which observed improved attitude after providing theatre.[1,5,9]

CONCLUSION

The fact that drama recorded improved knowledge on HIV prevention as well as guaranteed positive attitude toward people living with HIV and AIDS showed that drama influenced behaviour practices positively. Based on these findings, drama-based communication has special attributes that make lasting impression in the minds of learners and is capable of producing sustainable experiences. Drama is therefore, recommended as a veritable strategy for addressing HIV and AIDS knowledge and attitudinal change for in-school adolescents.

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REFERENCES

1. Loutfy MR, Blitz S, Zhang Y. Self-Reported Preconception Care of HIV-Positive Women of Reproductive Potential: A Retrospective Study. J Int Assoc Provid AIDS Care, 2013. Available at http://www.ncbi.nlm.nih.gov/pubmed/23918921.
2. Federal Ministry of Health (FMOH). Technical Report: National HIV Sero-prevalence Sentinel Survey among pregnant Women attending Antenatal Clinics in Nigeria. Federal Ministry of Health, Department of Public Health National AIDS/STI Control Programme, Abuja, Nigeria; 2010.
3. Federal Ministry of Health (Nigeria). National human immunodeficiency virus and acquired immunodeficiency syndrome and Reproductive Health Survey 2012 (plus II): Human Immunodeficiency virus Testing. J HIV Hum Reprod. 2014;2:15-29.
4. Paul-Ebhohimhen VA, Poobalan A, van Teijlingen ER. A systematic review of school-based sexual health interventions to prevent STI/HIV in sub-Saharan Africa. BMC Public Health; 2008:8:4.
5. Singhal A, Rogers EM. Combating AIDS: Communication strategies in action. New Delhi India: Sage Publication Ltd; 2003.
6. Stover J, Walker N, Garnett GP, Salomon JA, Stanecki A, Ghys PD, et al. Can we reverse the HIV/AIDS pandemic with an expanded response? The Lancet. 2002;360:73-7.
7. UNAIDS/WHO. Report on the global AIDS epidemic. WHO Library Cataloguing-in-Publication Data, Geneva, Switzerland New Delhi India: Sage Publication Ltd; 2010.
8. World Health Organization Social determinants of health and well-being among the young people. Health Behaviours in school aged children (HBSC). International report from the 2009/2010 survey; 2012.
9. Orji EO, Esimai OA. Sexual behaviour contraceptive use among secondary school students in Ilesha South West Nigeria. J Obstet Gynaecol. 2005;25(3):269-72.
10. Ijioma BC, Kalu IG, Nwachukwu CU, Nwachukwu IG. Incidence Cases of HIV/AIDS Infection in Owerri West Local Government Area of Imo State, Nigeria. Res J Biol Sci. 2010;5(4):304-9.
11. Ajuwon AJ, Titiloye M, Oshiname F, Oyediran O. Knowledge and use of HIV counselling and testing services among young persons in Ibadan, Nigeria. Int Quart Com Health Educat. 2011;31(1):33-50.
12. Helleve A, Flisher AJ, Onya H, Mathews C, Aarø LE, Klepp KI. The association between students' perceptions of a caring teacher and sexual initiation. A study among South African high school students. Health Educat Res. 2011;26(5):847-58.
13. Fisher JC, Bang H, Kapiga SH. The association between HIV infection and alcohol use: a systematic review and meta-analysis of African studies. Sexually transmitted diseases. 2007;34(11):856-63.
14. Rogers RW. A protection motivation theory of fear appeals and attitude change. J Psychol. 1975;91:93-114.
15. Michie S, Abraham C. Interventions to change health behaviours: Evidence- based or evidence-inspired? Psychol Health. 2004;19:29-49.
16. Gebhardt WA, Maes S. Integrating social-psychological frameworks for health behaviour research. Am J Health Beh. 2001;25:528-36.
17. Cohen J. AIDS origins. Disputed AIDS theory dies its final death. Science. 2001;292(5517):615a-15.
18. Johnson LF, Lewis DA. The effect of genital tract infections on HIV-1 shedding in the genital tract: a systematic review and meta-analysis. Sex Transm Dis. 2008;35(11):946-59.
19. Anderson BL, Firnhaber C, Liu T. Effect of trichomoniasis therapy on genital HIV viral burden among African women. Sex Transm Dis. 2012;39(8):638-42.
20. Blish CA, McClelland RS, Richardson BA. Genital inflammation predicts HIV-1 shedding independent of plasma viral load and systemic inflammation. j acquir immune Defic Syndr. 2012;61(4):436-40.
21. Homans J, Christensen S, Stiller T. Permissive and protective factors associated with presence, level, and longitudinal pattern of cervicovaginal HIV shedding. J Acquir Immune Defic Syndr. 2012;60(1):99-110.
22. Donnell D, Baeten JM, Kiarie J. Heterosexual HIV-1 transmission after initiation of antiretroviral therapy: a prospective cohort analysis. Lancet. 2010;375(9731):2092-8.
23. Del Romero J, Castilla J, Hernando V, Rodriguez C, Garcia S. Combined antiretroviral treatment and heterosexual transmission of HIV-1: cross sectional and prospective cohort study. BMJ. 2010; 340:c2205.

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