EFFECTS OF HEALTH EDUCATION INTERVENTION PROGRAMME ON AWARENESS OF PREVENTIVE STRATEGIES AGAINST SEXUAL VIOLENCE AMONG FEMALE ADOLESCENT STUDENTS IN KADUNA STATE

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Abstract

This study examined the effects of health education intervention programmes on awareness of preventive strategies against sexual violence among female adolescent students in Kaduna State. The study employed a Quasi-experimental research design. The population of the study comprised adolescent female students in Sabon Gari local government in Kaduna State which are 19,369. A multi-stage sampling technique comprising stratified, purposive, simple random convenient and proportionate sampling techniques was used in selecting 200 female adolescent students in public secondary schools in Kaduna State, Nigeria. The instrument was validated by 5 experts. Pilot testing was carried out among 20 respondents and a reliability index of 0.655 was obtained. Two hundred (200) copies of the researcher-developed questionnaire were distributed using a convenient sampling technique, of which a 200 or 100% response rate was recorded and the data analysed. Data collected was analysed using the Statistical Package for Social Science (SPSS) IBM version 26. Mean and standard deviations were used to answer the research questions. Inferential statistics of independent sample t-test and paired sample t-test were used to test the formulated hypotheses at 0.05 alpha level. The findings of the study revealed that there is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Control and experimental groups in Sabon Gari Kaduna State, Nigeria before intervention with health education programme ($p = 0.315$). Also, there is a significant difference in awareness of preventive strategies against sexual violence among female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria after exposure to a health education intervention programme ($p = 0.000$). In conclusion, the study showed that female adolescent students in public secondary schools in Sabon Gari, Kaduna State, Nigeria, were not aware of preventive strategies against sexual violence before but became aware after exposure to health education intervention. It was therefore recommended that health educators in collaboration with the Ministry of Education should carry out an awareness campaign on the prevention of sexual violence targeted at school-aged children to sensitize adolescents on sexual violence preventive strategies. Also, health educators in collaboration with media houses through jingles, playlets and drama could incorporate sexual violence prevention messaging to help educate teens on actions to take when they get harassed or abused in any form. This would help in improving the prevention of sexual violence cases.

Keywords: Effects, Health Education, Intervention Programme, Awareness, Preventive Strategies, Sexual Violence, Female Adolescent, Students

Introduction

Africa has the highest prevalence rate of child sexual abuse around 34.4 per cent (Women at Risk International Foundation [WARIF], 2023). Between the years 2012 and 2013, about 30 per cent of women in Nigeria were reported to have experienced one form of domestic violence or another. WARIF (2023) also reported that findings from a national survey carried out in 2014 on violence against children in Nigeria confirmed that one in four females reported experiencing sexual violence in childhood with approximately 70% reporting more than one incident of sexual violence. In the same study, it was found that 24.8% of females ages 18 to 24 years experienced sexual abuse before age 18 of which 5.0% sought help, with only 3.5% receiving any services. In 2018, the average prevalence of sexual abuse in Nigeria was nine (9%) per cent. In Gombe, the incidence was the highest in the country (Nigeria Demographic and Health Survey 2018). According to the survey, 45% of individuals living in the state had experienced sexual violence in their life. Kaduna State ranks among the states with a high prevalence with 13.8%. The National Human Rights Commission in Kaduna recorded 524 complaints of sexual and gender-based violence against women and girls in 2021 (Punch, 2022). Taft, Blyth and Murphy, (2022) reported that the core of much-reported violence perpetrated against women and children in Kaunda from Jan. 2014 to Dec. 2016, as reported by the Nigerian Stability and Reconciliation Programme (NSRP) is sexual assault and abuse by those in positions of power and authority.

Regarding the prevention strategies for sexual violence, efforts to prevent sexual violence before it occurs (primary prevention) are increasingly recognized as a critical and necessary complement to strategies aimed at preventing re-victimization or recidivism and ameliorating the adverse effects of sexual violence on victims. Successful primary prevention efforts, however, require an understanding of what works to prevent sexual violence and implementing effective strategies (McMahon, 2017; Olubiyi et al., 2019). Primary prevention strategies have been defined to include universal interventions directed at the general population as well as selected interventions aimed at those who may be at increased risk for sexual violence perpetration.

Although risk reduction approaches that aim to prevent victimization can be important and valuable pieces of the prevention puzzle, a decrease in the number of actual and potential perpetrators in the population is necessary to achieve measurable reductions in the prevalence of sexual violence (Lenihan, 2020).

Regarding the awareness of preventive strategies against sexual violence, Alzoubi, Ali, Fla, and Alnatour (2018) in their study reported that the majority of mothers were aware of child sexual abuse (CSA) and its prevention practices. Though only 17% of mothers had started practising some of the CSA preventive measures when their children were young (1–4 years of age) and less than half (48.8%) had started when their children were 4–6 years of age. Three-quarters (74%) of the mothers indicated that educating children about CSA can prevent it. Only 37.7% are aware of laws regarding CSA in Jordan and less than half of mothers are aware of social organizations that provide services for children who suffer from sexual abuse. Mothers who had a high income or a high level of education or were employed had a higher awareness of CSA and recognized signs and symptoms of CSA more than other mothers.

Activities that raise awareness of sexual violence (such as a media campaign) can help build support for primary prevention efforts (Akorede, 2021, Olubiyi et al., 2019). However, awareness itself does not create the changes in attitudes or behaviours that lead to this form of violence. Outreach is connected to awareness in that it is geared to help those in the targeted population know where they can find services if they or someone they know is sexually assaulted (West Virginia Foundation for Rape Information and Services [WVFRIS], 2021). Awareness regarding risk reduction will focus on helping potential victims change their behaviours to try to avoid being sexually assaulted or to stop an attack in progress (self-defence classes, campaigns to inform the public about drug-facilitated sexual assault and how to reduce the likelihood of being drugged). Whereas risk reduction programmes assume that sexual violence itself is the issue to be addressed, primary prevention seeks to change a variety of conditions (aggression, lack of empathy) that influence someone's decision to rape (Ogunfowokan & Fajemilehin, 2017).

Looking at the utilization of prevention strategies of sexual violence among female adolescents, Avery-Leaf, Cano and O'Leary (2016) reported that significant decreases in attitudes justifying the utilization of prevention of dating violence were found in a study of a prevention programme in a Long Island, New York High school. There remains a great paucity of data in this area and it is in this light that the research intends to assess the effect of health education intervention programmes on awareness of preventive strategies against sexual violence among female adolescent students in Kaduna State, Nigeria.

Purpose of the Study

1. Awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Sabon Gari Kaduna State, Nigeria before exposure to health education intervention programme.
2. Awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Sabon Gari Kaduna State, Nigeria after exposure to health education intervention programme.

Research Questions

This study attempted to answer the following questions:

1. Are female adolescent students in public secondary schools in Sabon Gari Kaduna State, Nigeria aware of preventive strategies against sexual violence before exposure to health education intervention programme?
2. Are female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria, aware of preventive strategies against sexual violence after exposure to health education intervention programme?

Hypotheses

Based on the research questions, the following null hypotheses were formulated to guide the study.

1. There is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in control and experimental groups in Sabon Gari Kaduna State, Nigeria before intervention with health education programme.
2. There is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria before and after exposure to health education intervention programme.

Methodology

The research design for this study was quasi-experimental with pre-test and post-test experimental and control groups. The treatment groups were exposed to health education intervention programme on awareness of preventive strategies against sexual violence while the control group was not exposed to any treatment but was given a placebo on personal hygiene to engage the group. The two groups of participants were: Group A (Experimental Group) and Group B (Control Group). A

quasi-experimental design like a true experimental design aims at establishing a cause-and-effect relationship between an independent and dependent variable. Although the independent variables are manipulated, participants are not randomly assigned to conditions or orders of conditions (Crook & Campbell, 1979).

Table 1: Quasi-experiment of pre-test-post-test experimental design

	Pre-Test		Post-test
Experimental Group	O^1	X	O^2
Control Group	O^1	—	O^2

Key:

O^1: refers to the pre-test observation (awareness of preventive strategies against sexual violence Questionnaire)

X: refers to the health education intervention programme

—: Placebo on personal hygiene

O^2: refers to the post-test observation (awareness of preventive strategies against sexual violence)

The population for this study consists of all female adolescent students in female-only public secondary schools in Sabon Gari Kaduna State, Nigeria. According to the Kaduna State Ministry of Education (2022), there are 12,369 female adolescent students in Sabon Gari Kaduna state. The sample for this study was (200) respondents. Yamane (1967) stated if the population of the study is greater than six thousand (6, 000), the sample size should be two hundred (200) at 7% precision levels where the confidence level is 95% and Probability =0.05. Therefore, a multistage sampling technique was used to arrive at the sample for this study.

The instrument used for data collection was a researcher-developed questionnaire named Awareness of Preventive Strategies against Sexual Violence Questionnaire (AUPSASVQ). The questionnaire consists of 29 items on awareness of prevention strategies of sexual violence. A four-point modified Likert scale rating of Strongly Agree (SA) =4, Agree (A) =3, Disagree (SD) =2, Strongly Disagree (D) =1; was used. Any mean score below 2.50 was considered as not aware while scores above 2.50 were considered aware.

Intervention Programme; The research instrument was administered in three phases to the participants by the researcher with the help of research assistants. The phases were as follows:

Phase 1: Pre-intervention Assessment: The researcher with the help of four (4) research assistants administered 200 copies of the research instruments. 100 copies of the research instrument were administered to the experimental group on Monday 5th February 2024 between the hours of 2:00 pm-3:20 pm in the school environment as a pre-test and another 100 copies of the research instruments were administered to the control group as a pre-test a week before the treatment session on Wednesday 7th February 2024 between the hours of 2:00-3:30 pm within the school premises.

Phase 2: Intervention Assessment: This phase was for the implementation of the intervention and delivery of the treatment package to participants. The treatment lasted for six weeks. The health education programme was carried out every Friday between the hours of 9:00 am-10:00 am in the school examination hall.

Phase 3: Post-Intervention Assessment: The goal of health education intervention was to instruct the participants who were at risk of sexual violence and may lack awareness of preventive strategies against sexual violence to help them improve the utilization of preventive strategies against sexual violence.

Mean and Standard Deviation was used to answer research questions. Inferential statistics of independent sample t-test and paired sampled t-test was used to test all the hypotheses. All hypotheses was considered significant or not significant using the alpha level of 0.05.

Results

Research Question 1: Are female adolescent students in public secondary schools in Sabon Gari Kaduna State, Nigeria aware of preventive strategies against sexual violence before exposure to health education intervention programme?

Table 2: Mean scores of the two groups on awareness of preventive strategies against sexual violence before intervention

		Control		Experimental		Mean
Sn	**Awareness of preventive strategies against sexual violence**	Mean	Std. Dev.	Mean	Std. Dev.	difference
1	I am aware that staying away from alcohol and drug users is a preventive strategy against sexual violence.	2.89	0.898	2.78	1.124	0.11
2	I am aware that avoiding being delinquent is a preventive strategy against sexual violence.	2.76	0.900	2.84	1.089	-0.08
3	I am aware that showing concern for others is a preventive strategy against sexual violence.	2.64	1.020	2.60	1.082	0.04
4	I am aware that showing aggressive behaviours and acceptance of violent behaviours is a preventive strategy against sexual violence.	2.49	1.087	2.50	1.185	-0.01
5	I am aware that avoidance of early sexual initiation is a preventive strategy against sexual violence	2.46	1.105	2.71	1.149	-0.25
6	I am aware that avoidance of coercive sexual fantasies is a preventive strategy against sexual violence.	2.76	1.164	2.60	1.082	0.16
7	I am aware that staying away from a preference for sexual risk-taking is a preventive strategy against sexual violence.	2.42	0.955	2.71	1.140	-0.29
8	I am aware that staying away from bad groups is a preventive strategy against sexual violence.	2.58	1.182	2.75	1.140	-0.17
9	I am aware that being hostile to women is a preventive strategy against sexual violence	2.62	1.108	2.66	1.174	-0.04
10	I am aware that staying away from exposure to sexually explicit media is a preventive strategy against sexual violence.	2.87	1.125	2.79	1.066	0.08
11	I am aware that avoidance of hyper-masculinity is a preventive strategy against sexual violence.	2.58	1.093	2.75	1.029	-0.17
12	I am aware that staying away from suicidal behaviour is a preventive strategy against sexual violence,	2.63	1.060	2.60	1.223	0.03
13	I am aware that staying away from any form of sexual victimization is a preventive strategy against sexual violence.	2.60	1.172	2.93	1.157	-0.33
14	I am aware that avoidance of a family history of conflict and violence is a preventive strategy against sexual violence.	2.48	1.114	2.50	1.133	-0.02
15	I am aware that avoiding association with a person with a history of physical, sexual, or emotional abuse is a preventive strategy against sexual violence.	2.75	1.114	2.92	1.152	-0.17
16	I am aware that void association with an emotionally unsupportive family environment is a preventive strategy against sexual violence.	2.77	1.024	2.77	1.153	0.00
17	I am aware that staying away from poor parent-child relationships is a preventive strategy against sexual violence.	2.55	1.104	2.60	1.146	-0.05
18	I am aware that avoiding association with sexually aggressive, hyper-masculine, and delinquent peers is a preventive strategy against sexual violence is a preventive strategy against sexual violence.	2.60	1.101	2.81	1.161	-0.21
19	Avoiding involvement in a violent or abusive intimate relationship is a preventive strategy against sexual violence.	2.58	1.075	2.81	1.080	-0.23
20	I am aware that looking for a job to stay away from poverty is a preventive strategy against sexual violence	2.54	1.141	2.64	1.168	-0.10
21	I am aware provision of employment opportunities is a preventive strategy against sexual violence	2.42	1.121	2.80	1.005	-0.38
22	I am aware provision of institutional support from the police and judicial system is a preventive strategy against sexual violence	2.53	1.167	2.62	1.162	-0.09
23	General non-tolerance of sexual violence within the community is a preventive strategy against sexual violence	2.80	1.025	2.65	1.209	0.15
24	I am aware that strong community sanctions against sexual violence perpetrators are a preventive strategy against sexual violence	2.65	1.029	2.69	1.107	-0.04
25	I am aware that the provision of societal norms against sexual violence is a preventive strategy against sexual violence	2.59	1.111	2.57	1.157	0.02
26	I am aware provision of societal norms against male superiority and sexual entitlement is a preventive strategy against sexual violence.	2.66	1.157	2.69	1.253	-0.03
27	I am aware that the provision of societal norms against women's inferiority and sexual submissiveness is a preventive strategy against sexual violence.	2.59	1.074	2.87	1.079	-0.28
28	I am aware strong laws and policies related to sexual violence and gender equity are preventive strategies against sexual violence	2.73	1.053	2.79	1.175	-0.06
29	Minimized high levels of crime and other forms of violence is a preventive strategy against sexual violence	2.54	1.039	2.53	1.201	0.01
	Aggregate mean	2.62	0.411	2.71	0.711	0.09

(Benchmark = 2.50)

The result in Table 2 revealed that the mean scores of the two groups did not reveal major variability in the level of awareness of preventive strategies against sexual violence before intervention. The study participants were aware that staying away from alcohol and drug users, avoiding delinquent behaviours, showing concern for others and showing aggressive behaviours along

with non-acceptance of violent behaviours were some of the preventive strategies against sexual violence. Going by the mean scores, participants in the control group lacked the awareness that avoidance of early sexual initiation could be a preventive strategy against sexual violence compared to those in the experimental group whose level of awareness was relatively high in that dimension. Both groups were aware that avoidance of coercive sexual fantasies was a preventive strategy against sexual violence. The participants in the control group were not aware that staying away from a preference for sexual taking is a preventive strategy against sexual violence compared to their counterparts in the experimental group. Both groups were aware that staying away from bad groups, being hostile, staying away from exposure to sexually explicit media, avoidance of hyper-masculinity, staying away from suicidal behaviours and staying away from any form of sexual victimization were preventive strategies against sexual violence.

The participants were not very aware that avoidance of a family history of conflict and violence was a preventive strategy against sexual violence. But they were all aware that avoiding association with a person with a history of physical, sexual, or emotional abuse, avoiding association with an emotionally unsupportive family environment, staying away from poor parent-child relationships, avoiding association with sexually aggressive, hyper-masculine, and delinquent peers, avoiding involvement in a violent or abusive intimate relationship and look for a job towards staying away from poverty were some of the preventive strategies against sexual violence.

Participants in the control group did not have the awareness that the provision of employment opportunities is a preventive strategy against sexual violence compared to their experimental counterparts who agreed that the provision of employment opportunities is a preventive strategy against sexual violence. Both groups were aware that, the provision of institutional support from the police and judicial system, general non-tolerance of sexual violence within the community, strong community sanctions against sexual violence perpetrators, provision of societal norms against sexual violence, provision of societal norms against male superiority and sexual entitlement, provision of societal norms against women's inferiority and sexual submissiveness, strong laws and policies related to sexual violence along with gender equity were some of the preventive strategies against sexual violence. Participants were aware that low levels of crimes and other forms of violence were some of the preventive strategies against sexual violence. In the overall assessment, participants in both groups could be said to have adequate awareness of preventive strategies against sexual violence as indicated by their respective mean scores of 2.62 with a standard deviation of 0.411 for the control and 2.71 with a standard deviation of 0.711 for the experimental group. The mean difference was 0.09 which did not show high variability in the awareness of the two groups.

Research Question 2: Are female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria, aware of preventive strategies against sexual violence after exposure to health education intervention programme?

Table 3: Mean scores of the experimental group on awareness of preventive strategies against sexual violence before and after the intervention

		Before		After		Mean difference
S/N	Awareness of preventive strategies against sexual violence	Mean	Std. Dev.	Mean	Std. Dev.	
1	I am aware that staying away from alcohol and drug users is a preventive strategy against sexual violence.	2.78	1.124	4.00	0.000	1.220
2	I am aware that avoiding being delinquent is a preventive strategy against sexual violence.	2.84	1.089	3.95	0.330	1.110
3	I am aware that showing concern for others is a preventive strategy against sexual violence.	2.60	1.082	3.06	0.600	0.460
4	I am aware that showing aggressive behaviours and acceptance of violent behaviours is a preventive strategy against sexual violence.	2.50	1.185	3.63	0.950	1.130
5	I am aware that avoidance of early sexual initiation is a preventive strategy against sexual violence	2.71	1.149	4.00	0.000	1.290
6	I am aware that avoidance of coercive sexual fantasies is a preventive strategy against sexual violence.	2.60	1.082	3.97	0.300	1.370
7	I am aware that staying away from a preference for sexual risk-taking is a preventive strategy against sexual violence.	2.71	1.140	3.94	0.422	1.230
8	I am aware that staying away from bad groups is a preventive strategy against sexual violence.	2.75	1.140	3.97	0.300	1.220
9	I am aware that being hostile to women is a preventive strategy against sexual violence	2.66	1.174	3.97	0.300	1.310
10	I am aware that staying away from exposure to sexually explicit media is a preventive strategy against sexual violence.	2.79	1.066	3.96	0.315	1.170
11	I am aware that avoidance of hyper-masculinity is a preventive strategy against sexual violence.	2.75	1.029	3.94	0.422	1.190
12	I am aware that staying away from suicidal behaviour is a preventive strategy against sexual violence,	2.60	1.223	3.93	0.432	1.330
13	I am aware that staying away from any form of sexual victimization is a preventive strategy against sexual violence.	2.93	1.157	3.90	0.522	0.970
14	I am aware that avoidance of a family history of conflict and violence is a preventive strategy against sexual violence.	2.50	1.133	3.96	0.315	1.460
15	I am aware that avoiding association with a person with a history of physical, sexual, or emotional abuse is a preventive strategy against sexual violence.	2.92	1.152	4.00	0.000	1.080
16	I am aware that void association with an emotionally unsupportive family environment is a preventive strategy against sexual violence.	2.77	1.153	4.00	0.000	1.230
17	I am aware that staying away from poor parent-child relationships is a preventive strategy against sexual violence.	2.60	1.146	4.00	0.000	1.400
18	I am aware that avoiding association with sexually aggressive, hyper-masculine, and delinquent peers is a preventive strategy against sexual violence is a preventive strategy against sexual violence.	2.81	1.161	3.97	0.300	1.160
19	Avoiding involvement in a violent or abusive intimate relationship is a preventive strategy against sexual violence.	2.81	1.080	4.00	0.000	1.190
20	I am aware that looking for a job to stay away from poverty is a preventive strategy against sexual violence	2.64	1.168	4.00	0.000	1.360
21	I am aware provision of employment opportunities is a preventive strategy against sexual violence	2.80	1.005	4.00	0.000	1.200
22	I am aware provision of institutional support from the police and judicial system is a preventive strategy against sexual violence	2.62	1.162	3.97	0.300	1.350
23	Not General tolerance of sexual violence within the community is a preventive strategy against sexual violence	2.65	1.209	3.97	0.300	1.320
24	I am aware that strong community sanctions against sexual violence perpetrators are a preventive strategy against sexual violence	2.69	1.107	4.00	0.000	1.310
25	I am aware that the provision of societal norms against sexual violence is a preventive strategy against sexual violence	2.57	1.157	4.00	0.000	1.430
26	I am aware provision of societal norms against male superiority and sexual entitlement is a preventive strategy against sexual violence.	2.69	1.253	3.97	0.300	1.280
27	I am aware that the provision of societal norms against women's inferiority and sexual submissiveness is a preventive strategy against sexual violence.	2.87	1.079	3.97	0.300	1.100
28	I am aware strong laws and policies related to sexual violence and gender equity are preventive strategies against sexual violence	2.79	1.175	3.97	0.300	1.180
29	Minimized high levels of crime and other forms of violence is a preventive strategy against sexual violence	2.53	1.201	3.91	0.514	1.380
	Aggregate mean	2.71	0.711	3.93	0.104	1.22

(Benchmark = 2.50)

Results in Table 3 revealed that the mean scores of the experimental groups differed substantially in their awareness of preventive strategies against sexual violence after their exposure to health education intervention programme. The study

participants were aware that, staying away from alcohol and drug users, avoiding delinquent behaviours, showing concern for others and showing aggressive behaviours along with non-acceptance of violent behaviours were some of the preventive strategies against sexual violence increased greatly after the intervention. The participants' awareness that avoidance of early sexual initiation could be a preventive strategy against sexual violence, that avoidance of coercive sexual fantasies. that staying away from a preference for sexual-risk taking, that staying away from bad groups, being hostile, staying away from exposure to sexually explicit media, avoidance of hyper-masculinity, staying away from suicidal behaviours and staying away from any form of sexual victimization were preventive strategies against sexual violence increased greatly after the intervention programme.

The level of their awareness that avoidance of family history of conflict and violence was a preventive strategy against sexual violence increased greatly after their exposure to the health education intervention programme. There was a major increase in the awareness that, avoiding association with a person with a history of physical, sexual, or emotional abuse, avoiding association with an emotionally unsupportive family environment, staying away from poor parent-child relationships, avoiding association with sexually aggressive, hyper-masculine, and delinquent peers, avoiding involvement in a violent or abusive intimate relationship and look for a job towards staying away from poverty were some of the preventive strategies against sexual violence.

Other areas of improved awareness levels after exposure to the intervention programme were the provision of employment opportunities, provision of institutional support from the police and judicial system, general non-tolerance of sexual violence within the community, strong community sanctions against sexual violence perpetrators, provision of societal norms against sexual violence, provision of societal norms against male superiority and sexual entitlement, provision of societal norms against women's inferiority and sexual submissiveness, strong laws and policies related to sexual violence along with gender equity were some of the preventive strategies against sexual violence. The participants' awareness that low levels of crimes and other forms of violence were some of the preventive strategies against sexual violence increased greatly after their exposure to the intervention programme. In the overall assessment, the level of awareness among the group improved from a mean score of 2.71 with a standard deviation of 0.711 before the intervention to 3.93 with a standard deviation of 0.104. The mean difference was 1.22 which showed a major difference in the level of awareness among the experimental group after the intervention programme.

Hypotheses

Hypothesis I: There is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Control and experimental groups in Kaduna State, Nigeria before intervention with health education programme.

The mean scores in Table 2 were compared with the independent sample t-test here to establish the difference in the awareness of the students on the preventive strategies before the intervention programme. The result of the independent sample t-test is shown in Table 4.

Table 4: Independent sample t-test on awareness of preventive strategies by female adolescent participants in the control and experimental group before intervention.

Groups	N	Mean	Std. Dev.	Std. Error	t-value	df	p-value
Experimental	100	2.71	0.711	0.071	1.008	198	0.315
Control	100	2.62	0.411	0.041			

(t-critical = 1.96, $p < 0.05$)

The result in Table 4 revealed that variability in the mean scores of participants in the experimental group was not significantly higher than that of students in the control group before the health education intervention programme. This is indicated by an observed t-value of 1.008 and p-value of 0.315 ($p > 0.05$) obtained at 198 degree of freedom (df). The result implied that the female students were aware of some of the preventive strategies against sexual violence and were not significantly different in their level of awareness before the commencement of the intervention. These observations implied that the null hypothesis that, there is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Control and experimental groups in Kaduna State, Nigeria before the intervention with health education programme is therefore retained.

Hypothesis II: There is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in experimental public secondary schools in Kaduna State, Nigeria before and after exposure to health education intervention programme.

The mean scores in Table 3 were compared with the paired sample t-test to determine the impact of the intervention on the awareness of preventive strategies against sexual violence among the female adolescent students involved in the experiment. The result of the test is summarized in Table 5.

Table 5: Paired sample t-test on awareness of preventive strategies against sexual violence among female adolescent students before and after the experimental

Intervention	N	Mean	Std. Dev.	Std. Error	t-value	df	p-value
Before	100	2.7062	0.71086	0.07109	17.006	198	0.000
After	100	3.9279	0.10386	0.01039			

(t-critical = 1.96, p < 0.05)

The result in Table 5 revealed that awareness of preventive strategies against sexual violence among participants improved significantly after their exposure to health educational intervention. The t-value observed was 17.006 with a p-value of 0.000 ($p < 0.05$) obtained at 198 degree of freedom (df). The null hypothesis that there is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in experimental public secondary schools in Kaduna State, Nigeria before and after exposure to health education intervention programme is therefore rejected. The result implied that the participants' exposure to health education intervention significantly improved their awareness of preventive strategies against sexual violence.

Discussion

Hypothesis one revealed that there is no significant difference in awareness of preventive strategies against sexual violence among female adolescent students in public secondary schools in Control and experimental groups in Sabon Gari Kaduna State, Nigeria before intervention with health education programme ($p = 0.315$). This finding aligns with several previous studies while showing some contrasts with others.

This finding is consistent with Agu et al. (2024) study which found similar levels of awareness between intervention and non-intervention communities regarding sexual and reproductive health knowledge. Their study similarly showed no significant baseline differences between groups before the intervention, suggesting that this pattern of comparable pre-intervention awareness levels is common across Nigerian populations. The finding also aligns with the Onasoga et al. (2019) study which found that while students generally had adequate knowledge of sexual violence, there were consistent gaps in knowledge about reporting mechanisms across their study population. This suggests that baseline awareness levels tend to be similar across student populations before targeted interventions.

However, this finding contrasts somewhat with Mtaita et al. (2021) study in Tanzania, which found varying levels of knowledge about gender-based violence services among their study population, with 77.9% showing moderate to good knowledge. This difference might be attributed to different cultural contexts and existing educational programs between Tanzania and Nigeria.

The finding supports Markus et al. (2021) research in the same region (Sabon Gari, Kaduna State), which reported generally poor awareness levels about sexual and reproductive health information among adolescents. This geographical consistency strengthens the validity of the finding, as it reflects similar baseline conditions in the same cultural and educational context. Daboer et al. (2018)'s study provides indirect support for this finding, as they also found comparable baseline characteristics among their study groups before implementing their health education intervention in Jos, Nigeria. This pattern of similar pre-intervention awareness levels appears to be consistent across different Nigerian regions. The finding also aligns with Esere's (2018) methodological approach, where pre-test measurements showed comparable baseline knowledge levels between control and experimental groups before implementing their sex education program. This methodological similarity adds credibility to the current finding's validity. This pattern of comparable baseline awareness suggests that any post-intervention differences can be more confidently attributed to the intervention itself, rather than pre-existing differences between groups. This is particularly important for evaluating the effectiveness of educational interventions, as demonstrated in studies like Fawole et al. (2017) and Ogunfowokan and Fajemilehin (2021), where significant improvements were observed only after intervention implementation.

Hypothesis two revealed that there is a significant difference in awareness of preventive strategies against sexual violence among female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria after exposure to health education intervention programme ($p = 0.000$). This finding aligns with several previous studies. Most notably, this finding strongly agrees with Ogunfowokan and Fajemilehin's (2021) study, which demonstrated that a school-based sexual abuse prevention education program led to a significant increase in knowledge scores among high school girls in Nigeria. This parallel suggests that educational interventions are consistently effective in improving awareness of sexual violence prevention across different Nigerian contexts.

The result also corresponds with Daboer, Ogbonna and Jamda's (2018) findings, where health education intervention showed positive impacts on students' risk awareness and behaviour. Though their study focused on broader sexual risk behaviour, the effectiveness of educational intervention in raising awareness mirrors the current study's outcomes. Further support comes from Akuiyibo, Anyanti and Pio's (2021) research, which showed improved knowledge and awareness following peer education interventions among young people in Northwestern Nigeria. While their study used a different educational approach (peer education), the positive impact on awareness aligns with the current finding. The effectiveness of the educational intervention is also consistent with Esere's (2018) findings, where sex education programs significantly improved knowledge and reduced at-risk behaviours among school-going adolescents in Ilorin. This reinforces the value of structured educational interventions in raising awareness about sexual health and violence prevention.

However, it's worth noting some contrasting findings from related studies. For instance, Markus, Aliyu and Anyebe (2021) found persistent barriers to sexual and reproductive health information despite interventions, including religious beliefs, cultural acceptance, and stigma. This suggests that while educational interventions can improve awareness, their effectiveness might be moderated by cultural and social factors. Additionally, Winegust's (2015) study in Canada showed mixed results, with significant improvements in some areas but no significant changes in others, highlighting that the effectiveness of interventions may vary across different aspects of sexual violence prevention awareness.

The finding also aligns with Fawole, Ajuwon and Osungbade's (2017) study, which demonstrated improved knowledge of violence types and appreciation of vulnerability following interventions. Their results showed that educational interventions could effectively increase awareness and knowledge about gender-based violence among young women. These comparisons suggest that the current study's finding is well-supported by existing literature, particularly in the Nigerian context, while also acknowledging that the effectiveness of interventions may be influenced by various contextual factors and implementation approaches.

Conclusion

1. Female adolescent students in public secondary schools in Sabon Gari Kaduna State, Nigeria were not aware of preventive strategies against sexual violence before exposure to health education intervention.
2. Female adolescent students in experimental public secondary schools in Sabon Gari Kaduna State, Nigeria became aware of preventive strategies against sexual violence after exposure to health education intervention.

Recommendations

Based on the conclusions drawn, the following recommendations were made:

1. Health educators in collaboration with the Kaduna State Ministry of Education should carry out an awareness campaign on prevention of sexual violence targeted at school-aged children to sensitize adolescents on sexual violence preventive strategies.
2. Health educators in collaboration with media houses through jingles, playlets and drama could incorporate sexual violence prevention messaging to help in educating teens on actions to take when they get harassed or abused in any form. This would help in improving the prevention of sexual violence cases.

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