

Effect of sex education programme on at-risk sexual behaviour of school-going adolescents in Ilorin, Nigeria

Mary Ogechi Esere

University of Ilorin, Nigeria.

Abstract

Background: Adolescents display sexual behaviours and developmental characteristics that place them at risk for Sexually Transmitted Diseases (STDs). Because young people experiment sexually and because of the consequences of indiscriminate sexual activities on the youth, there is the need to mount sex education programmes that are geared towards enlightenment and appropriate education about sex and sexuality.

Objective: To determine whether Sex Education Intervention Programme would reduce at-risk sexual behaviours of school-going adolescents.

Design: Pre-test, post-test control group quasi-experimental design

Setting: A randomly selected co-educational school in Ilorin Metropolis, Nigeria

Participants: 24 school-going adolescents aged 13-19 years

Intervention: Sex Education Programme (treatment group) versus Control programme (placebo)

Main Outcome Measures: Self-reported exposure to sexually transmitted diseases, multiple sex partners, anal sex, oral sex, non use of condom.

Result: When the treatment (intervention) group was compared with the control group in an intention to treat analysis, there were significant differences in at-risk sexual behaviours of the two groups. Those in the intervention group reported less at-risk sexual behaviours than their counterparts in the control group. The treatment group evaluated the intervention programme positively and their knowledge of sexual health improved. Lack of behavioural effect on the control group could be linked to differential quality of delivery of intervention.

Conclusion: Compared with the control group, this specially designed intervention sex education programme reduced at-risk sexual behaviour in adolescents. Based on this finding, it was recommended that sex education be introduced into the curriculum of secondary school education in Nigeria.

Key words: Sex Education; At-Risk Sexual Behaviour; School-Going Adolescents, Nigeria.

African Health Sciences 2008; 8(2): 120-125

Introduction

The period of adolescence occupies a unique stage in every person's life. It is a period of transition from childhood to adulthood¹. Adolescence has been described as a stage among human beings where a lot of physiological as well as anatomical changes take place resulting in reproductive maturity in the adolescents². Many adolescents manage this transformation successfully while others experience major stress and find themselves engaging in behaviours (e.g. sexual experimentation, exploration and promiscuity etc.) that place their well-being at risk³. Adolescents display sexual behaviours and developmental characteristics that place them at risk for Sexually Transmitted Diseases (STDs). A primary source of risk of HIV/AIDS for instance is unprotected /indiscriminate sexual activity⁴. By the time

they are 18, most adolescents in Nigeria are sexually active). Despite increased sexual knowledge⁶, adolescents in Nigeria are poor contraceptive users⁷. They are less likely than adults to consistently use condoms or other methods of protection that could reduce their chances of infection⁸. Neither specific teaching about contraception nor improving the contraceptive service consistently increases effective contraceptive use by young teenagers⁹. Adolescents having sexual intercourse before age 16 are more likely to take risks¹⁰. They have more sexual partners during their lifetime and more partners per year and they start sexual activity earlier in new relationships than those who become sexually active after age 16¹¹.

In Nigeria today, sex education is yet to be incorporated into the curricula of secondary school education¹². Many Nigerians are reluctant to discuss sexuality and sexual health openly. In most African countries, Nigeria in particular, matters relating to sex and sexuality are usually shrouded in secrecy¹³. Neither the adolescent boy nor girl has free access to the information he or she needs on sexuality. Questions bordering on sexuality and girl-boy relationships are

Correspondence

Mary Ogechi Esere

Department of Guidance and Counselling,

P.M.B. 1515, University of Ilorin, Nigeria

Email: maryogechi@yahoo.com

Phone: +234 08033907176

usually hushed up and regarded as taboos¹⁴. The consequence of this action is that Nigerian adolescent boys and girls find answers to sex-related questions on their own, often from questionable sources that are likely to give them wrong information^{15,16}, making them more likely to indulge in reckless and unguarded sexual experimentation. Some adolescents lack adequate communication and assertiveness skills to negotiate safer sex¹⁷. Some feel unable to refuse unwanted sex or feel compelled to exchange sex for money.^{18,19}. Because young people experiment sexually²⁰ and because of the consequences of indiscriminate sexual activities on the youth, there is the need to mount sex education programmes that are geared towards enlightenment and appropriate education about sex and sexuality. This is the focus of this study.

Consequences of Early Sexual Activity

In Nigeria, problems associated with adolescents' sexual health include high rates of teenage pregnancy²¹; a rising incidence of sexually transmitted diseases^{22,23}, high rates of abortion mortality²⁴, etc. Medical problems associated with adolescents' sexual behaviour are a major health burden to Nigerians. Problems are not confined to pregnancy but include secondary infertility and development of cervical abnormalities in adolescents²⁵. Early sexual activity has negative consequences for young people. Adolescents who become sexually active enter an arena of high-risk behaviour that leads to physical and emotional damage²⁶. Each year, influenced by a combination of a youthful assumption of invincibility, and a lack of guidance (or misguidance and misleading information), millions of adolescents ignore those risks and suffer the consequences.

Young men who have sex with men are at high risk for HIV and other sexually transmitted diseases. It has been found that individuals infected with an STD are at least two to five times more likely than uninfected individuals to acquire HIV if exposed to the virus through sexual contact²⁷. One study found that among gay male clinic patients screened for STDs, those 15 to 20 years old had the highest age-specific rates of rectal Chlamydia and gonorrhoea²⁸. These findings suggest the need for effective sex education for the young ones.

Sex Education

Sex education is a process whereby information is given or imparted to a group of young ones and which takes into account the development, growth, the anatomy and physiology of the human reproductive system and changes that occur from youth all through stages of

adulthood²⁹. Sex education is the acquisition of knowledge that deals with human sexuality³⁰. It consists of instruction on the development of an understanding of the physical, mental, emotional, social, economic and psychological phases of human relations as they are affected by sex. In other words, sex education involves providing children with knowledge and concept that will enable them make informed and responsible decisions about sexual behaviours at all stages of their lives. The aims of sex education, according to British Medical Association Foundation for AIDS,³¹ are ambitious relating to the lifelong quality of relationships and personal behaviour. It should be age appropriate and available to everyone through a variety of forms and informal settings. Since adolescents' characteristics predispose them to high risky sexual activities, behavioural interventions are needed to reduce their at-risk sexual behaviours. The present study is an attempt in this direction.

Objective: To determine whether Sex Education Intervention Programme would reduce at-risk sexual behaviours of school-going adolescents.

Method

Research Design

This study adopted pre test, post test control group quasi-experimental design using a two (2) by two (2) factorial analyses (See Table 1). The treatment group and the control group constituted the row and gender formed the column.

Table 1: A 2x2 factorial design

Experimental levels	Gender	
	Male	Female
Treatment Group (A)	6	6
Control Group (B)	7	5
Total	15	9
GrandTotal	24 (Participants)	

Participants and Setting

A total of twenty four (24) students, drawn from a mixed sex secondary school in Ilorin Metropolis constituted the study sample. Initially, a total of 200 students were involved in the preliminary screening exercise. The "At-Risk Sexual Behaviour Scale" was administered to all the 200 students. After scoring, the scores ranged between 20 and 50. A cumulative frequency of the scores was prepared and those with scores corresponding to the 66th percentile and above were classified as having high at-risk sexual behaviour. Eighty (80) out of the 200 students fell into this category.

The 80 students were then selected using a stratified random sampling technique to gather a cross-sectional sample across gender, ethnic groups, age and religious affiliations. Through this process the sample was reduced to 40. A couple of criteria were satisfied by the participants before they were deemed qualified for selection into the experimental programme. These include:

1. Willingness to take part in the experimental programme by voluntarily signing a consent form;
2. Participants' age must be within 13 – 19 years;

On the recruitment day, the participants who met the requirements for selection were randomly assigned to the two experimental groups (The treatment group and the control group). The mean age of the participants was 15.50 years, while the age range was between 13 and 19 years.

Instrument

The participants completed the At-Risk Sexual Behaviour Scale (developed by the researcher) before and after the experimental programme. The instrument was formatted on a 4-point Likert type scale, consisting of two sections. Section A deals with personal characteristics of the participants while section B has 20 items comprising statements on at-risk sexual behaviour such as: I

- i) Have multiple sexual partners;
- ii) Participate in group sex;
- iii) Do not use condoms while having sex;
- iv) Get involved in anal sex,;
- v) Get involved in oral sex etc.

For the purpose of this study, the higher the total score, the higher the at-risk sexual behaviour of the adolescents and vice versa. Requesting experts in the related field of study to vet the instrument established its content validity. The panel of experts made various suggestions which were taken into account, and necessary corrections were made. Following the consensus of the experts on the suitability of the instrument for use in the study, they were adjudged valid. The reliability of the instrument was determined, through Cronbach alpha reliability technique with a coefficient value of 0.73. This lends credence to the suitability of the instrument for the study.

Procedure for Treatment

The procedure for collecting data was divided and was carried out in two stages as follows:

- Pre-treatment phase; and
- Treatment phase

Pre-treatment phase:

On the recruitment day, after the introductory talk, those who would not find the programme convenient were asked to leave. Twenty six out of the fifty adolescents who met the requirements for inclusion (see the section on participants and setting) indicated their unwillingness to participate in the experimental programme and were allowed to leave remaining twenty four adolescents. These were randomly assigned to the following groups:

- Monday (Treatment Group A: Sex Education Programme - SEP)
- Thursday (Control Group B)

The author retained the control group and “tied” them down by giving them a placebo. A different day was used for the casual meetings with the control group so as to avoid “contamination” with the treatment group.

Control of Extraneous Variables

The author took certain steps to prevent or at least minimize the incursion of extraneous variables into the experimental programme. Some of those steps include:

- *Non-Differential Selection of Subjects:* In experimental designs in which a control group is used, the effect of the treatment can sometimes be confounded because of differential selection of subjects for the treatment and control groups. To avoid this type of confounding effect, the author selected treatment and control groups participants that did not differ except for exposure to the experimental treatment.
- *Participants were screened,* randomly selected and assigned to the treatment and control groups.
- *In order to prevent contamination,* a different venue was used for the casual meetings with the control group.
- *To avoid any form of interaction,* the author ensured that each experimental group attended the training programme on separate days.
- *Instrument:* A learning gain may be observed from pre-test to post-test because the nature of the instrument used has changed. To guard against this, the same instrument was used for both the pre-test and the post-test measurements.
- *To ensure seriousness, full participation and to avoid experimental mortality (a situation where participants quit in mid-experiment),* participants were highly motivated and only adolescents who signed the consent form to show their willingness to take part in the programme were used.

The Treatment Phase: The participants that received the treatment (SEP) were those in the experimental group A. The SEP intervention is an 8

sessions (1 session per week) programme. It is intended to reduce at-risk/unsafe sexual behaviours of school-going adolescents, and improve the quality of sexual relationships. The programme combines active learning (e.g. work in small groups and games), information leaflets on sexual health, and development of skills, primarily through role playing. It has the 10 characteristics identified by ^{32,33} as necessary for effective programmes. The content incorporated strategies identified as potentially successful from a review of health education literature and projects³⁴. Subjects covered included puberty, reproduction, contraception, and negotiation in relationships, including training in assertiveness skills. The emphasis on avoidance of risks came not from instruction but from “empowered” personal choice gained through involving students in role plays and group work. In order to ensure that accurate information about medical issues is given to the participants, a medical doctor was co-opted as a research assistant. Participants in the control group were involved in the pre-treatment meetings, assignment into

groups and response to the pre-test and post-test questionnaire forms but there was no treatment for them.

Data Analysis

The data obtained for this study were analysed to determine the effects of the independent variable (Sex Education Programme) on the dependent variable (reduction in at-risk sexual behaviour). The Analysis of Covariance (ANCOVA), using the pre-treatment test scores as covariates was employed for the data analysis.

Results

In this section, the results of the data analysis for this study were presented. The results were presented according to the hypothesis that guided the study.

Hypothesis 1: It states that there is no significant difference in the at-risk sexual behaviour of school-going adolescents exposed to treatment and those in the control group. In testing this hypothesis, three statistical analyses were carried out. The results were presented in Tables 2 and 4.

Table 2: Means (X and Y) of adolescents’ At – risk sexual behaviour scores based on experimental levels (rows) and gender (columns)

Experimental Levels	Gender					
	Male			Female		
	N	x-x	y-x	N	x-x	y-x
Treatment Group (A)	6	42.30	20.11 (a)	6	41.86	20.84 (c)
Control Group	7	41.60	40.90 (b)	5	41.10	40.22 (d)

Table 3: Summary results of ANCOVA for adjusted (Y-means) on adolescents’ at-risk sexual based on rows (experimental conditions) and columns (gender).

Source	SS	df	MS	F
Rows	31.12	1	31.12	95.93*
Columns	8.06	1	8.06	.23
Interaction	.54	1	.54	.64
Within	744.18	20	37.09	

*Significant, p>0.05 level

Table 4: Comparison of rows and columns, showing adjusted y means, pooled standard error computed from least mean square and t-values

Cells	N	df	LMS	S.E	t-value	P
A vs b	13	11	3.21	0.67	4.22	<0.001
A vs c	12	10	3.21	0.62	2.15	NS
A vs d	11	09	3.21	0.57	4.01	<0.001
B vs c	12	10	3.21	0.65	4.20	<0.001
B vs d	12	10	3.21	0.63	1.65	NS
C vs d	11	09	3.21	0.56	4.10	<0.001

NS = Not Significant

The tabular details represented in Tables 2-4 showed the unadjusted and adjusted means of the two experimental groups. Significant differences can be observed between the x-means and the y-means of the treatment group while no such differences were recorded for the control group (Table 2). From this observation of pre-test and post-test means, it can be deduced that the Sex Education Programme had a substantial impact in reducing the at-risk sexual behaviour of the adolescents their gender notwithstanding. The Analysis of Covariance that followed threw more light on the level of significant difference between the experimental groups.

The result in Table 3 showed that a significant difference existed between the scores of participants who were exposed to the treatment package and those in the control group ($F=95.93$; $df 1/20$, $p<.05$). Thus the treatment (rows) was found to be significant while no interaction effect was observed between row (treatment) and columns (gender). This implies that male and female school-going adolescents benefited from the programme. Further insight into the hypothesis was provided by the results displayed in Table 4. Based on Tables 2 and 3, the null hypothesis which stated that there is no significant difference in the at-risk sexual behaviour of school-going adolescents exposed to treatment and those in the control was rejected. The comparison of the cells (Table 4) confirms the result as the hypothesis was rejected in 4 out of the 6 cells. The only area where no significant difference was recorded was between male and female participants exposed to the same experimental condition.

Discussion

The main purpose of this study was to investigate the effect of sex education programme on at-risk sexual behaviour of school-going adolescents in Nigeria. When the treatment (intervention) group was compared with the control group in an intention to treat analysis (see Tables 1-4), there were significant differences in at-risk sexual behaviours of the two groups. Those in the intervention group reported less at-risk sexual behaviours than their counterparts in the control group. Lack of behavioural effect on the control group could be linked to differential quality of delivery of intervention. The present findings have corroborated such studies as Wight, Raab, Henderson, Abraham, Buston, Hart, & Scott³⁵ which tried to determine whether a theoretically based sex education programme for adolescents delivered by teachers reduced unsafe sexual intercourse compared with control programme. Participants were 8430 pupils aged 13 – 15 years. When the intervention group was compared with control

group, pupils evaluated the intervention programme more positively and their knowledge of sexual health improved. The present findings also lend credence to the research findings of Kelly, et al. (36) whose peer-based interventions were found to be effective in reducing sexual risk-taking behaviour among adolescents.

Within a broad-based sex education programme, the researcher detected changes in attitude, increases in sexuality knowledge and a relative decrease in at-risk sexual activity compared to the control group. The attitude changes included a decrease in adolescent's beliefs that multiple sex partners are not hazardous to health. The researcher considers this an indication of increased knowledge about at-risk sexual behaviours, one main objective of the programme. An examination of literature and a programme review³⁷ suggested that applying principles of social learning in sex education (so that students learn, do role play, and observe their effectiveness in controlling relationships) rather than more traditional educational methods of didactic teaching, were more likely to be associated with behavioural change

The researcher found that the level of adolescents' understanding of human sexuality limited their ability to make informed decisions. For instance almost half of the adolescents (49%) thought that the middle of the menstrual cycle equated with the "safe period". To this end, the researcher continued to include a considerable factual content in this programme but delivered the information by using group work and group discussion. Having a doctor present in the lessons helped in giving accurate information about medical issues but the researcher controlled the process of delivery.

Conclusion

Compared with the control group, this specially designed intervention sex education programme, reduced at-risk sexual behaviours in adolescents. Based on this finding, it was recommended that sex education be introduced into the curriculum of secondary school education in Nigeria. Sex and relationships education should not be regarded as a negative process that attempts to frighten teenagers away from a powerful biological drive. Whatever the effective components of sex education are, the positive aspects of sexual and intimate relationships should not be forgotten.

References

1. Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in contemporary African society*. Ibadan: Hadassah Publishing.
2. Kirby, D. (1999). School-based programmes to reduce sexual risk-taking behaviour. *Journal of School Health*, 62, 559-63
3. Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in contemporary African society*. Ibadan: Hadassah Publishing.
4. Remafedi, G. (1999). Predictors of unprotected intercourse among gay and bisexual youth: Knowledge, beliefs and behaviour. *Pediatrics*, 94, 163 – 168.
5. Abogunrin, A. J. (2003). *Sexual behaviour, condom use and attitude towards HIV/AIDS among adolescents in Nigeria*. An Unpublished Ph.D thesis, University of Ilorin, Nigeria.
6. Esere, M. O. (2006). HIV/AIDS awareness of in-school adolescents in Nigeria: Implications for adolescence sexuality. *Journal of Psychology in Africa*, 16(2), 255 – 258. 4.
7. Abogunrin, A. J. (2003). *Sexual behaviour, condom use and attitude towards HIV/AIDS among adolescents in Nigeria*. An Unpublished Ph.D thesis, University of Ilorin, Nigeria
8. Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in contemporary African society*. Ibadan: Hadassah Publishing
9. Kirby, D. (1999). School-based programmes to reduce sexual risk-taking behaviour. *Journal of School Health*, 62, 559-63.
10. Mellanby, A; Phelps, F, & Tripp, J. (1999). *British Medical Journal*, 307:25.
11. Johnson, A. M; Wadsworth, J; Wellings, K & Field, J. (1999). *Sexual attitudes and lifestyles*. Oxford: Blackwell Scientific Publications.
12. Esu, A. E. O. (1999). Sex education in Nigerian schools: Issues facing adolescents and Nigerian educators. In I. D. N. Nwachukwu (Ed.) *Cotemporary Issues in Nigerian Education and Development*. Enugu: Sam Star & Company, pp.291-301.
13. Esere, M. O. (2006). HIV/AIDS awareness of in-school adolescents in Nigeria: Implications for adolescence sexuality. *Journal of Psychology in Africa*, 16(2), 255 – 258. 4.
14. Esere, M. O. (2006). HIV/AIDS awareness of in-school adolescents in Nigeria: Implications for adolescence sexuality. *Journal of Psychology in Africa*, 16(2), 255 – 258. 4.
15. Abogunrin, A. J. (2003). *Sexual behaviour, condom use and attitude towards HIV/AIDS among adolescents in Nigeria*. An Unpublished Ph.D thesis, University of Ilorin, Nigeria.
16. Esere, M. O. (2006). HIV/AIDS awareness of in-school adolescents in Nigeria: Implications for adolescence sexuality. *Journal of Psychology in Africa*, 16(2), 255 – 258. 4.
17. Maduakonam, A. (2001). Sex education in schools: A panacea for adolescent sexuality Problems. In R. U. N. Okonkwo & Romy Okoye (Eds.) *The Nigerian Adolescent. In Perspective*. Awka: Theo Onwuka and Sons Publishers, pp 74-82.
18. Nwabuisi, E.G. (2004). *Support networks and adjustment needs of HIV/AIDS patients in the .Zonal 'hotspots' in Nigeria*. An unpublished Ph. D Thesis, University of Ilorin,
19. Ayoade, C. A. (2006). *Relationships among leisure, social self-image, peer pressure and risk behaviour of adolescents in Nigeria*. An unpublished Ph.D thesis, University of Ilorin, Nigeria.
20. Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in contemporary African society*. Ibadan: Hadassah Publishing.
21. Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in contemporary African society*. Ibadan: Hadassah Publishing. .
22. Abogunrin, A. J. (2003). *Sexual behaviour, condom use and attitude towards HIV/AIDS among adolescents in Nigeria*. An Unpublished Ph.D thesis, University of Ilorin, Nigeria.
23. Nwabuisi, E.G. (2004). *Support networks and adjustment needs of HIV/AIDS patients in the .Zonal 'hotspots' in Nigeria*. An unpublished Ph. D Thesis, University of Ilorin,
24. Akingba, J. B. (2002). Abortion mortality and other health problems in Nigeria. *Nigeria Medical Journal*, 1(4), 465 - 471.
25. Akingba, J. B. (2002). Abortion mortality and other health problems in Nigeria. *Nigeria Medical Journal*, 1(4), 465 - 471.
26. Esere, M. O. (2006). HIV/AIDS awareness of in-school adolescents in Nigeria: Implications for adolescence sexuality. *Journal of Psychology in Africa*, 16(2), 255 – 258.
27. Centres for Disease and Prevention, (2000). *Tracking the hidden epidemics: Trends in STDs*. Retrieved on October 10, 2006 at <http://www.cdc.gov/nchstp/od/news/RevBrochure1pdf.toc.htm>
28. Remafedi, G. (1999). Predictors of unprotected intercourse among gay and bisexual youth: Knowledge, beliefs and behaviour. *Pediatrics*, 94, 163 – 168.
29. Maduakonam, A. (2001). Sex education in schools: A panacea for adolescent sexuality Problems. In R. U. N. Okonkwo & Romy Okoye (Eds.) *The Nigerian Adolescent. In Perspective*. Awka: Theo Onwuka and Sons Publishers, pp 74-82.
30. Esu, A. E. O. (1999). Sex education in Nigerian schools: Issues facing adolescents and Nigerian educators. In I. D. N. Nwachukwu (Ed.) *Cotemporary Issues in Nigerian Education and Development*. Enugu: Sam Star & Company, pp.291-301.
31. British Medical Association Foundation for AIDS. (1997). Using research on effectiveness to guide the *development of school sex education*. BMA Foundation for AIDS, London.
32. Kirby, D. (1999). School-based programmes to reduce sexual risk-taking behaviour. *Journal of School Health*, 62, 559-63.
33. Kirby, D; Short, L; Collins, J; Rugg, D; Kolbe, L; Howard, M, et al (2002). School based-programmes to reduce sexual risk behaviour: A review of effectiveness. *Public Health Rep*, 109, 339-360.
34. Mellanby, A; Phelps, F, & Tripp, J. (1999). *British Medical Journal*, 307:25 35. Wight, D; Raab, G; Henderson, M; Abraham, C; Buston, K; Hart, G. & Scott, S. (2002). *Limits of teacher delivered sex education: Interim behavioural outcomes from randomized trial*. Retrieved on October 20, 2006 at <http://www.pubmedcentral.nih.gov>
36. Kelly, J. A. et al. (1999). HIV risk behaviour reduction following intervention with key opinion leaders of a population: An experimental analysis. *American Journal of Public Health*, 81, 168-171.
37. Mellanby, A; Phelps, F, & Tripp, J. (1999). *British Medical Journal*, 307:25