World Journal of Biology Pharmacy and Health Sciences
eISSN: 2582-5542
Cross Ref DOI: 10.30574/wjbphs
Journal homepage: https://wjbphs.com/

(RESEARCH ARTICLE)

Check for updates

Effect of sex education on knowledge of rape and unprotected sex among secondary school students in Emohua Local Government Area

Ohaka, Chisalokwu *

Department of Epidemiology, School of Public Health, University of Port Harcourt, Nigeria.

World Journal of Biology Pharmacy and Health Sciences, 2024, 19(01), 480–489

Publication history: Received on 19 June 2024; revised on 26 July 2024; accepted on 29 July 2024

Article DOI: https://doi.org/10.30574/wjbphs.2024.19.1.0466

Abstract

Rape and unprotected sex are major reproductive health issues that affect young people around the world, including secondary school students, and can increase the risk of health issues. There has been a significant surge in dangerous behaviour among students at schools all over the world. Sex education, which teaches factual information on skills, knowledge, and attitudes, is required in light of the health repercussions of rape and hazardous sexual uprising among adolescents. This quasi-experimental study involved 234 students from secondary schools in the Emohua Local Government Area. The intervention group received 8 weeks of sex education after collecting baseline data. After receiving sex education, the intervention groups' understanding of rape and sex grew by 37.6% and 30.8 percent, respectively. In terms of views, while sentiments about rape remained same, attitudes for sex improved by 4.3 percent. The median differences in knowledge of rape and sex were statistically significant in an analysis of covariance, with sex education having a medium influence (r =.428) and a minor effect (r =.258), respectively. Though statistically significant, attitudes toward sex were not influenced by sex education. Sex education enhanced awareness of rape and unprotected sex in the intervention arm compared to the control group, and while it had no effect on attitudes toward rape, it did increase attitudes toward unprotected sex among pupils who took part in the intervention.

Keywords: Sexual Education; Rape Awareness; Unprotected Sex; Secondary School Students; Emohua Local Government Area

1. Introduction

Rape and unprotected sex are major reproductive health issues evident among young people around the world, capable of elevating the dangers of health problems like unwanted pregnancies, and sexually acquired diseases including human immunodeficiency virus (HIV) (Folayan et al., 2014; Idowu et al., 2017). Rape entails coerced or non-consensual sexual abuse secretly perpetrated against any gender (Opara et al., 2012), while unprotected sex an element of risky sexual behaviour is lifestyle related (Mewton et al., 2019).

Due to the surge of rape worldwide, especially amongst the female populace, the apex organization of health, proclaimed forceful or coerced sexual entrapments of girls and women as an epidemic requiring prompt interventions in both high, and low-middle-income countries (Ogunfowokan & Fajemilehin, 2012). Husada (2019) stated that 50% of sexual abuse worldwide is committed against adolescent girls below 18 years. In Nigeria, as echoed by Gbarada (2020), reports of incident rape cases are under the actual happenstances due to factors like stigmatization, honour killing, and family disownment, and the current statistics might be a false representative of the truth. Most cases of rape are perpetrated in hesitancy, thus, likely to be approached unprotected.

Unprotected sex like other factors of risky sexual behaviours significantly impacts health of youths, and is closely linked to numerous health problems; sexual violence, trauma, unintended pregnancy, and STI's (Hall et al., 2019). Around the

* Corresponding author: Ohaka, Chisalokwu

globe, there is a substantial increase in sex-oriented risk behaviour among school students. In America, 27.4% of adolescents attending high school have had sexual dealings (Centers for Disease Control and Prevention [CDC], 2020). In Nigeria, the above average (50.8%) prevalence of STI's among adolescents (Ugboma et al., 2016), showcases risky sexual characteristics among school going adolescents. Drawing from the health implications of rape and risky sexual uprising among adolescents, sex education which provides factual information on skills, knowledge, and attitudes is necessary to curtail STIs/STDs, unintended pregnancies, and sexual violence, as well as to improve individual health and future relationships (Hall et al., 2019). Schools are tertiary players in educating adolescents, thus, deployment of sex education into curriculums has the tendency of enhancing knowledge of in-school students on matters bordering on rape and unprotected sex, thus changing attitudes and reducing the prevalence of associated reproductive issues.

1.1. Statement of the Problem

Insufficient knowledge and poor attitudes towards unprotected sex and rape make adolescents vulnerable to reproductive issues. Global reports on adolescents' knowledge and attitudes vary, with suboptimal levels found in developing countries, including Nigeria (Zaki et al., 2019; Inthavong et al., 2020a; Keto et al., 2020; Pradnyani et al., 2019). Sexual violence is widespread, with 11.8% overall prevalence (Stoltenborgh et al., 2011; WHO, 2020). Rape cases are rising in Africa (Olayinka & Nwanna, 2018). Unprotected sex among students is increasing globally (Pradnyani et al., 2019; Girmay & Mariye, 2019; Keto et al., 2020; Alex-Hart et al., 2015). This leads to higher rates of STIs, unplanned pregnancies, and HIV (WHO, 2019; Visalli et al., 2019; Kharsany & Karim, 2016; UNICEF, 2019). Socioeconomic factors contribute to risky sexual behavior (Aji et al., 2013). Emohua's population, mainly farmers and fishers with limited time for child interaction, may be at higher risk for rape and unprotected sex.

Aim and Objectives of the Study

The aim of this study was to determine the effect of sex education on the knowledge towards unprotected sex and rape among students in Emohua Local Government Area, Rivers Sate. The objectives of the study were:

- To assess the level of knowledge of rape among students in Emohua Local Government Area
- To ascertain attitudinal stance of students in Emohua Local Government Area towards rape.
- To assess the level of knowledge of unprotected sex among students in Emohua Emohua Local Government Area

1.2. Research Questions

The following research questions guided this study:

- What is the knowledge level of rape and unprotected sex among students in Emohua Emohua Local Government Area?
- What is the attitude of students in Emohua Local Government Area towards rape and unprotected sex?
- What effect does sex education have on the knowledge and attitude of secondary school students in Emohua Local Government Area towards rape and unprotected sex?

1.3. Hypothesis

The following research hypotheses were formulated to guide this study.

- H01: Sex education has no significant effect on the knowledge and attitude towards rape and unprotected sex among secondary school students.
- H02: Sex education has a positive effect on the knowledge and attitude towards rape and unprotected sex among secondary school students.

1.4. Significance of the Study

The findings of this study will inform policymakers about integrating sex education into school curricula, especially in rural and semi-urban areas. By covering mental, social, economic, and psychological aspects, sex education can enhance students' knowledge and positively influence their attitudes and behaviors regarding unprotected sex and rape.

2. Materials and method

The study was carried out in Emohua Local Government Area, Rivers State. A quasi-experimental study design was employed for this study. This is because the study sought to evaluate the effect of educational intervention on the knowledge and attitude of adolescents towards rape and unprotected sex. The study population includes students of government owned secondary schools. The inclusion criteria comprised male and female students aged 13 – 21 years that have be enrolled for a minimum one academic year. While 13 – 21-year-old male and female students whose attendance record depicts high rate of absenteeism were excluded. The sample size for the current study was determined using the formula below;

$$\frac{(z_{\alpha/2}+z_{\beta})^2 \times p1(100-p1)+P2(100-p2)}{(p1-p2)^2}$$ (Wang, 2007)

n = minimum estimated sample size per group
Zα = normal standard deviate of 95% confidence level = 1.96
Zβ = Power of study of 80% (0.84)
P1 = 0.031 (proportion of students who have engaged in sexual activity in the intervention group (Daboer et al., 2008))
P2 = 0.137% (proportion of students who have had sexual intercourse in the control group (Daboer et al., 2008))

$$n = \frac{(1.96 + 0.84)^2 \times 0.031\ (0.969) + 0.137\ (0.863)}{(0.106)^2}$$

$$n = \frac{1.162}{0.011}$$

$$n = 105.636 \approx 106$$

Assuming a 10% non-response rate

$$\frac{10 \times 106}{100} = 10.6 \approx 11$$

Total sample size (n) = 106 + 11 = 117

Minimum sample size of students to be recruited for each group = 117

Thus, total study participants = 234 students.

The multi-stage sampling technique was adopted for this study:

- Stage 1: Simple random selection of two secondary schools (community secondary school Rumuji – intervention; community secondary school Elibrada – control) from a list of all government owned senior secondary schools by balloting.
- Stage 2: Students of community secondary school Rumuji and community secondary school Elibrada who met the eligibility criteria were recruited into the intervention and control group respectively. Data collected for the study was quantitative. After permissions were sought from the principal of community secondary school and consent sought from parents of students below the age of 18 via a parent-teachers association note, students who met the inclusion criteria and consented/assented with regards to age were invited during a morning devotion period to participate in study. For baseline data, they all congregated in an empty class during break and filled out questionnaires. After baseline (pre-intervention) data collection students were exposed to sex education every Thursday morning prior to classes scheduled for the day, for 8 weeks, using a manual of sex education from the River State Ministry of Education and also taking into cognizance questions that made up the questionnaire. Post-intervention data was collected a day after completion of intervention using the same questionnaire administered for collection of baseline data. Baseline data was collected employing the method for baseline data as described above. Post-intervention data was collected a day after post-intervention data was collected in intervention school using same tool used for collection of baseline data. After compilation of the questionnaire capturing each objective, it was sent to the project supervisor, an expert in the field for further assessment, corrections, and inputs were necessary. Analysis was performed using IBM (SPSS) version 25. Employing descriptive statistical techniques, frequencies and percentages was calculated for socio-demographic variables. Knowledge of unprotected sex and rape was categorized into good and poor

knowledge, and attitudes towards unprotected sex and rape categorized into negative and positive, and reported using frequencies and percentages. To establish the significance of the results, the Wilcoxon test was used. Also, to establish the significance of differences before and after exposure to sex education and the effect of sex education on the differences a Wilcoxon test was initiated. In testing the primary and interaction effects of sex education category (sex education vs. no sex education) and the dependent variables knowledge and attitude of rape and unprotected sex), Quade's ANCOVA, a non-parametric equivalent of ANCOVA was used to ascertain both the statistical significance (p) and effect size (r2). If P ≤ 05, outcomes were statistically significant. The University of Port Harcourt Research Ethics Committee and the Rivers State Ministry of Education both gave their approval to the study.

3. Results

3.1. Socio-demographic Characteristics of Participants

Table 1 Socio-demographic characteristics

		Intervention (N = 117)		**Control (N =117)**	
	Classification	**Frequency (n)**	**Percent (%)**	**Frequency (n)**	**Percent (%)**
Age	≤ 15	44	37.6	55	47
	≥ 16	73	62.4	62	53
Age (Mean±SD)	15.79±1.030			15.49±1.142	
Gender	Male	44	37.6	57	48.7
	Female	73	62.4	60	51.3
Class	SS1	83	70.9	57	48
	SS2	27	23.1	54	46.2
	SS3	7	6	6	5.1
Live With	Both Parents	94	80.3	71	60.7
	Father	6	5.1	12	10.3
	Mother	13	11.1	23	19.7
	Relative	4	3.4	11	9.4
State	Rivers	113	96.6	113	96.6
	Imo	2	1.7	2	1.7
	Abia	1	0.9	1	0.9
	Akwaibom	1	0.9	1	0.9
Ethnicity	Igbo	8	6.9	8	6.9
	Ikwerre	104	88.9	105	89.7
	Others	5	4.3	4	3.4
Religion	Christianity	117	100	117	100

As evident from table 1, the mean age of participants was 15.79 and 15.49 for those in the intervention and control group respectively. In both arms of the study, females made up a higher proportion of the study, with 73 (62.4%) females in the intervention group, and 60 (51.3%) in the control group. Also visible from table 4.1 is that among the sampled population, in the intervention group, 70.9% were of the SS1 class category, as compared to 48% in the control group. While 94 (80.3%) and 71 (60.7%) of participants live with both parents in the intervention and control arms respectively, only 4 (3.4%) and 11 (9.4%) live with their relatives. In both arms of the study 96.6% of students reported being indigenes of rivers state with 88.9% of students in the intervention arm, and 89.7% in the control arm being

members of indigent Ikwerre ethnic group. A seemingly striking observation is the reportage of Christianity by 100% of the study population in both arms of the study.

3.2. Knowledge of Rape

Table 2 Participants pre-test and post knowledge of rape

		Pre-test		Post test		Wilcoxon Sign test	
	Classification	**Frequency (n)**	**Percent (%)**	**Frequency (n)**	**Percent (%)**	**p-value**	**Effect Size(r)**
Intervention	Poor	102	87.2	58	49.6	0.001	0.57
	Good	15	12.8	59	50.4		
	N	117					
Control	Poor	102	87.2	108	92.3	0.322	
	Good	15	12.8	9	7.7		
	N	117					

According to table 2 only 12.8% of participants in both the intervention and control groups had good knowledge of rape prior to the intervention. However, in the intervention group, knowledge spiked by 37.6% after students' exposure to eight weeks of sex education with the statistically significant difference in knowledge levels pre-and-post-intervention been largely due to the effect of sex education ($P < 0.001$; $r = 0.57$).

3.3. Attitude towards Rape

Table 3 Pre-test and post-test attitude towards rape

		Pre-test		Post test		Wilcoxon Sign test	
	Classification	**Frequency (n)**	**Percent (%)**	**Frequency (n)**	**Percent (%)**	**p-value**	**Effect Size r**
Intervention	Positive	117	100	117	100	0.254	0.07
	N	117					
Control	Positive	117	100	116	99.1	0.292	
	Negative			1	0.1		
	N	117					

Before and after exposure to sex education among participants in the intervention 0group, 100% of participants showcased positive attitudes towards rape i.e. their believes were tilted in support of rape, and sex education had no effect at $r = 0.07$.

3.4. Knowledge of Unprotected Sex

Table 4 Pre-test and Post-test knowledge of unprotected sex

		Pre-test		Post test		Wilcoxon Sign test	
	Classification	**Frequency (n)**	**Percent (%)**	**Frequency (n)**	**Percent (%)**	**p-value**	**Effect Size (r)**
Intervention	Poor	44	37.6	8	6.8	< .001	0.45
	Good	73	62.4	109	93.2		
	N	117					

Control	Poor	44	37.6	32	27.4	0.154	
	Good	73	62.4	85	72.6		
	N	117					

As described in table 4, after administration of sex education in the intervention group, baseline knowledge of unprotected sex which was same for both intervention and control groups (62.4%) increased by 30.8%. A Wilcoxon signed test showed that sex education had a moderate effect on the statistically significant difference in knowledge level of the intervention group students.

3.5. Attitude towards Unprotected Sex

Table 5 Pre-test and post-test knowledge of unprotected sex

		Pre-test		**Post test**		**Wilcoxon Sign test**	
	Classification	**Frequency (n)**	**Percent (%)**	**Frequency (n)**	**Percent (%)**	**p-value**	**Effect Size (r)**
Intervention	Negative	5	4.3	16	13.7	< .001	0.26
	Positive	112	95.7	101	86.3		
	N	117					
Control	Negative	5	4.3	5	4.3	0.547	
	Positive	112	95.7	112	95.7		
	N	117					

Attitude towards unprotected sex was generally positive (in acceptance of rape) among the study population at 95.7% in both intervention and control group, and changed only by 9.4% (representing 11 students) in the Intervention group after exposure to sex education. The effect of sex education on the observed difference been small (r = 0.26).

3.6. Effect of Sex Education on Knowledge Rape and Unprotected Sex

Table 6 Between subjects' comparison of knowledge of rape and unprotected sex using Quades' analysis of covariance (ANCOVA)

Category	**Source**	**Sum of Squares**	**Df**	**Mean Square**	**F**	**p - value**	**R^2**
Rape	Intervention Control	638260.004	1	638260.004	173.94	< .001	0.428
	Error	851299.032	232	3669.392			
	Total	1489964.187	234				
Unprotected Sex	Intervention Control	273139.629	1	273139.629	78.47	< .001	0.253
	Error	807541.632	232	3480.783			
	Total	1084161.828	234				

Study findings showed a significant effect of sex education on participants' knowledge of rape after controlling for the effect of pre-test knowledge of rape F (1, 232) = 173.94, P < .001. For unprotected sex, the effect of sex education on unprotected sex was statistically significant F (1, 232) = 78.47, P < .001 after controlling for the effect of pre-test knowledge. In the rape category, the effect of sex education on median differences was moderate (R^2 = 0.428) while it was small for unprotected sex categories (R^2 = 0.253).

3.7. Effect of Sex Education on Attitudes towards Rape and Unprotected Sex

Table 7 Between subjects' comparison of attitudes towards rape and unprotected sex using Quades' analysis of covariance (ANCOVA)

Category	Source	Sum of Squares	df	Mean Square	F	p - value	R^2
Rape	Intervention Control	82.699	1	82.699	0.01	0.921	0
	Error	1927350.734	232	8307.546			
	Total	1937583.463	234				
Unprotected Sex	Intervention Control	83696.43	1	83696.43	13.001	< 0.001	0.053
	Error	1493542.957	232	6437.685			
	Total	1578003.18	234				

Table 7 showed that the effect of sex education on participants' attitude towards rape after controlling for the effect of pre-test attitude towards rape was statistically insignificant F (1, 232) = 0.01, P = .921. For unprotected sex, the impact of sex education on attitude towards unprotected sex was statistically significant F (1, 316) = 13.001, P = .000 after controlling for the effect of pre-test attitude towards unprotected sex. However, the effect (r^2) on median difference was negligible at $R^2 = 0$ for rape and $R^2 = 0.053$ for unprotected sex.

4. Discussion of Findings

Rape and unprotected sex are reported on a regular basis all throughout the world, sometimes in small groups, sometimes in big groups. While this could be due to ignorance, belief in rape myths, or a general lack of knowledge about the subject among the general public, research has revealed that rape and unprotected intercourse are widespread among adolescents. In the current study, it was discovered that the majority of participants in both the intervention and control arms had a poor understanding of rape, which is linked to psychological trauma, according to Stoltenborgh et al. (2011). While this is consistent with research (Abeid et al., 2015; Do et al., 2020), in contrast to Svensson et al. (2019) and Nlewem and Amodu (2016) assertions detailing high knowledge base among Swedish and Nigerian adolescents, respectively, and is likely due to the rural nature of the study setting and the fact that sex education is disregarded both among parents and school teachers. In addition to the psychological repercussions, teenagers who have little awareness of rape are more likely to have unwanted pregnancies (Ajayi & Ezegbe, 2020) and sexually transmitted illnesses.

Participants' opinions regarding rape, according to the current study, all of the students have good attitudes toward rape (i.e. attitudes were tilted in support of rape). While this is greater than other research on the subject, it follows the trend of studies that have found positive alignment towards rape among teenagers and high school students (Zaki et al., 2021), it deviates from Svensson et al's (2019) results. Positive attitudes indicate that adolescents are more likely to be both victims and perpetrators of rape, both of which are associated with the acquisition of life-threatening diseases, shortened life expectancies, and the likelihood of imprisonment for those who commit the crime.

The knowledge base of teenagers on rape grew considerably in the intervention arm after exposure to sex education, with the effect of sex education being moderate. Participants in the control arm who did not get sex education had less knowledge, proving that sex education affects (improves) knowledge and that knowledge fades over time. When it came to unprotected sex, the majority of the students were well-versed in the subject. While the findings of Ena et al. (2016) coincide with those of other research (Inthavong et al., 2020; Keto et al., 2020), other investigations (Ajayi et al., 2018; Inthavong et al., 2020; Keto et al., 2020) found low levels of knowledge. Secondary school students who have a high level of knowledge about unprotected sex are better able to make health-related decisions (Inthavong et al., 2020), sparing them from the negative consequences of unprotected sex.

It has been proposed that having a thorough understanding of a subject will improve one's attitude (Keto et al., 2020). Regardless of participants' great understanding of unprotected sex, attitudes regarding unprotected sex were largely favourable in the current study (in support of unprotected sex). The impact of sex education on knowledge and attitude has always generated conflicting outcomes in the literature. The current studies found that sex education had a statistically significant influence on knowledge of rape and unprotected sex, with modest effect sizes for rape and unprotected sex. While this is consistent with other research (Esere, 2008; Simmonds, 2019; Vivancos et al., 2013) that have found a favourable influence of sex education on awareness of unprotected sex, it is in stark contrast to studies by

(Esere, 2008; Simmonds, 2019). (Boti et al., 2019; Mmbaga et al., 2017). Also, the current study's positive impact on rape knowledge aligns with Carpenter (2017) and several other studies (Santelli et al., 2018; Walsh et al., 2018) that have found both an increase in knowledge and a reduction in rape myth acceptance, as well as support for bystander intervention. However, the fact that increased knowledge did not translate into improved attitudes toward rape, and that sex education had no effect on the statistical significance observed after comparing median differences in attitude score between groups, follows the trail of Ogunfowokan and Fajemilehin (2012), who found that knowledge rarely translated into restrictive or reductive attitudes toward rape and unprotected sex.

5. Conclusion

Unprotected intercourse and rape are two events that put teens at risk for life-threatening diseases, unexpected pregnancies, and other problems. It is proven that sex education is beneficial in increasing adolescent understanding about topics such as rape, unprotected sex, and other sexual health issues. This study focused on how sex education affected adolescent knowledge and attitudes about rape and unprotected sex. According to the findings of the current study, sex education is an important tool for improving teenagers' knowledge of unprotected sex and rape, thereby raising the possibility of avoiding acts that have a detrimental influence on adolescent health. Sex education, on the other hand, had no effect on attitudes about unprotected sex and rape.

Recommendations

Relying on outcomes of the current study, and a thorough review of the literature on related topics, these recommendations are vital:

- Adolescents should be enrolled in sex education programs to broaden their understanding. Adolescents should always seek confirmation from their parents and established health organizations before implementing any reproductive health concepts, especially those gleaned from media that may contain inaccurate information.
- Health Care Providers and Stakeholders should create enabling media for adolescent reproductive engagement with the goal of raising awareness and lowering the rate of experimentation among the age group.
- Government should establish policies against the dissemination of false reproductive health information across all media. The government should also collaborate with other groups and partners to make reproductive health and sexual violence services more accessible.

Compliance with ethical standards

Disclosure of conflict of interest

The author declares no conflict of interest.

Statement of ethical approval

An institutional approval for this study was obtained from the Ethical Review Committee of University of Port Harcourt, Rivers State Nigeria.

Statement of informed consent

Informed written consent was obtained from each participant after adequate counselling and the data obtained from the study were treated with confidentiality and used solely for the purpose of the study.

References

[1] Abeid, M., Muganyizi, P., Massawe, S., Mpembeni, R., Darj, E., & Axemo, P. (2015). Knowledge and attitude towards rape and child sexual abuse - A community-based cross-sectional study in Rural Tanzania Health behavior, health promotion and society. BMC Public Health, 15(1), 1–12. https://doi.org/10.1186/s12889-015-1757-7.

[2] Aji, J., Aji, M., Ifeadike, C., Emelumadu, O., Ubakaja, C., Nwabueze, S., Ebenebe, U., & Azuike, E. (2013). Adolescent Sexual Behaviour and Practices in Nigeria : A Twelve Year Review. Afrimedic Journal, 4(1), 10–16.

[3] Alex-Hart, B., Okagua, J., & Opara, P. (2015). Sexual Behaviours of Secondary School Students in Port Harcourt. British Journal of Medicine and Medical Research, 6(3), 325–334. https://doi.org/10.9734/bjmmr/2015/14539. and Harassment in Schools, 4(3/4), 139–149.

[4] Boti, N., Hussen, S., Shegaze, M., Shibru, S., Shibiru, T., Zerihun, E., Godana, W., Abebe, S., Gebretsadik, W., Desalegn, N., & Temtime, Z. (2019). Effects of comprehensive sexuality education on the comprehensive knowledge and attitude to condom use among first - year students in Arba Minch University : a quasi - experimental study. BMC Research Notes, 1–7. https://doi.org/10.1186/s13104-019-4746-6

[5] Carpenter, E. (2017). VCU Scholars Compass Impact of School-Based Sex Education on College Students ' Rape Myth Acceptance : An Exploratory Analysis

[6] Centers for Disease Control and Prevention. (2020). Youth risk beahvior surveillance- United States, 2019 (Vol. 69, Issue 1). https://www.cdc.gov/healthyyouth/data/yrbs/index.htm

[7] Do, H. N., Nguyen, D. N., Nguyen, H. Q. T., Nguyen, A. T., Nguyen, H. D., Bui, T. P., Vu, T. B. T., Le, K. T., Nguyen, D. T., Nguyen, C. T., Vu, L. G., Vu, G. T., Tran, B. X., Latkin, C. A., Ho, R. C. M., & Ho, C. S. H. (2020). Patterns of risky sexual behaviors and associated factors among youths and adolescents in Vietnam. International Journal of Environmental Research and Public Health, 17(6), 1–14. https://doi.org/10.3390/ijerph17061903

[8] Ena, L., Hurissa, B. F., & Aliyu, S. A. (2016). Knowledge, Attitudes and Practices towards Risky Sexual Behaviors among Adolescents of Jimma University Community High School, South West Ethiopia, 2015. Journal of Womens Health Care, 05(01), 1–7. https://doi.org/10.4172/2167-0420.1000292

[9] Esere, M. O. (2008). Effect of sex education programme on at-risk sexual behaviour of school-going adolescents in Ilorin, Nigeria. African Health Sciences, 8(2), 120–125. https://doi.org/10.4314/njgc.v11i1.36988

[10] Folayan, M. O., Odetoyinbo, M., Harrison, A., & Brown, B. (2014). Rape in Nigeria: A silent epidemic among adolescents with implications for HIV infection. Global Health Action, 7(1), 7–8. https://doi.org/10.3402/gha.v7.25583

[11] Gbarada, O. (2020). Education, a measure for the eradication of rape.

[12] Girmay, A. & Mariye, T. (2019). Risky sexual behavior practice and associated factors among secondary and preparatory school students of Aksum town, northern Ethiopia, 2018. BMC Research Notes, 12(1), 1–7. https://doi.org/10.1186/s13104-019-4714-1

[13] Hall, W. J., Jones, B. L. H., Witkemper, K. D., Collins, T. L., & Rodgers, G. K. (2019). State policy on school-based sex education: A content analysis focused on sexual behaviors, relationships, and identities. American Journal of Health Behavior, 43(3), 506–519. https://doi.org/10.5993/AJHB.43.3.7.

[14] Husada, F. R. K. (2019). UN special rapporteur on violence against women, its causes and consequences. Αγαη, 8(5), 55.

[15] Idowu, A., Ayodele, A. O., Omotade, P. G., Anu, O. S., & Omolola, F. F. (2017). Risky Sexual Behavior of Senior Secondary School Students in an Urban Community of Oyo State, South West Nigeria. International Quarterly of Community Health Education, 37(3–4), 173–180. https://doi.org/10.1177/0272684X17736154

[16] Inthavong, K., Ha, L. T. H., Anh, L. T. K., & Sychareun, V. (2020). Knowledge of safe sex and sexually transmitted infections among high school students, Vientiane Prefecture, Lao PDR. Global Health Action, 13(sup2). https://doi.org/10.1080/16549716.2020.1785159

[17] Keto, T., Tilahun, A., & Mamo, A. (2020). Knowledge, attitude and practice towards risky sexual behaviors among secondary and preparatory students of Metu town, south western Ethiopia. BMC Public Health, 20(1), 1–8. https://doi.org/10.1186/s12889-020-09371-4

[18] Kharsany, A. B. M., & Karim, Q. A. (2016). HIV Infection and AIDS in Sub-Saharan Africa: Current Status, Challenges and Opportunities. The Open AIDS Journal, 10(1), 34. https://doi.org/10.2174/1874613601610010034.

[19] Mewton, L., Champion, K., Kay-Lambkin, F., Sunderland, M., Thornton, L., & Teesson, M. (2019). Lifestyle risk indices in adolescence and their relationships to adolescent disease burden: findings from an Australian national survey. BMC Public Health 2019 19:1, 19(1), 1–10. https://doi.org/10.1186/S12889-019-6396-Y

[20] Mmbaga, E. J., Kajula, L., Aarø, L. E., Kilonzo, M., Wubs, A. G., Eggers, S. M., Vries, H. De, & Kaaya, S. (2017). Effect of the PREPARE intervention on sexual initiation and condom use among adolescents aged 12 – 14 : a cluster randomised controlled trial in Dar es Salaam , Tanzania. 1–10. https://doi.org/10.1186/s12889-017-4245-4

[21] Nlewem, C., & Amodu, O. K. (2016). Knowledge and Perception on Sexual Abuse Amongst Female Secondary School Students in Abia State Nigeria. Reseacrh Humanities and Socieal Science, 6(17), 2225–2484. https://pdfs.semanticscholar.org/b5b7/cb9719fc4e468c09bcd7d367cc77b565d251.pdf.

[22] Ogunfowokan, A. A., & Fajemilehin, R. B. (2012). Impact of a School-Based Sexual Abuse Prevention Education Program on the Knowledge and Attitude of High School Girls. Journal of School Nursing, 28(6), 459–468. https://doi.org/10.1177/1059840512446949

[23] Olayinka, Z. A., & Nwanna, C. R. (2018). www.nigerianjsp.com. Nigerian Journal of Social Psychology, 1(1), 79–90.

[24] Opara, P. I., Eke, G. K., & Tabansi, P. N. (2012). Perception of sexuality education amongst secondary school students in Port Harcourt, Nigeria. West African Journal of Medicine, 31(2), 109–113. http://www.ncbi.nlm.nih.gov/pubmed/23208480

[25] Pradnyani, P. E., Putra, I. G. N. E., & Astiti, N. L. E. P. (2019). Knowledge, Attitude, and Behavior about Sexual and Reproductive Health among Adolescents Students in Denpasar, Bali, Indonesia. GHMJ (Global Health Management Journal), 3(1), 31. https://doi.org/10.35898/ghmj-31284.

[26] Santelli, J. S., Grilo, S. A., Choo, T. H., Diaz, G., Walsh, K., Wall, M., Hirsch, J. S., Wilson, P. A., Gilbert, L., Khan, S., & Mellins, C. A. (2018). Does sex education before college protect students from sexual assault in college? PLoS ONE, 13(11), 1–18. https://doi.org/10.1371/journal.pone.0205951.

[27] Simmonds, D. I. (2019). The effects of sexual education on sexual behaviors of adolescents in rural Jamaica. Dissertation Abstracts International: Section B: The Sciences and Engineering, 80(11-B(E)).

[28] Stoltenborgh, M., Van Ijzendoorn, M. H., Euser, E. M., Bakermans-Kranenburg, M. J., IJzendoorn, M. H. van, Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: Meta-analysis of prevalence around the world. Child Maltreatment, 16(2), 79–101. https://doi.org/10.1177/1077559511403920

[29] Stoltenborgh, M., Van Ijzendoorn, M. H., Euser, E. M., Bakermans-Kranenburg, M. J., IJzendoorn, M. H. van, Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: Meta-analysis of prevalence around the world. Child Maltreatment, 16(2), 79–101. https://doi.org/10.1177/1077559511403920

[30] Svensson, J., Baer, N., & Silva, T. (2019). Adolescents' level of knowledge of and supportive attitudes to sexual crime in the Swedish context. Journal of Sexual Aggression, 25(2), 75–89. https://doi.org/10.1080/13552600.2018.1476600.

[31] Ugboma, H. A. A., Nwagwu, V. O., & C, O. N. (2016). Sexual Characteristics and Risk for Sexually Transmitted Diseases among Female Undergraduates in a Federal University in South South Nigeria. International Journal of Tropical Medicine, 11(6), 200–203

[32] UNICEF. (2019a, October). Adolescent Demographics - UNICEF DATA.

[33] UNICEF. (2019b, October). Adolescents Overview. https://data.unicef.org/topic/adolescents/overview/

[34] Visalli, G., Cosenza, B., Mazzù, F., Bertuccio, M. P., Spataro, P., Pellicanò, G. F., Di Pietro, A., Picerno, I., & Facciolà, A. (2019). Knowledge of sexually transmitted infections and risky behaviours: a survey among high school and university students. Journal of Preventive Medicine and Hygiene, 60(2), E84–E92. https://doi.org/10.15167/2421-4248/JPMH2019.60.2.1079

[35] Vivancos, R., Abubakar, I., Phillips-Howard, P., & Hunter, P. R. (2013). School-based sex education is associated with reduced risky sexual behaviour and sexually transmitted infections in young adults. Public Health, 127(1), 53–57. https://doi.org/10.1016/j.puhe.2012.09.016

[36] Walsh, K., Zwi, K., Woolfenden, S., & Shlonsky, A. (2018). School-Based Education Programs for the Prevention of Child Sexual Abuse: A Cochrane Systematic Review and Meta-Analysis. Research on Social Work Practice, 28(1), 33–55. https://doi.org/10.1177/1049731515619705

[37] WHO. (2020). Adolescent health and development.

[38] WHO. (2020, October). Adolescent health and development.

[39] Zaki, M. K., Khelmi, R. M., Aljohani, A. M., Aldad, S. O., & Fallatah, M. M. A. (2019). Knowledge, awareness, and attitude about sexual harassment among Saudi preparatory and secondary school students in Western Region, Kingdom of Saudi Arabia. The Saudi Journal of Forensic Medicine and Sciences, 2, 1–7. https://doi.org/10.4103/sjfms.sjfms.