Preventive Practices against Sexually Transmitted Infections Among Secondary School Students in Enugu State

Akubue, Juliana B. E[1]., MaryN. Nnamani[2], RitaN. Ani[3], Clementina U. Nwankwo[4], Anthonia C. Ogbe[5], Silas, Esther A. [6]

School of Midwifery, University of Nigeria Teaching Hospital, Ituku-ozzala, Enugu, Nigeria[1]
Department of Human Kinetics and Health Education, Enugu State University of Science and Technology (ESUT), Agbani, Enugu[2,3]
Department of Nursing Science, NnamdiAzikiwe University, Awka, Nigeria [4,6]
Enugu State Ministry of Health, Public Health Department, Enugu, Nigeria[5]

ABSTRACT
Aim: This study determined the preventive practices against Sexually Transmitted Infections (STIs) among secondary school students in Enugu State.

Methods: A descriptive survey was conducted with secondary school students in Enugu State. Six research objectives and eighteen hypothesis were formulated in carrying out the study.Data were collected using a self-structured questionnaire titled "Preventive Practices against Sexually Transmitted Infections Questionnaire (PPSTIQ)" and analyzed using mean and standard deviation. Z-test was used to test hypotheses 1-12 and ANOVA was used to test hypotheses 13-18.

Results: On preventive practices against STIs as regards sexual health practices among secondary school students, they had cluster means of 2.50 and 2.50 and standard deviations of 1.12 and 1.13; on preventive practices against STIs in terms of abstinence, they had cluster means of 2.50 and 2.50 and standard deviations of 1.12 and 1.11; on preventive practices against STIs in terms of before sexual activity, they had cluster means of 2.51 and 2.52 and standard deviations of 1.13 and 1.13; on preventive practices of STIs as regards STIs case management of 2.51 and 2.50 and standard deviations of 1.12 and 1.12; on preventive practices against STIs as regards secondary students' knowledge of STI, they had cluster means of 2.56 and 2.55 and standard deviations of 1.12 and 1.12; on the preventive practices against STIs as regards school based sexual health education among secondary school students, they had cluster means of 2.52 and 2.51 and standard deviations of 1.12 and 1.12 respectively.

Conclusion: The study concluded that sexual health practices, abstinence, before sexual activity, STIs' case management, students' knowledge of STIs and school-based sexual health education are some of the preventive practices against STIs among secondary school students as agreed by the respondents. The respondents also agreed that no significant difference existed in all the responses of the respondents.

Recommendation: Based on the findings of the study, it is recommended that Enugu State Government and relevant secondary school stakeholders should engage in mass enlightenment programmes for both male and female students to improve their knowledge of STIs. Seminars and workshops should be organized for the students by the secondary school management in order to help them improve in their preventive practices of STIs among others.

Key words: Sexually Transmitted Infections, Secondary school, Preventive, Students.

I.   INTRODUCTION
Sexually Transmitted Infections (STIs) are group of diseases that are spread through sexual intercourse, which mainly affect the human reproductive tract.Sexually transmitted infections according to Asmamaw (2017), are illnesses that have a significant probability of transmission between humans by means of human sexual

behaviour including vaginal intercourse, oral and anal sex. Sexually transmitted infections are viruses, bacteria, or parasites that are spread by sexual contact. These may be spread by contact with skin, mouth, genitals, or bodily fluids, from vaginal, anal, or oral sex (Bridgeclinics, 2018). It can be curable or incurable.

WHO (2019) posited that over a million people acquire a sexually transmitted infection (STI) daily. Every year, there is an estimated 357 million new infections with one of the four STIs globally: chlamydia (131 million), gonorrhoea (78 million), syphilis (5.6 million) or trichomoniasis (143 million) (WHO, 2016). According to WHO (2019), there are more than 1 million new cases of curable STIs among people aged 15-49 years daily. Sexually transmitted infections have a profound impact on sexual health of individuals.

Majority of the burdens of curable and incurable STIs are in low and middle-income countries, and Africa has the highest burden (WHO, 2012). In Nigeria, previous studies reported a range of prevalence of curative STIs among low risk population to be 0-18% (Sigbeku, Fawole&Ogunniyan, 2015) and 23% among high risk population (homosexuals, sex workers and drug users) (UNAIDS, 2019).

Onokerhoraye and Maticka- Tyndale (2012), posited that the health risks associated with STIs include infertility, infection of newborns, cervical cancer, and HIV/AIDS, among others. In most African countries, Nigeria inclusive, STIs remain the major public health problem on account of their frequency, associated morbidity and mortality and their economic cost. A study conducted by Onwuezobe, (2005) in Makwe and Adenyuma, (2014) revealed that over 90% of young ones have become sexually active in Nigeria, with a large proportion of these occurring with casual and non-conjugal relationships, thereby, increasing their vulnerability to several sexual problems especially STIs.There is evidence of high rate of coital sex and premarital sexual involvements among Nigerian youths, especially, secondary school students (Onyemelukwu in Ugwu, 2012).

This study emanated from the observation that STIs usually occur among secondary school students in Enugu State. In support of this observation, Onyemelukwu in Ugwu (2012), stated that STIs is common among Nigerian youths especially those at the secondary education level which might be due to high rate of unprotected sex among the students. STIs though deadly, can still be prevented. The preventive practices against STIs among secondary school students have been extensively studied by different scholars; however most of the studies did not address the preventive practices of STIs among secondary school students in Enugu State. However, while several researchers like Schiller, Castellsague and Garland, (2012) and Santelli (2010), have reported preventive practices about STIs among secondary school students, information from Enugu State remains sketchy. Hence, these constituted the gap filled by the present study.

II.   MATERIALS AND METHODS

Descriptive survey design was adopted for the study to determinethe preventive practices against Sexually Transmitted Infections (STIs) among secondary school students in Enugu State, in the South Eastern Nigeria. Study population consist of 17,246 secondary school students. The sample for the study was 1200 male and female secondary school students. The sample size was obtained using multi-stage sampling technique. The instrument for data collection was self-structured questionnairetitled "Preventive Practices against Sexually Transmitted Infections Questionnaire (PPSTIQ)".The instrument was validated by three research experts. The reliability of the instrument was determined by a pilot study carried out amongstsecondary school students in AnambraState. Their responses were analysed using Cronbach alpha statistics. The computation yielded .79 for cluster A, .80 for cluster B, .81 for cluster C, .77 for cluster D, .82 for cluster E and .80 for cluster F. The instrument had an overall reliability index of .80 which showed that the instrument was reliable. A total of 1200copies of the questionnaire were distributed, only 1166 copies (580 from male students and 586 from female students) (581 from students in urban schools and 585 from students in rural secondary schools) however, were retrieved, making the response rate 97.17%.

The research questions were answered using mean and standard deviation while z-test was usedto test hypotheses 1-12 and ANOVA was used to test hypotheses 13-18. In rating the computed mean scores, each response option had a numerical value assigned to it based on real limit of numbers: SA = 3.50-4.00; A= 2.50-3.49; D = 1.50-2.49; SD = 0.00-1.49. The z-test statistic was used to test the null hypotheses at .05 level of significant. The interpretation of the test of hypotheses was based on the significance (sig.) values from the SPSS output.

III. RESULTS

Research Question 1: What are the preventive practices against STIs as regards sexual health practices among secondary school students in Enugu State?

Table 1: Mean ratings and standard deviation of male and female students on the preventive practices against STIs as regards sexual health practices

n=1166

S/N	ITEMS The following are the preventive practices against STIs as regards sexual health practices:	Male Students 580			Female Students 586		
		$\overline{X}$	SD	Dec	$\overline{x}$	SD	Dec
1	using external condoms for penetrative intercourse.	2.50	1.11	A	2.50	1.16	A
2	using internal condoms for penetrative intercourse.	2.50	1.09	A	2.47	1.13	D
3	using condoms for oral sex.	2.41	1.13	D	2.55	1.12	A
4	using dental dams for oral sex.	2.56	1.12	A	2.46	1.09	D
5	using gloves for manual stimulation.	2.47	1.12	D	2.50	1.10	A
6	using gloves for manual penetration.	2.43	1.10	D	2.51	1.12	A
7	using latex condoms.	2.58	1.13	A	2.46	1.13	D
8	using polyurethane condom.	2.47	1.14	D	2.52	1.10	A
9	limit the number of sexual partners.	2.52	1.14	A	2.49	1.13	D
10	avoid contact with another person's sores.	2.43	1.09	D	2.40	1.09	D
11	regular screening and checks in clinic.	2.52	1.10	A	2.51	1.15	A
12	vaccination.	2.57	1.12	A	2.52	1.15	A
13	practicing good hygiene by wearing clean undies.	2.49	1.15	D	2.49	1.16	D
14	washing genitals before and after sex.	2.60	1.12	A	2.57	1.15	A
15	wash hands before and after sex.	2.44	1.12	D	2.46	1.13	D
16	rinsing off after sexual contacts.	2.46	1.11	D	2.54	1.12	A
17	urinating after sex to help prevent urinary tract infections.	2.54	1.10	A	2.49	1.13	D
	Cluster Mean	**2.50**	**1.12**	**A**	**2.50**	**1.13**	**A**

Table 1 shows the items on the preventive practices against STIs as regards sexual health practices among secondary school students in Enugu State. The mean ratings for male students ranged from 2.41 to 2.60, while that for female students ranged from 2.40 to 2.57. In addition, they had cluster means of 2.50 and 2.50 and standard deviations of 1.12 and 1.13 respectively. The outcome of the analysis shows the closeness of the standard deviations which is an indication that the

respondents are homogeneous in their responses. Thus, the respondents agreed that sexual health practices are preventive strategies for sexually transmitted infections.

Research Question 2: What are the preventive practices against STIs in terms of abstinence among secondary school students in Enugu State?

Table 2: Mean ratings and standard deviation of male and female students on the preventive practices against STIs in terms of abstinence
n=1166

S/N	The following are the preventive practices against STIs in terms of abstinence:	Male Students 580			Female Students 586		
		$\bar{X}$	SD	Dec	$\bar{x}$	SD	Dec
18	involvement of oneself in extra-curricular activities like exercises, church programmesetc as diversions.	2.49	1.09	D	2.46	1.11	D
19	avoidance of pornographic contents.	2.55	1.13	A	2.53	1.11	A
20	tell others about the risk associated with STIs.	2.51	1.11	A	2.48	1.11	D
21	avoidance of dating sites to meet new sexual partners.	2.48	1.10	D	2.55	1.11	A
22	using social media with caution.	2.48	1.15	D	2.51	1.13	A
23	by praying consistently.	2.47	1.09	D	2.47	1.09	D
24	choosing your friends wisely.	2.50	1.15	A	2.52	1.11	A
25	avoidance of sexual intercourse with highly susceptible groups (prostitutes).	2.58	1.14	A	2.55	1.08	A
26	learning good morals to help avoid risky behaviours.	2.47	1.10	D	2.45	1.11	D
	Cluster Mean	**2.50**	**1.12**	**A**	**2.50**	**1.11**	**A**

Table 2 shows the items on the preventive practices against STIs in terms of abstinence among secondary school students in Enugu State. The mean ratings for male students ranged from 2.47 to 2.58, while that for female students ranged from 2.45 to 2.55. In addition, they had cluster means of 2.50 and 2.50 and standard deviations of 1.12 and 1.11 respectively. The closeness of the standard deviations is an indication that the respondents are homogeneous in their responses. Thus, the respondents agreed that abstinence is a preventive strategy for sexually transmitted infections.

Research Question 3: What are the preventive practices against STIs in terms of before sexual activity among secondary school students in Enugu State?

Table 3: Mean ratings and standard deviation of male and female students on the preventive practices against STIs in terms of before sexual activity
n=1166

S/N	The following are the effective STIs preventive practices before sexual activity:	Male Students 580			Female Students 586		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec

S/N	ITEMS						
27	avoid sexual content when under the influence of alcohol.	2.46	1.14	D	2.54	1.11	A
28	avoid sexual content when under the influence of drugs.	2.56	1.12	A	2.55	1.12	A
29	get vaccinated against Human Papillo Virus.	2.41	1.13	D	2.51	1.13	A
30	get vaccinated against Hepatitis A.	2.57	1.13	A	2.47	1.13	D
31	get vaccinated against Hepatitis B.	2.50	1.12	A	2.52	1.13	A
32	use barrier method every time you are engage in sexual activity.	2.52	1.14	A	2.57	1.14	A
33	talk honestly with potential partners about your sexual behaviour.	2.48	1.11	D	2.52	1.12	A
34	get tested along with your partner before having sexual affair.	2.50	1.12	A	2.46	1.14	D
35	consider pre-exposure prophylaxis to reduce risk of contacting STIs.	2.58	1.13	A	2.55	1.12	A
	Cluster Mean	**2.51**	**1.13**	**A**	**2.52**	**1.13**	**A**

Table 3 shows the items on the preventive practices against STIs in terms of before sexual activity among secondary school students in Enugu State. The mean ratings for male students ranged from 2.41 to 2.58, while that for female students ranged from 2.46 to 2.57. In addition, they had cluster means of 2.51 and 2.52 and standard deviations of 1.13 and 1.13 respectively. The outcome of the data analysis revealed that the students agreed on before sexual activity as a preventive strategy for sexually transmitted infections.

Research Question 4: What are the preventive practices against STIs as regards STIs' case management among secondary school students in Enugu State?

Table 4: Mean ratings and standard deviation of male and female students on the preventive practices against STIs as regards STIs' case management

n=1166

S/N	ITEMS	Male Students 580			Female Students 586		
	The following are the preventive practices as regards STIs' case management:	$\overline{X}$	SD	Dec	$\overline{x}$	SD	Dec
36	correct diagnosis.	2.52	1.13	A	2.45	1.11	D
37	early treatment.	2.47	1.11	D	2.53	1.11	A
38	effective treatment.	2.53	1.12	A	2.49	1.08	D
39	provision of condoms.	2.49	1.09	D	2.53	1.13	A
40	counselling.	2.51	1.13	A	2.51	1.15	A
41	follow-up as appropriate.	2.48	1.15	D	2.59	1.10	A
42	screening of STIs in sex partners.	2.47	1.13	D	2.47	1.13	D
43	history taking.	2.56	1.12	A	2.47	1.11	D

S/N		Male			Female		
44	clinical examination.	2.55	1.11	A	2.48	1.15	D
	Cluster Mean	**2.51**	**1.12**	**A**	**2.50**	**1.12**	**A**

Table 4 shows the items on the preventive practices of STIs as regards STIs' case management among secondary school students in Enugu State. The mean ratings for male students ranged from 2.47 to 2.55, while that for female students ranged from 2.45 to 2.59. In addition, they had cluster means of 2.51 and 2.50 and standard deviations of 1.12 and 1.12. Therefore, the students agreed that STIs' case management is a preventive strategy for sexually transmitted infections.

Research Question 5: What are the preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State?

Table 5: Mean ratings and standard deviation of male and female students on the preventive practices against STIs in terms of knowledge of STIs

	ITEMS	Male Students 580			Female Students 586		
S/N	The following are the preventive practices as regards students' knowledge of STIs:	$\bar{X}$	SD	Dec	$\bar{x}$	SD	Dec
45	knowledge of the meaning of STIs.	2.55	1.13	A	2.52	1.13	A
46	knowledge of the types of STIs.	2.59	1.14	A	2.51	1.12	A
47	knowledge of the causes of STIs.	2.55	1.09	A	2.52	1.09	A
48	knowledge of the modes of transmission of STIs.	2.54	1.08	A	2.58	1.09	A
49	knowledge of the signs and symptoms of STIs.	2.58	1.11	A	2.50	1.15	A
50	knowledge of the control of STIs.	2.58	1.15	A	2.59	1.11	A
51	knowledge of the effect of STIs.	2.53	1.13	A	2.59	1.12	A
52	knowledge of the treatment of STIs.	2.57	1.11	A	2.52	1.12	A
53	knowledge of the risk factors of STIs.	2.54	1.10	A	2.58	1.11	A
	Cluster Mean	**2.56**	**1.12**	**A**	**2.55**	**1.12**	**A**

Table 5 shows the items on the preventive practices against STIs as regards secondary school students' knowledge of STIs in Enugu State. The mean ratings for male students ranged from 2.53 to 2.59, while that for female students ranged from 2.50 to 2.59. In addition, they had cluster means of 2.56 and 2.55 and standard deviations of 1.12 and 1.12. Therefore, the students agreed that the knowledge of STIs is a preventive strategy for sexually transmitted infections.

Research Question 6: What are the preventive practices against STIs in the aspect of school-based sexual health education among secondary school students in Enugu State.

Table 6: Mean ratings and standard deviation of male and female students on the preventive practices against STIs in the aspect of school-based sexual health education

	ITEMS	Male Students 580			Female Students 586		
S/N	The following are the preventive practices as regards school-based sexual health education:	$\bar{x}$	SD	Dec	$\bar{X}$	SD	Dec

54	promoting the use of condom.	2.56	1.14	A	2.41	1.10	A
55	honest conversations with your partner(s)	2.57	1.08	A	2.58	1.14	A
56	avoid unprotected sexual intercourse.	2.47	1.13	A	2.62	1.13	A
57	avoid sharing clothes.	2.54	1.14	A	2.46	1.13	A
58	avoid unscreened bold transfusion.	2.53	1.12	A	2.55	1.14	A
59	negotiate sexual activity with your partner(s)	2.48	1.11	A	2.50	1.15	A
60	properly disinfect shared sex toys.	2.51	1.12	A	2.51	1.15	A
61	partnering with a healthcare provider.	2.45	1.12	A	2.46	1.11	A
62	participate in activities where body fluids are not shared.	2.52	1.13	A	2.53	1.15	A
63	being faithful to one partner.	2.61	1.07	A	2.43	1.10	A
64	regular screening.	2.57	1.14	A	2.57	1.12	A
65	stop the abuse of alcohol.	2.50	1.14	A	2.49	1.11	A
66	stop the abuse of drug intake.	2.54	1.14	A	2.49	1.12	A
67	avoidance of multiple sex partners.	2.46	1.11	A	2.53	1.10	A
68	tell others about STIs.	2.53	1.12	A	2.58	1.10	A
69	prompt visit to hospital if and when sexual infection is suspected.	2.55	1.13	A	2.48	1.10	A
	Cluster Mean	**2.52**	**1.12**	**A**	**2.51**	**1.12**	**A**

Table 6 shows the items on the preventive practices against STIs as regards school-based sexual health education among secondary school students in Enugu State. The mean ratings for male students ranged from 2.45 to 2.61, while that for female students ranged from 2.41 to 2.62. In addition, they had cluster means of 2.52 and 2.51 and standard deviations of 1.12 and 1.12. Therefore, the students agreed that school-based sexual health education is a preventive strategy for sexually transmitted infections.

HYPOTHESES
HO$_1$: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State.

Table 7: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State

Group	n	x̄	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.50	1.12				
				1164	.05	.026	Ho$_1$ notsignificant
Female Student	586	2.50	1.13				

The data in Table 7 for male and female students on their preventive practices against STIs as regards sexual health practices show that at 1164 degree of freedom, the p-value was .026 which is less than .05 level of significance set for this study.

This shows that there is no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State.

HO$_2$: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State.

Table 8: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State

Group	n	$\overline{x}$	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.50	1.12				
				1164	.05	.013	Ho$_2$ notsignificant
Female Student	586	2.50	1.11				

The data in Table 8 for male and female students, on their preventive practices against STIs in terms of abstinence show that at 1164 degree of freedom, the p-value was .013 which is less than .05 level of significance set for this study. This shows that there is no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State.

HO$_3$: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State.

Table 9: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State

Group	n	$\overline{x}$	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.51	1.13				
				1164	.05	.016	Ho$_3$ notsignificant
Female Student	586	2.52	1.13				

The data in Table 9 for male and female students, on their preventive practices against STIs in terms of before sexual activity show that at 1164 degree of freedom, the p-value was .016 which is less than .05 level of significance set for this study. This is an indication that there is no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State.

HO$_4$: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State.

Table 10: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State

Group	n	$\overline{x}$	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.51	1.12				
				1164	.05	.022	Ho$_4$ notsignificant
Female Student	586	2.50	1.12				

The data in Table 10 for male and female students, on their preventive practices against STIs as regards STIs' case management show that at 1164 degree of freedom, the p-value was .022 which is less than .05 level of significance set for this study. This is an indication that there is no

significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State.

HO₅: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.

Table 11: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State

Group	n	$\overline{x}$	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.56	1.12				
				1164	.05	.031	Ho₅ notsignificant
Female Student	586	2.55	1.12				

The data in Table 11 for male and female students, on their preventive practices against STIs in terms of secondary school students' knowledge of STIs show that at 1164 degree of freedom, the p-value was .031 which is less than .05 level of significance set for this study. This is an indication that there is no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.

HO₆: There is no significant difference between the mean ratings of male and female secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.

Table 12: Summary of z-test analysis on the mean ratings of male and female secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State

Group	n	$\overline{x}$	SD	Df	Level of Sig	P-value	Decision
Male Student	580	2.52	1.12				
				1164	.05	.027	Ho₆ notsignificant
Female Student	586	2.51	1.12				

The data in Table 12 for male and female students, on their preventive practices against STIs in the aspect of school-based sexual health education show that at 1164 degree of freedom, the p-value was .027 which is less than .05 level of significance set for this study. This is an indication that there is no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.

HO₇: There is no significant difference between the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State.

Table 13: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State

Group	n	$\bar{x}$	SD	Df	Level of Sig	P-value	Decision
Urban	581	2.50	1.11				
				1164	.05	.018	Ho_7 notsignificant
Rural	585	2.51	1.13				

The data in Table 13 for urban and rural secondary school students, on their preventive practices against STIs as regards sexual health practices show that at 1164 degree of freedom, the p-value was .018 which is less than .05 level of significance set for this study. This simply signifies that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State.

HO_8: There is no significant difference between the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State.

Table 14: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State

Group	n	$\bar{x}$	SD	Df	Level of Sig	P-value	Decision
Urban	581	2.50	1.12				
				1164	.05	.041	Ho_8 notsignificant
Rural	585	2.51	1.11				

The data in Table 14 for urban and rural secondary school students, on their preventive practices against STIs in terms of abstinence show that at 1164 degree of freedom, the p-value was .041 which is less than .05 level of significance set for this study. This implies that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State.

HO_9: There is no significant difference between the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State.

Table 15: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State

Group	n	$\bar{x}$	SD	Df	Level of Sig	P-value	Decision
Urban	581	2.52	1.10				
				1164	.05	.009	Ho_9 notsignificant
Rural	585	2.51	1.12				

The data in Table 15 for urban and rural secondary school students, on their preventive practices against STIs in terms of before sexual activity show that at 1164 degree of freedom, the p-value was .009 which is less than .05 level of significance set for this study. This shows that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State.

HO_{10}: There is no significant difference between the mean ratings of urban and rural secondary

school students on their preventive practices against STIs as regards STIs' case management in

Enugu State.

Table 16: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State

Group	n	x ⎯	SD	df	Level of Sig	P-value	Decision
Urban	581	2.50	1.12				
				1164	.05	.014	Ho_{10} notsignificant
Rural	585	2.50	1.11				

The data in Table 16 for urban and rural secondary school students, on their preventive practices against STIs as regards STIs' case management show that at 1164 degree of freedom, the p-value was .014 which is less than .05 level of significance set for this study. This shows that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State.

HO_{11}: There is no significant difference between the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.

Table 17: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State

Group	n	x ⎯	SD	df	Level of Sig	P-value	Decision
Urban	581	2.51	1.11				
				1164	.05	.033	Ho_{11} notsignificant
Rural	585	2.50	1.11				

The data in Table 17 for urban and rural secondary school students, on their preventive practices against STIs in terms of students' knowledge of STIs in Enugu State show that at 1164 degree of freedom, the p-value was .033 which is less than .05 level of significance set for this study. This shows that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.

HO_{12}: There is no significant difference between the mean ratings of urban and rural secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.

Table 18: Summary of z-test analysis on the mean ratings of urban and rural secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State

Group	n	x ⎯	SD	Df	Level of Sig	P-value	Decision
Urban	581	2.51	1.13				
				1164	.05	.044	Ho_{12} notsignificant
Rural	585	2.50	1.12				

The data in Table 18 for urban and rural secondary school students, on their preventive practices against STIs in the aspect of school-based sexual health education show that at 1164 degree of freedom, the p-value was .044 which is less than .05 level of significance set for this study. This shows that there is no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.

HO$_{13}$: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State based on educational status of parents.

Table 19: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs as regards sexual health practices in Enugu State based on educational status of parents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.489	3	.163	2.320	.024
Within Groups	81.674	1162	.070		
Total	82.163	1165			

The result of data analysis in Table 19 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education and tertiary education on their preventive practices against STIs as regards sexual health practices F(3,1162) is 2.320 with a significant value of .024. This is not significant at .024 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated.

This means that there is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State based on educational status of parents.

HO$_{14}$: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State based on educational status of parents.

Table 20: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs in terms of abstinence in Enugu State based on educational status of parents

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.156	3	.052	.373	.012
Within Groups	162.348	1162	.140		
Total	162.504	1165			

The result of data analysis in Table 20 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education and tertiary education on their preventive practices against STIs in terms of abstinence F(3,1162) is .373 with a significant value of .012. This is not significant at .012 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated. This means

that there is no significant difference between the mean scores of secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State based on educational status of parents.

HO$_{15}$: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State based on educational status of parents.

Table 21: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs in terms of before sexual activity in Enugu State based on educational status of parents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.083	3	.028	.194	.000
Within Groups	165.533	1162	.142		
Total	165.616	1165			

The result of data analysis in Table 21 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education and tertiary education on their preventive practices against STIs in terms of before sexual activity $F_{(3,1162)}$ is .194 with a significant value of .000. This is not significant at .012 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated.

This means that there is no significant difference between the mean scores of secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State based on educational status of parents.

HO_{16}: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State based on educational status of parents.

Table 22: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs as regards STIs' case management in Enugu State based on educational status of parents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.088	3	.029	.213	.007
Within Groups	159.348	1162	.137		
Total	159.436	1165			

The result of data analysis in Table 22 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education and tertiary education on their preventive practices against STIs as regards STIs' case management $F_{(3,1162)}$ is .213 with a significant value of .007. This is not significant at .007 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated.

This means that there is no significant difference between the mean scores of secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State based on educational status of parents.

HO_{17}: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State based on educational status of parents.

Table 23: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State based on educational status of parents

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.354	3	.118	.827	.019
Within Groups	165.661	1162	.143		
Total	166.014	1165			

The result of data analysis in Table 23 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education andtertiary education on their preventive practices against STIs in terms of secondary school students' knowledge $F_{(3,1162)}$ is .827 with a significant value of .019. This is not significant at .019 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated. This means that there is no significant difference between the mean scores of secondary school students on their preventive practices against STIs secondary school students' knowledge of STIs in Enugu State based on educational status of parents in Enugu State based on educational status of parents.

HO_{18}: There is no significant difference in the mean ratings of secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State based on educational status of parents.

Table 24: Analysis of Variance (ANOVA) on the mean ratings of students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State based on educational status of parents

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.459	3	.153	2.072	.002
Within Groups	85.761	1162	.074		
Total	86.220	1165			

The result of data analysis in Table 24 shows that the F value for the difference in mean ratings of parents with no education, primary education, secondary education and tertiary education on their preventive practices against STIs in the aspect of school-based sexual health education $F_{(3,1162)}$ is 2.072 with a significant value of .002. This is not significant at .002 because it is less than the .05 level of significance set for the study. The null hypothesis is, therefore, not significant as stated. This means that there is no significant difference between the mean scores of secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State based on educational status of parents.

IV.   DISCUSSION

Preventive practices against STIs as regards sexual health practices among secondary school students

The finding of the study revealed that sexual health practices are preventive practices against sexually transmitted infections. The respondents revealed that washing genitals before and after sex, vaccination, regular screening and checks in clinic and using external condoms for penetrative intercourse are some of the sexual health practices that can prevent STIs among secondary school students. The finding of the study is in agreement with Emelia (2020) who maintained that good hygiene like washing of genitals before and after sexual contact can help prevent STIs.

Based on the hypotheses tested in this regard, the findings revealed that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State. There was no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State. Furthermore, there was no significant difference in the mean ratings of secondary school students on their preventive practices against STIs as regards sexual health practices in Enugu State based on educational status of parents.

Preventive practices against STIs in terms of abstinence among secondary school students

The finding of the study revealed that abstinence is a preventive practice for sexually transmitted infections. The respondents responded that avoidance of pornographic contents, choosing your friends wisely, avoidance of sexual intercourse with highly susceptible groups (prostitutes) are some of the ways to abstain from any sexual activity. The finding of the study is in accordance with Muhumed (2015), who maintained that sexual abstinence is an important pillar for STI prevention amongst students. The finding is also in agreement with WHO (2018) who stated that the most reliable way to avoid transmission of STIs is to abstain from oral, vaginal, and anal sex or to be in a long-term, mutually monogamous relationship with a partner known to be uninfected. Therefore, abstinence is the most potent practice to prevent STIs among secondary school students.

The hypotheses tested in that regard revealed that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State in Enugu State. There was no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State. There was no significant difference between the mean scores of secondary school students on their preventive practices against STIs in terms of abstinence in Enugu State based on educational status of parents.

Preventive practices against STIs in terms of before sexual activity among secondary school students

The finding of the study revealed that, before sexual activity is a preventive practice for sexually transmitted infections. This is because, when the students avoid sexual content when under the influence of drugs, get vaccinated against Hepatitis B, use barrier method every time they want to engage in sexual activity, consider pre-exposure prophylaxis to reduce risk of contracting STIs, it will go long a way to prevent them from

any form of sexual health issue like STIs. The finding of this study is in line with Wen-Hsu, Chia-Hua and Chin-Chun (2020) who stated that avoiding explicit content will go a long way to prevent STIs among the young ones especially the secondary school students.

The hypotheses indicated that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State. There was also no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms against before sexual activity in Enugu State. No significant difference existed between the mean scores of secondary school students on their preventive practices against STIs in terms of before sexual activity in Enugu State based on educational status of parents.

Preventive practices against STIs as regards STIs' case management among secondary school students

The finding of the study revealed that STIs' case management is a preventive practice for sexually transmitted infections. The respondents were of the opinion that early treatment, counselling, history taking and clinical examination are some of the STIs' case management practices which may prevent the students from STIs. The finding is in line with WHO (2015) who posited that effective management of STI is one of the cornerstones of STI control, as it prevents the development of complications and sequelae, decreases the spread of these diseases.

Further findings revealed that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State.There was no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State.There was no significant difference between the mean scores of secondary school students on their preventive practices against STIs as regards STIs' case management in Enugu State based on educational status of parents.

Preventive practices against STIs in terms of secondary school students' knowledge of STIs

The finding of the study showed that knowledge of STIs is a preventive practice for sexually transmitted infections among secondary school students. The respondents posited that they have the requisite knowledge of the meaning of STIs, types of STIs, causes of STIs, modes of transmission of STIs, signs and symptoms of STIs, control of STIs, effect of STIs, treatment of STIs and risk factors of STIs. The finding is in accordance with Aliyu, (2013) who posited that secondary school youth had good knowledge about sexually transmitted diseases. The finding is also in line with Into(2017) who stated thatfor adequate prevention of STI, sound knowledge of the infection is very crucial.

Further findings showed that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.No significant difference existed in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in terms of secondary school students' knowledge of STIs in Enugu State.There was no significant difference between the mean scores of secondary school students on their preventive practices against STIs secondary school students' knowledge of STIs in Enugu State based on educational status of parents.

Preventive practices against STIs in the aspect of school-based sexual health education among secondary school students

The finding of the study revealed that school-based sexual health education is a preventive practice for sexually transmitted infections. The respondents were of the view that promoting the use of condom, honest conversations with your partner(s), avoidance of unprotected sexual intercourse, partnering with a healthcare provider are some of the school-based sexual health education practices which could prevent STIs among the secondary school students.The finding of this study is in line with Sani, Abraham, Denford and Susan (2016), who revealed that school-based sexual health education has the potential to provide an inclusive and comprehensive approach to promoting sexual health among young people.
Further findings showed that there was no significant difference in the mean ratings of male and female secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.There was no significant difference in the mean ratings of urban and rural secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State.There was also no

significant difference between the mean scores of secondary school students on their preventive practices against STIs in the aspect of school-based sexual health education in Enugu State based on educational status of parents.

V. CONCLUSION

This study centered on the preventive practices against sexually transmitted infections among secondary school students in Enugu State. The study concluded that sexual health practices, abstinence, before sexual activity, STIs' case management, students' knowledge of STIs and school-based sexual health education are some of the preventive practices against STIs among secondary school students as agreed by the respondents. The respondents also agreed that no significant difference existed in all the responses of the respondents.

REFERENCES

[1]. Aliyu, A. A. (2013). "Knowledge, sources of information, and risk factors for sexually transmitted infections among secondary school youth in Zaria, Northern Nigeria," Journal of Medicine in the Tropics, 15(2); 1-7.

[2]. Asmamaw, D. (2017). Determination of knowledge, attitudes and practices on prevention of sexually transmitted infections among setosemero high school students. MOJ Public Health. 5(5):142-153

[3]. Bridgeclinics (2018). The most common STIs in Nigeria. Ikeja, GRA, Lagos.

[4]. Emelia, K. (2020). Preventing sexually transmitted infections (STIs). PLoS ONE, 17(2): 1-10.

[5]. http://www.who.int/mediacentre/factsheets/fs360/en/

[6]. Into, J.A. (2017). An analysis of knowledge and prevalence of sexually transmitted diseases in Kaduna metropolis, Kaduna State, Nigeria. Unpublished dissertation, Ahmadu Bello University, Zaria, Nigeria.

[7]. Makwe, E. &Adenyuma, M.O. (2014). Awareness of sexually transmitted infections(STIs) including HIV/AIDS amongundergraduate students of university of Abuja,Nigeria.British Journal of Applied Science & Technology,4(4): 705-717.

[8]. Muhumed, D. S. (2015). Sexual abstinence as a HIV prevention strategy among adolescent secondary school students in Garissa municipality, Garissa County of Kenya. A thesis submitted in partial fulfilment of the requirements for the award of the degree of master of public health in the school of public health of Kenyatta University.

[9]. Onokerhoraye, A., &Maticka-Tyndale, E. (2012). HIV prevention for rural youth in Nigeria: Background overview. African Journal of Reproductive Health, 16(2), 19–38.

[10]. Sani, A.S., Abraham, C., Denford, S. & Susan, B. (2016). School-based sexual health education interventions to prevent STI/HIV in sub Saharan Africa: a systematic review and meta-analysis. BMC Public Health, 16:10-69.

[11]. Santelli, J.S. (2010). Multiple sexual partners among US adolescents and young adults. Fam Plan Perspect: 271–5.

[12]. Schiller, J.T., Castellsague, X. & Garland, S.M. (2012). A review of clinical trials of human papillomavirus prophylactic vaccines. Vaccine; 30(5):123-138.

[13]. Sigbeku O.A, Fawole O.I &Ogunniyan T.B (2015). Experience of Intimate Partner Violence as a Predictor of Sexually Transmitted Infections among Married Women in Nigeria. Annals of Ibadan Postgraduate Medicine, 13(1):pp.6-16

[14]. Ugwu, O.M. (2012). Knowledge and attitude of secondary school students towards Sexually Transmitted Diseases in Nsukka Education Zone. Unpublished dissertation, University of Nigeria Nsukka.

[15]. UNAIDS (2019). New survey results indicate that Nigeria has an HIV Prevalence of 1.4%.https://www.unaids.org/sites/default/files/20190314_PR_Nigeria_en.pdf

[16]. Wen-Hsu, L., Chia-Hua, L. & Chin-Chun, Y. (2020). Exposure to sexually explicit media in early adolescence is related to risky sexual behaviourin emerging adulthood. PLoS ONE, 15(4): 1-26.

[17]. World Health Organization. (2012). Global incidence and prevalence of selected curable sexually transmitted infections. Geneva:

[18]. World Health Organization. (2015). Global strategy for the prevention and control of sexually transmitted infections: 2006–2015. Breaking the chain of transmission; who. int. p. 61.

[19]. WHO (2016). HIV/AIDS: Fact sheet. http://www.who.int/mediacentre/factsheets/fs360/en/

[20]. World Health Organization (2018). Sexually Transmitted Infections. http://www.who.int/mediacentre/factsheets/fs114/en/.

[21]. World Health Organization. (2019). Sexually transmitted infections (STIs).https://www.who.int/news-rooms/fact-sheets/detail/sexually-transmitted-infections-(stis)