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HIV and AIDS Risk Reduction Intervention Programmes among in-school Adolescents in Imo State, Nigeria

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ABSTRACT

Introduction:

Human Immuno-deficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) constitute public health challenge in Nigeria and adolescents are increasingly becoming vulnerable. It is necessary to provide adolescents in schools with risk-reduction educational interventions so as to expose them on the need to protect themselves from getting infected. This study used risk-reduction interventions (Class-room Instruction and Drama) to encourage risk-reduction practices among in-school adolescents.

Materials and method:

Quasi-experimental design using 165 students randomly selected from three convenient co-educational secondary schools in the rural areas was adopted. Two experimental groups, class room instruction (CI) and drama (DR) were used. Baseline data using semi-structured questionnaire with 27- point risk reduction practices were collected. Data were analysed with descriptive statistics, t-test and ANOVA at p =0.05.

Result:

Scores for HIV risk reduction practices among the adolescents at baseline, classroom instruction (CI), drama (DR) and control respectively were 18.5±4.6, 19.8 ± 5.8 and 17.0 ± 4.8 . The mid-term scores obtained were 23.8 ± 3.4, 23.6 ± 3.4 and 17.7 ± 5.1. The scores obtained for CI, DR and control groups at follow-up were 24.9 ± 2.6, 26.7 ± 1.1 and 17.0 ± 5.3 respectively. The results showed more effective risk reduction practices among the intervention groups than control group.

Conclusion

Drama intervention yielded more positive outcomes in risk-reduction practices than others. Drama is therefore recommended as the best HIV and AIDS intervention programme for in- school adolescents.

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Introduction

Exposure to human immunodeficiency virus (HIV) can be a consequence of many risk- behaviours that adolescents take. Data from several parts of Nigeria point to an increasing sexual activity among in-school adolescents both male and female. Without adequate information on the need for adolescents to use contraceptive, there is increased risk for HIV infection (1 -3).

Currently, the 82% of the estimated 2.1 million adolescents aged 10-19 years that are living with HIV and AIDS are in Sub-Sahara Africa and a good number of them, 58% are females (4,5). According to (6,10), adolescents aged 10- 24 years constitute 31.7% of the total population of the country, with nearly equal proportion of males and females (50.1% males versus 49.9% females) who are at risk of HIV infection(7,8). These are the ages of promise, opportunities, challenges and risks. The risks bother on developing value systems that will influence the lives of adolescents positively (9). It is therefore, imperative to assist adolescents to make the right reproductive health choices (11,12).

Studies have shown the benefits of providing adolescents with the correct information on HIV and AIDs and reproductive health issues. Providing correct reproductive health and HIV and AIDS information will help adolescents to delay sexual debut (13,14). Extending HIV and AIDS prevention programmes in secondary schools prior to sexual debut is the most effective strategy to reduce the prevalence rates of HIV and other sexually transmitted infections among adolescents (15,16). According to (6,7), the National HIV prevalence rates among adolescents in secondary schools and tertiary institutions are 6.1% and 4.9 % respectively[17]. Looking at these rates, adolescents in secondary schools are more at risk of HIV infection than those in tertiary institutions. The increasing rates of HIV infection among these adolescents is of great concern and calls for timely intervention. Unfortunately, HIV risk-reduction education programmes are inadequate in most secondary schools in Nigeria (9, 11).

Currently, little information is known about the adolescents' competencies in skills for HIV prevention and safe behaviours on HIV Infection (18-20). There is need to use effective strategies to communicate HIV and AIDS risk reduction practices to young in-school adolescents so as to decrease HIV prevalence among them. Apart from the occasional HIV and AIDS messages provided by health workers and some teachers, the efficacies of using interventions such as classroom-based teaching and drama have not been adequately determined. This study therefore, investigates the effectiveness of using classroom instruction and drama-based communication interventions to improve HIV and AIDS knowledge among in-school adolescents with the view of integrating the more effective one into the existing school HIV and AIDS prevention programmes organized by Ministries of Education and Health.

Material and methods:

A quasi-experimental design was adopted. A randomly selected sample of 165 students, made up of 55 students each, was selected from three convenient co-educational secondary schools in the rural areas. The sample size was calculated based on the knowledge of risk reduction practices obtained during the pilot study conducted. The sample was chosen on the assumption that the students would not leave school before the end of the study and also that they are sexually naïve and innocent. The study had two experimental groups, classroom instruction (CI) , drama (DR) and a control group. The study concentrated on co-educational schools (mixed) in the rural areas so as to expose both sexes to risk reduction skills at the same time.

Baseline data were collected with the use of a semi-structured questionnaire that contained 27- point risk reduction practice scales . The results of the baseline study carried out showed that the respondents had poor knowledge of the skills that could encourage

HIV prevention. The results of the pilot study were used to design interventions that were implemented for the respondents for 8 weeks. The gaps in the respondents' knowledge were used to develop training curriculum (Teachers manuals) for the intervention carried out. The manual targeted two intervention groups (classroom instruction and the drama groups). The manual contained six modules for classroom instruction and five episodes for drama interventions which were implemented as, Experimental group 1 (Classroom Instruction) and Experimental group 2 (Drama). The control group was not exposed to any intervention. Experimental Group 1(Classroom instruction) students were taught 2 hours per day for 2 days in a week giving a total of 4 hours. This was from 11am-1 pm for the period of 2 months (8 weeks) that the study lasted. Relevant teaching methods such as group discussion, role play, demonstration, charts, hand bills and posters were used to facilitate learning for the respondents.

Also for Experimental Group 2 (Drama), students were equally exposed to 2 hours each day for 2 days in a week from 11am to 1pm for the 2 months (8 weeks) the study lasted.

Mid-term and follow-up evaluations were conducted using the same instrument. For risk reduction practices, scores of <13 was categorized as negative while that of ≥13 was positive. Data were analysed using descriptive statistics, t-test and ANOVA at p=0.05.

Ethical consideration:

Ethical Review Committees of the Imo State Ministry of Education and Imo State University gave approval before the commencement of the study. After the approval from the ethical committee , informed consent was sought and obtained from the respondents.

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
Age (in years)					
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					
Male	33 (60.0)	24 (43.6)	28 (50.9)	$\chi 2 = 2.960$	0.22
Female	22 (40.0)	31 (56.4)	27 (49.1)	df = 2	

Result:

Respondents' socio-demographic characteristics are presented in Table1. The mean age of respondents in Experimental group1 (C1), was 13.4 ± 1.2, that of Experimental group 2 (DR) was 13.9 ± 1.5, while that of Control (C) group was 13.8 ± 1.2. Male respondents dominated in Experimental group 1(CI) 33(60%) ,and that of control group(C) 28 (50.9%) unlike that of Experimental group 2 (DR), where 31(56.4%) of the respondents were females.

Figure 1 below compares changes in the knowledge of risks for HIV infection for C1 and DR interventions, as well as that of the control group. Knowledge of HIV and AIDS was compared for each group during the baseline, mid-term and end-line interventions (see the figure for details).

The overall mean knowledge scores of HIV risks

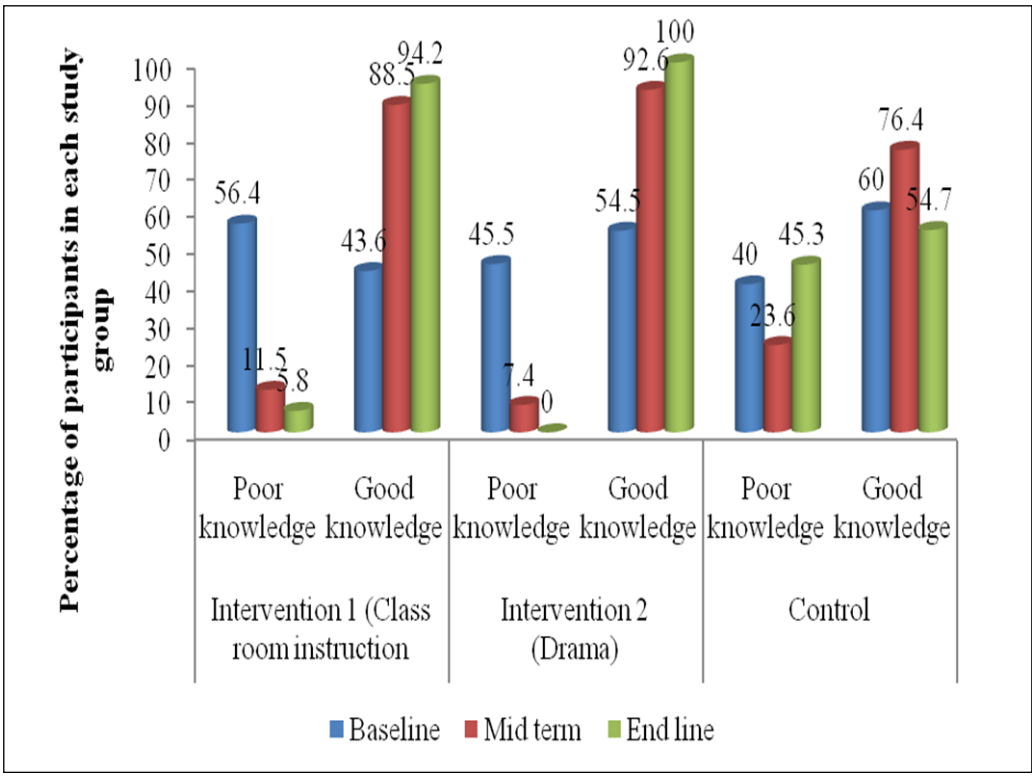

Figure 1. Respondents' overall knowledge of the risks for HIV infection in the two experimental and control groups

at baseline, midterm and follow-up evaluations were explored. The result showed significant difference ($p<0.05$) between baseline result and that of immediate intervention and follow-up. See Table2 for details.

results got after each stage of the intervention, the respondents had tremendous decrease in the extent to which they exposed themselves to risky behaviours. See Tables 3 to 5 for details of the result on each

Table 2: Overall mean knowledge score of HIV risks (Baseline, Midterm and Follow-up on the 29-point scale).

Summary of Mean Scores on knowledge of HIV and AIDS using ANOVA

Study groups	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*
Overall	165 20.7 ±2.7	161 22.2 ±2.3	158 23.0 ±2.9	484 ± 22.0	

** Significant at p=0.05*

The types of risks the respondents indulged in were examined. The result showed that the respondents undertook several risks which they need to reduce so as to protect themselves from HIV infection. From the intervention group. The respondents' overall mean scores for HIV risk reduction practices at baseline, mid term and follow-up interventions were examined.

The result showed significant difference

Table 3 : respondents' risk reduction practices during baseline study

Variable	Baseline		
Risk reduction practices statement	E 1 (Classroom instruction) № (%)	E 2 (Use of Drama) № (%)	Control № (%)
Playing with sharp object			
Never	27 (49.1)	34 (61.8)	23 (41.8)
Once	22 (40.0)	15 (27.3)	14 (25.5)
Twice	6 (10.9)	6 (10.9)	18 (32.7)
Sharing tooth brushes at home			
Never	34 (61.8)	45 (81.8)	35 (63.6)
Once	12 (21.8)	8 (14.5)	12 (21.8)
Twice	9 (16.4)	2 (3.6)	8 (14.5)
Sharing of razors and nail cutters in cutting nail			
Never	21 (38.2)	22 (40.0)	13 (23.6)
Once	16 (29.1)	19 (34.5)	20 (36.4)
Fighting and biting other student			
Never	44 (80.0)	36 (65.5)	34 (61.8)
Once	6 (10.9)	12 (21.8)	15 (27.3)
Twice	5 (9.1)	7 (12.7)	6 (10.9)
-First-aid Treatment of injured students without gloves			
Never	28 (50.9)	31 (56.4)	19 (34.5)
Once	10 (18.2)	15 (27.3)	14 (25.5)
Twice	17 (30.9)	9 (16.4)	22 (40.0)
-Sharing your clothing's with other students			
Never	32 (58.2)	38 (69.1)	33 (60.0)
Once	12 (21.8)	13 (23.6)	15 (27.3)
Twice	11 (20.0)	4 (7.3)	7 (12.7)

Table 4: respondents' risk reduction practices during mid-term

Variable	Mid-term		
Risk reduction practices statement	E 1 (Classroom instruction) № (%)	E 2 (Use of Drama) № (%)	Control № (%)
Playing with sharp object			
Never	45 (86.5)	52 (96.3)	22 (41.8)
Once	7 (13.5)	2 (3.7)	10 (25.5)
Twice	0 (0.0)	0 (0.0)	23 (32.7)
-Sharing tooth brushes at home			
Never	42 (80.8)	46 (85.2)	37 (67.3)
Once	10 (19.2)	8 (14.8)	8 (14.5)
Twice	0 (0.0)	0 (0.0)	10 (18.2)
-Sharing of razors and nail cutters in cutting nail	49 (94.2)	52 (96.3)	22 (40.0)
Never	3 (5.8)	2 (3.7)	17 (30.4)
Once	0 (0.0)	0 (0.0)	16 (29.1)
Twice			
-Fighting and biting other student			
Never	45 (86.5)	44 (81.5)	31 (56.4)
Once	7 (13.5)	10 (18.1)	17 (30.9)
Twice	0 (0.0)	0 (0.0)	7 (12.7)
-First-aid Treatment of injured students without gloves			
Never	45 (86.5)	44 (81.5)	25 (45.5)
Once	7 (13.5)	10 (18.1)	17 (30.9)
Twice	0 (0.0)	0 (0.0)	13 (23.6)
Sharing your clothing's with other students			
Never	10 (58.8)	31 (57.4)	25 (45.5)
Once	6 (35.3)	18 (33.3)	17 (30.9)
Twice	1 (5.9)	5 (9.3)	13 (23.6)
Having sex while in school			
Never	51 (98.1)	53 (98.1)	53 (96.4)
Once	0 (0.0)	1 (1.9)	2 (3.6)
Twice	1 (1.9)	0 (0.0)	0 (0.0)
Having sex while in outside school			
Never	51 (98.1)	51 (98.1)	51 (92.7)
Once	0 (0.0)	1 (1.9)	4 (7.3)
Twice	1 (1.9)	0 (0.0)	0 (0.0)

Table5: Respondents'risk reduction practices during follow-up

Variable	Follow-up		
Risk reduction practices statement	E 1 (Classroom instruction)	E 2 (Use of Drama)	Control № (%)
Playing with sharp object	42 (80.8)	52 (98.1)	23 (43.4)
Never	10 (19.2)	0 (0.0)	12 (22.6)
Once	0 (0.0)	1 1.9)	18 (34.0)
haring tooth brushes at home			
Never	49(94.2)	53(100.0)	25 (47.2)
Once	3 (5.8)	0 (0.0)	18 (34.0)
Twice	0 (0.0)	0 (0.0)	10 (18.9)
-Sharing of razors and nail cutters in cutting nail			
Never	45 (86.5)	50 (94.3)	15 (28.3)
Once	4 (7.7)	0 (0.0)	22 (41.5)
Twice	3 (5.8)	3 (5.7)	16 (30.2)
-Fighting and biting other student			
Never	47 (90.4)	53 (100.0)	36 (67.9)
Once	2 (3.8)	0 (0.0)	12 (22.6)
Twice	3 (5.8)	0 (0.0)	6 (9.4)
-First-aid Treatment of injured students without gloves			
Never	46 (88.5)	53(100.0)	18 (34.0)
Once	5 (9.6)	0 (0.0)	17 (32.0)
Twice	1 (1.9)	0 (0.0)	18 (34.0)
Sharing your clothing's with other students			
Never	46 (88.5)	52 (98.1)	29 (54.7)
Once	5 (9.6)	1 (1.9)	20 (37.7)
Twice	1 (1.9)	0 (0.0)	4 (7.5)
Having sex while in school			
Never	52 (100.0)	53 (100.0)	53 (100.0)
Once	0 (0.0)	0 (0.0)	0 (0.0)
Twice	0 (0.0)	0 (0.0)	0 (0.0)
Having sex while in outside school			
Never	52 (100.0)	53 (100.0)	48 (90.6)
Once	0 (0.0)	0 (0.0)	4 (7.5)
Twice	0 (0.0)	0 (0.0)	1 (1.9)

Table 6: Respondents' overall mean score for HIV/ and IDS risk reduction practices in the Baseline, Midterm and follow-up interventions.

Study group	Baseline Mean (±SD)	Mid term Mean (±SD)	End line Mean (±SD)	Total Mean (±SD)	F test	p-value
Intervention 1	18.5 ± 4.6	23.8 ± 3.4	24.9 ± 2.6	22.4 ± 3.5	4.295	0.015*
Intervention 2	19.8 ± 5.8	23.6 ± 3.4	27.0 ± 1.1	23.5 ± 3.4	40.602	0.000*
Control	16.9 ± 4.8	17.8 ± 5.1	17.0 ± 5.3	17.2 ± 5.1	118.793	0.000*
Overall	18.4 ± 5.2	21.7 ± 5.0	22.8 ± 5.5	21.0 ± 5.2		

** Significant at p=0.05*

(p<0.05) between the baseline and other intervention groups. Table 6 contains the details of this result.

The risk reduction scores for experimental group 1 (CI) and experiment group 2 (DR) were compared. From Table7 below, there was significant difference in the risk reduction practices observed among the respondents where classroom instruction and drama methods were used. The result showed that the mean score for risk reduction practices for experimental group 1 (CI) was 2.1±2.6 while that of experimental group 2 (DR) was 0.3±1.7. This result shows that DR achieved significant risk reduction practices more than CI f=72.53; p=0.000 . See Table 7 for details.

Table7: Comparing HIV and AIDS mean score for risk reduction practices between CI and DR interventions

Experimental groups	N	Mean (SD)	X (SE)	F	p-value
Intervention 1 (Class room Instruction)	52	2.1 ± 2.6	2.61		
Intervention 2 (Drama)	53	0.3 ± 1.7	1.07	72.532	0.000*

** Significant at p=0.05*

DISCUSSION

The study was designed to determine the effects of two educational interventions, Classroom instruction (CI) and Drama (DR) on HIV and AIDS risk reduction behaviours among in-school adolescents in Imo State, Nigeria. There was significant difference between the respondents' level of risk reduction practices in Experimental group 1 (CI), and Experimental group 2 (DR). Drama was more effective than classroom instruction in increasing the respondents' knowledge of HIV risk reduction as evidenced by the respondents' overall mean scores for HIV risk reduction practices. The fact that drama was more effective than classroom instruction in initiating positive impacts on the respondents' HIV knowledge and risk reduction practices showed that drama has the characteristics of appealing and catching the attention of listeners. Appealing and catching the attention of listeners which could influence memory and motivation as postulated in the Social Learning Theory (SLT) of Bandura cited in Bauer , Davies, and Pelikan (2006) could be responsible for the positive effects recorded among the respondents.

In line with the findings of Bauer , Davies, and Pelikan (2006) attention is important in learning and one tends to pay more attention to any model that will be of resemblance to him or her. This finding that drama

proved more effective in adolescents' risk reduction practices agrees with the results of previous studies by Singhal and Rogers (2003) and Ajuwon (2010) where there was increase in knowledge on HIV prevention after educational intervention. Realizing that "knowledge is power" the knowledge, attitudes and values the respondents likely acquired after intervention will play critical role in HIV and AIDS risk reduction practices thereby promote healthy life style among respondents.

Also the central role teachers played as classroom instructors as well as actors and actresses in drama intervention is a panacea to this study. It is possible that teachers taking part as actors and actresses in drama made significant impression to the respondents and this must have acted as a positive factor in the significant risk reduction practices recorded among those who benefited from drama intervention. This was also corroborated in the findings of Ajayeoba (2012) and Fonner et al (2014) where it was noted that drama made positive impact in knowledge of HIV prevention among adolescents.

Nine items were used to measure the adolescents' risk reduction practices. From the result, sharing of razor blade and nail cutter in cutting nails was common among the students during the baseline study. After the intervention, the proportion of students who reduced the risky practice of sharing razor blade and nail cutters decreased. The most significant decrease in this practice was noted among students who benefited from drama intervention. Similar reports were received in sharing tooth brushes in the homes, fighting and biting other students and playing with sharp objects that can cause injuries.

The fact that classroom instruction method of intervention recorded less decrease in risk reduction practices shows that adolescents sometimes resist instruction for behaviour change. This finding on adolescents' resistance to change agrees with that of Singhal and Rogers (2003) and Ajuwon et al (2011).

The finding on sexual intercourse showed that the proportion of adolescents who engaged in sexual intercourse with fellow students decreased significantly after the interventions. This finding agrees with the theory of stages of change and adoption of innovation by Prochasca where it was anticipated that late adopters of change are always expected to take place. The fact that the respondents reduced their sexual exploits after the interventions conform with the principles of '*Catch them young'* and this principle was very beneficial in helpin to achieve the objectives of the study. This finding agrees with the conclusion given by Stover et al, (2002) and Ajuwon et al (2011) which emphasized the need for early school-based HIV and AIDS risk reduction intervention so as to help adolescents avoid risk taking behaviours capable of endangering their life styles.

Though the two interventions used had positive impacts in increasing the respondents' knowledge on basic facts about HIV risks , respondents who had drama recorded higher knowledge scores than those who had classroom instruction. This implies that using edu-entertainment medium in communicating basic HIV and AIDS risk reduction to in-school adolescents has more positive effects in increasing knowledge on prevention than other methods. In this study, drama-based communication had special attribute that encouraged sustainable experience that showed lasting impression in the minds of the respondents. Drama is therefore, recommended as the most appropriate and effective school-based intervention needed to achieve HIV and AIDS risk-reduction for in-school adolescents in Imo State, Nigeria.

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