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KNOWLEDGE ABOUT SEXUALLY TRANSMITTED INFECTIONS AND SAFE SEX PRACTICES AMONG STUDENTS OF THE COLLEGE OF HEALTH TECHNOLOGY MUBI, ADAMAWA STATE.

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ABSTRACT

Background: The aim of the study is to determine the Knowledge about sexually transmitted infections and safe sex practices among students of the College of Health Technology Mubi, Adamawa State. Sexually Transmitted Infections (STIs) have been conventionally recognized as a major public and social health problem for several years.

Method: The design of the study was a descriptive survey design. The population of the study was 9,307 students. The sample of the study were 384 students, and Taro Yamane formular for finite population was used. A structured questionnaire of 31 items were used to collect data, which were analyzed using means and standard deviation.

Result: The findings of the study amongst others are that students have knowledge of the signs and symptoms of sexually transmitted infections but most of them do not have adequate knowledge of other STIs. Also, students have adequate knowledge of the mode of transmission of sexually transmitted diseases.

Conclusion: The findings of this study have revealed that students have knowledge of the signs and symptoms of STIs but vast majority of them do not have adequate knowledge of other STIs. The students have adequate knowledge of the mode of transmission of STIs, they have healthy practices towards sex and they are aware of the control and prevention of STIs. The study revealed that female students seek more information from health professionals on STIs while male students seek information from the internet.

INTRODUCTION

Sexually Transmitted Infections (STIs) have been conventionally recognized as a major public and social health problem for several years. STIs remain one of the major causes of acute illness and morbidity all over the world. More than one million STIs are acquired daily; over 100 million STIs occur yearly under 25[1]. WHO estimated 374 million new

infections with 1 of 4 STIs: chlamydia (129 million), gonorrhea (82 million), syphilis (7.1 million), and trichomoniasis (156 million). More than 490 million people were estimated to be living with genital herpes in 2016, and an estimated 300 million women have an HPV infection, the primary cause of cervical cancer and anal cancer among men who have sex with men. An estimated 296 million people are living with chronic hepatitis B globally[1].

Sexually transmitted infections (STIs) constitute an epidemic of tremendous magnitude, with an estimated 27 million persons acquiring a new STI in 2018 at $16 billion. Reported disease rates underestimate the true burden of infection because the majority of STIs are asymptomatic and underreported[2]. STIs have far-reaching public health consequences on the sexual and reproductive health of individuals, as well as long-term healthcare costs to the community[3]. Due to the dramatic increase in reportable STI rates with resultant reproductive health consequences, an STI National Strategic Plan was developed with actionable goals, objectives, and strategies for prevention that focus on 4 of the STIs with the highest morbidity rates (chlamydia, gonorrhea, syphilis, and human papillomavirus), though most of the components of the plan apply to other STIs (herpes simplex virus, trichomoniasis, *Mycoplasma genitalium*)[4].

Sexually transmitted infections (STIs) are a significant public health concern among students, particularly those who are sexually active. STIs are infections that are spread through sexual contact, including vaginal, anal, and oral sex[5]. Some common STIs include chlamydia, gonorrhea, syphilis, herpes, human papillomavirus (HPV), and human immunodeficiency virus (HIV)[6]. According to World Health Organization[7], several studies have been conducted worldwide regarding knowledge about STIs and reported that 74.7% in India, 92.4% in Nigeria, 89.9% in Brazil, 98% in Tanzania, 88.5% in Jimma, Ethiopia, 79% in Dhaka, Bangladesh, 86.6% in Malaysia, 74% medical and 61.6% non-medical university students in Pakistan, 83.1% in Turkey, 68.3% in Klang Valley, Malaysia, 27% in Udupi Taluk, India, and 70.1% in Northern Cape Province, South Africa of the respondents had good knowledge of STIs. The factors that influence knowledge of STIs are diverse and include age, sex, residence, marital status, academic year, and acquiring information from friends/internet and mass media[8].

Safe sex practices can significantly reduce the risk of getting an STI. These practices include using condoms consistently and correctly, getting vaccinated against HPV, limiting the number of sexual partners, and getting tested regularly for STIs[6]. Studies have shown that many students have insufficient knowledge about STIs and safe sex practices[9]. For example, some students may not know how to use a condom correctly or may not realize that they need to use a new condom every time they have sex. Additionally, some students may not understand the importance of getting tested for STIs regularly or be too embarrassed to talk to their healthcare provider about their sexual health[10]. This study aims to analyze the knowledge about sexually transmitted infections and safe sex practices among College of Health Technology Mubi students. College of Health Technology Mubi is in Mubi North Local Government Area of Adamawa State under Lokuwa Ward Barama opposite National Television Authority (NTA) Mubi.

Methods

Design of the Study

A descriptive survey design was used to investigate and find out the knowledge about sexually transmitted infections and safe sex practices among students at the College of Health Technology Mubi. The design was chosen because it is convenient for capturing the opinions of respondents and information was collected once from the population using representative samples.

Participants

This study's participants covered the students of College of Health Technology, Mubi. The total population of the study is 9,307, these are students from various departments. The departments are: environmental health, community health, medical laboratory, dental health science, health education and promotion, health information and management, medical sociology, nutrition and dietetics, pharmacy, among others.

Sample Size Calculation

A sample size of 422 students was used for the study. The sample size of 384 was determined using Taro Yamane's formula for finite population was applied as a guide for statistically obtaining the sample for the study. Whereas, additional 38 students represent the 10% non-response rate. For this study, a stratified random sampling technique was used, therefore each department was considered as a stratum.

Data Collection

The instrument for data collection was researcher-designed questionnaire tagged 'Knowledge About Sexually Transmitted Infections and Safe sex Practices Among Students Questionnaire'. The questionnaire consisted of five sections (A - E). Section 'A' elicited information on the level of students' knowledge of the signs and symptoms of STIs while section 'B' consisted of information on the students' knowledge of the mode of transmission of STIs. Section 'C' elicited information on the students' practices towards safe sex. Section 'D' elicited on their knowledge of the control and prevention of STIs, whereas section 'E' determined the influence of gender on students' level of knowledge of STIs. The instrument consisted of 31 items which used polychotomous questions of Strongly Agree, Agreed, Disagreed or Strongly Disagreed. The respondents were requested to place a tick [√] as it applied to them in sections A, B, C, D and E. The questionnaire items were organized based on the aim and objectives of the study.

Data Analysis

Data for this study was analysed using mean and standard deviation. A four (4) point scale was employed. For the study, items with mean responses of 2.50 and above will be agreed upon, whereas items with mean responses less than 2.50 will be disagreed.

Ethical Consideration

Permission was obtained from the school management to be allowed to conduct the study in the school. Informed consent was obtained from respondents and assurance of anonymity and confidentiality and their wishes and rights were respected throughout the period of data collection including the right to withdraw from the study at any time they wish. Respondents were treated with respect and dignity. Their rights and welfare were protected. All the findings of this study were used with a high level of confidentiality.

RESULTS

Table 1: level of student's knowledge of the signs and symptoms of STIs

Table 1 shows that item six was disagreed upon by the respondents with a mean value of 2.13 and corresponding SD value of 4.33, whereas items one, two, three, four, five, and seven were agreed upon with mean values ranging from 2.60 - 3.32 and corresponding SD value of 5.44 – 6.91. This suggests that students know the signs and symptoms of Sexually Transmitted Infections (STIs) at the College of Health Technology Mubi, Adamawa State.

Table 1: Mean Responses of Level of student's knowledge of the sign and symptoms of STIs

		Departments																					
		Environmental Health		Community Health		Medical Laboratory		Dental Health Science		Health Education and Promotion		Health Information and Management		Medical Sociology		Pharmacy		Nutrition and Dietetics					
S/No	Statement	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	Remark	Grand Mean	Grand SD
1	Yellow discharge from the vagina or urethra is among the signs and symptoms of Chlamydia	2.67	3.22	3.10	13.91	3.53	9.92	3.14	6.91	3.00	6.82	3.50	2.19	4.00	4.47	3.26	11.63	3.67	3.11	Agreed	3.32	6.91
2	Painful or frequent urination is a sign and symptom of HIV	2.50	1.19	2.27	8.43	2.53	9.06	2.57	3.29	3.00	2.85	1.00	2.69	3.50	4.90	2.61	9.17	3.67	3.11	Agreed	2.63	4.97
3	Fever, Rash, and Night sweats are signs and symptoms of Gonorrhea	2.75	2.57	2.75	11.28	2.83	7.63	3.14	4.64	3.00	6.82	3.50	2.19	4.00	4.47	2.13	5.76	3.33	3.32	Agreed	3.05	5.41
4	Fatigue, poor appetite, stomach pain, nausea, and jaundice are the signs and symptoms of Hepatitis B	3.50	3.34	3.35	14.53	3.35	9.11	3.00	3.71	2.75	4.31	3.50	2.19	3.00	2.29	3.17	11.08	3.67	3.11	Agreed	3.25	5.96
5	Flat warts may be seen on the vulva as sign and symptom of syphilis	3.50	2.19	2.88	14.85	3.06	9.91	2.50	4.48	3.50	3.34	3.50	2.19	3.50	2.19	3.29	11.36	3.00	2.29	Agreed	3.19	5.87
6	Foul-smelling discharge from the vagina is among the signs and symptoms of Typhoid	1.50	2.98	1.81	9.09	2.38	7.94	2.86	3.46	1.80	2.67	1.50	2.08	3.50	2.19	2.28	7.35	1.50	2.08	Disagreed	2.13	4.43
7	Small bumps or blisters around the genitals, anus or mouth are not the signs and symptoms of Genital herpes	2.50	3.38	2.20	9.40	2.56	7.43	2.29	4.72	3.00	3.41	3.00	4.15	3.00	2.19	2.83	11.12	2.00	3.16	Agreed	2.60	5.44
																				Agreed	2.88	5.57

Source: ***Field Survey (2023)***

Table 2: Mean Responses of Mode of Transmission of STIs

Table 2 shows that item ten, eleven, twelve, and thirteen was disagreed upon by the respondents with mean values ranging from 2.01 – 2.42 and corresponding SD value of 4.28 - 4.87, whereas items eight, and nine were agreed upon with mean values of 3.29 - 3.42 and corresponding SD value of 5.65 – 6.43. This suggests that students have knowledge of the mode of transmission of STIs at the College of Health Technology Mubi, Adamawa State

		Departments																					
		Environmental Health		Community Health		Medical Laboratory		Dental Health Science		Health Education and Promotion		Health Information and Management		Medical Sociology		Pharmacy		Nutrition and Dietetics					
S/No	Statement	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	Remark	Grand Mean	Grand SD
8	STIs can be transmitted to the fetus during pregnancy	3.50	4.60	2.84	10.65	3.06	9.73	3.29	4.41	3.00	2.85	4.00	4.47	3.50	2.19	2.79	8.85	3.67	3.11	Agreed	3.29	5.65
9	Infected blood or blood products can be a source of STI transmission	3.75	4.43	3.13	12.48	3.00	7.25	4.00	9.26	2.50	3.38	4.00	4.47	3.50	2.19	3.24	11.30	3.67	3.11	Agreed	3.42	6.43
10	STIs are transmitted through kissing and romance	2.75	4.31	2.10	9.06	2.22	6.81	2.14	3.84	2.80	3.93	1.00	2.69	3.00	2.29	2.46	7.58	3.33	3.32	Disagreed	2.42	4.87
11	STIs can be transmitted by coughing/sneezing	1.75	3.85	1.90	8.29	2.71	7.13	2.00	3.59	2.40	2.99	1.00	2.69	3.50	2.19	2.24	7.21	1.33	2.43	Disagreed	2.09	4.49
12	STI can be transmitted by sharing toilets and sharing kitchen utensils (spoons, forks, cups etc.)	2.50	3.38	1.92	9.45	2.72	7.29	2.00	4.04	2.40	2.99	1.00	2.69	3.50	2.19	2.28	7.70	1.33	2.43	Disagreed	2.18	4.68
13	STIs cannot be transmitted through contact with vaginal fluid or semen	2.00	2.55	2.08	8.46	2.53	5.79	2.00	2.67	1.60	3.71	1.00	2.69	3.00	2.29	1.86	7.72	2.00	2.24	Disagreed	2.01	4.24
																				Agreed	2.57	5.06

Source: ***Field Survey (2023)***

Table 3: Mean Responses of Student's practices towards safe sex

Table 3 shows that item eighteen was disagreed upon with mean value of 2.29 and corresponding SD value of 4.56, whereas items fourteen, fifteen and sixteen were agreed upon with mean values of 2.56 – 3.71 and corresponding SD value of 5.65 – 7.85. This suggests that students have safe sex practices at the College of Health Technology Mubi, Adamawa State.

		Departments																					
		Environmental Health		Community Health		Medical Laboratory		Dental Health Science		Health Education and Promotion		Health Information and Management		Medical Sociology		Pharmacy		Nutrition and Dietetics					
S/No	Statement	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	Remark	Grand Mean	Grand SD
14	The proper use of condoms could enhance safe sex	3.75	4.43	3.72	19.03	3.61	10.77	3.89	7.72	3.20	2.94	4.00	4.47	4.00	4.47	3.54	13.75	3.67	3.11	Agreed	3.71	7.85
15	Coitus interruptus is a practice towards safe sex	3.50	3.34	2.66	9.79	3.06	8.00	2.29	5.18	2.80	5.30	3.00	4.15	4.00	4.47	2.54	8.19	2.00	3.16	Agreed	2.87	5.73
16	Abstinence is among the practices of safe sex	3.25	2.54	2.85	12.24	3.28	9.65	2.86	7.03	3.25	4.06	4.00	4.47	3.50	2.19	2.57	8.31	2.00	3.16	Agreed	3.06	5.96
17	Penile circumcision can reduce contracting STIs	2.50	3.38	2.21	9.27	2.67	6.47	2.57	4.07	3.00	2.85	1.00	2.69	3.50	2.19	2.75	7.98	3.00	4.06	Agreed	2.58	4.77
18	Unfaithful sexual partners can practice safe sex	3.00	3.41	2.00	8.50	2.41	6.12	3.00	3.79	2.40	3.92	1.00	2.69	3.50	2.19	2.32	7.16	1.00	3.29	Disagreed	2.29	4.56
19	The use of emergency contraceptive pill is the best practice for safe sex	3.00	3.41	2.54	10.24	3.00	7.29	2.43	5.11	2.00	3.41	2.00	3.61	4.00	4.47	3.04	10.03	1.00	3.29	Agreed	2.56	5.65
																				Agreed	2.85	5.76

Source: ***Field Survey (2023)***

Table 4: Mean Responses of Student's Awareness of the Control and Prevention of STIs

Table 4 shows that all items were agreed upon with mean values ranging from 2.66 – 3.63 and corresponding SD value of 5.19 – 8.05. This suggests that students are aware of the control and prevention of STIs at the College of Health Technology Mubi, Adamawa State.

		Departments																					
		Environmental Health		Community Health		Medical Laboratory		Dental Health Science		Health Education and Promotion		Health Information and Management		Medical Sociology		Pharmacy		Nutrition and Dietetics					
S/No	Statement	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	Remark	Grand Mean	Grand SD
20	Sexual health education in schools provides awareness of the control and prevention of STIs.	3.75	4.43	3.64	17.92	3.83	13.37	3.43	5.36	3.20	5.12	4.00	4.47	3.50	2.19	3.69	16.52	3.67	3.11	Agreed	3.63	8.05
21	Enlightenment campaigns on sexuality provide knowledge on the control and prevention of STIs	3.25	2.54	3.32	13.92	3.39	10.14	3.14	3.97	2.80	2.73	3.50	2.19	4.00	4.47	3.57	13.55	3.50	2.19	Agreed	3.39	6.19
22	I would take precautions to reduce my risk of HIV/AIDS when having sex.	3.25	2.54	2.61	11.66	3.17	8.34	3.50	5.16	2.80	2.73	3.00	4.15	4.00	4.47	3.03	11.17	3.50	2.19	Agreed	3.21	5.82
23	The use of condoms is the best way of preventing sexually transmitted diseases/infections.	3.50	3.34	3.50	15.57	3.5	10.44	3.29	5.01	2.60	4.23	3.00	4.15	4.00	4.47	3.46	13.57	3.50	2.19	Agreed	3.37	7.00
24	Abstinence from sexual activities is the best in controlling and preventing STIs.	3.25	2.54	3.18	12.84	3.39	9.22	2.86	7.03	3.00	2.37	4.00	4.47	4.00	4.47	3.39	12.43	3.00	2.29	Agreed	3.34	6.41
25	Emergency contraceptive use is the correct control and prevention measures for STIs	3.00	3.41	2.11	9.39	2.71	7.71	2.57	5.18	2.20	3.09	3.00	4.15	3.50	2.19	2.86	9.38	2.00	2.24	Agreed	2.66	5.19
																				Agreed	3.27	6.44

Source: ***Field Survey (2023***

Table 5: Mean Responses of Influence of Gender on students' Level of knowledge of STIs

Table 5 shows that all items were agreed upon with mean values ranging from 2.94 – 3.30 and corresponding SD value of 5.79 – 6.60. This suggests that female students seek more information on sexually transmitted infections than males at the College of Health Technology Mubi, Adamawa State.

		Departments																					
		Environmental Health		Community Health		Medical Laboratory		Dental Health Science		Health Education and Promotion		Health Information and Management		Medical Sociology		Pharmacy		Nutrition and Dietetics					
S/No	Statement	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	$\bar{x}$	∂	Remark	Grand Mean	Grand SD
26	Females tend to drop out of school due to poor sexual and reproductive health (SRH) knowledge than males	2.50	3.38	3.05	12.53	3.28	9.65	3.29	4.41	2.60	3.14	3.00	4.15	3.50	2.19	2.21	11.50	3.00	1.19	Agreed	2.94	5.79
27	Several STIs such as Chlamydia, trichomoniasis and gonorrhea are more prevalent in females than males	3.25	4.06	3.53	16.05	3.28	9.51	3.14	4.64	2.80	3.70	3.50	2.19	3.50	2.19	3.18	11.02	3.00	4.06	Agreed	3.24	6.38
28	Women often experience complications (infertility, chronic pelvic pain) from STIs than men	3.00	2.37	3.52	17.06	3.35	9.11	3.14	4.64	2.40	3.92	3.50	2.19	4.00	4.47	3.46	12.72	3.33	2.89	Agreed	3.30	6.60
29	Females often have a higher awareness and knowledge of STIs than males	3.00	2.37	3.05	12.52	3.41	9.45	3.14	4.64	2.40	3.92	2.50	2.30	3.50	2.19	3.30	11.77	3.33	2.89	Agreed	3.07	5.78
30	Females seek information on STIs from healthcare professionals, educational institutions and reliable sources than males.	3.50	3.34	3.21	14.08	2.94	7.31	3.00	3.79	2.40	3.92	3.00	4.15	4.00	4.47	3.31	12.36	3.50	1.19	Agreed	3.21	6.07
31	Males rely on peers and the internet for information on STIs than females	3.00	5.97	3.13	14.03	3.29	10.3	3.00	3.79	3.25	4.06	3.50	2.19	3.50	2.19	3.34	12.28	2.67	3.22	Agreed	3.19	6.44
																				Agreed	3.16	6.18

Source: ***Field Survey (2023)***

Discussions of Findings

The study revealed that students have knowledge of the signs and symptoms of Sexually Transmitted Infections (STIs) such as chlamydia, hepatitis B, syphilis, and genital herpes and they also have knowledge that foul-smelling discharge from the vagina is not among the signs and symptoms of typhoid. However, the vast majority of the students do not have adequate knowledge of the signs and symptoms of other STIs such as HIV and gonorrhea (2.88 and corresponding SD value of 5.57). The finding is not surprising rather expected since the sexuality education programme is highly encompassing in schools/colleges, addressing STIs and thus, is expected to make positive impact on the STIs knowledge. Also, the finding can be attributed to the fact that STIs is a global phenomenon that can result in multiple serious long term problems including pregnancy complications, fetal and neonatal demise, cancer, infertility, sexual dysfunction, and enhanced HIV transmission[11]. Amu and Adegun[12] reported that 499 out of 550 adolescents were aware of sexually transmitted infections with emphasis on their sources of information to include electronic media, schoolteachers and print media. This implies that the respondents who were aware of STIs are more than their counterparts who were not. Furthermore, Oluyemi, Yinusa, Abdullateef and Sunday[13] reported that secondary school adolescents possessed fair knowledge of sexually transmitted diseases in Asa LGA of Kwara State Nigeria. This finding is in agreement with previous study and therefore not surprising.

The study revealed that students have knowledge of the mode of transmission of STIs such as transmission during pregnancy to the foetus, through infected blood and blood products, and contact with vaginal fluid or semen and cannot be transmitted through kissing, romance, coughing/sneezing or sharing toilets or kitchen utensils (2.57 and corresponding SD value of 5.06). Similarly, Nwatu et al.[14] reported high level of knowledge of STIs transmission school/college students in South-eastern part of Nigeria. The finding, however, contradicts the result of Okere[15] who reported poor knowledge of STIs transmission mode among in-school adolescents in selected urban and semi - urban Areas of Enugu State in a sample of 950 students selected from 34 secondary schools. Similarly, Ogbe[16] in a descriptive survey reported that the rural dwellers in Delta State, Nigeria were deficient in knowledge, practice and sources of information on STIs (condom use). This finding is in agreement with previous study and therefore not surprising.

The study also revealed that students practice safe sex by agreeing that proper use of condoms could enhance safe sex, abstinence is among the practices of safe sex. However, most students don't have adequate knowledge about safe sex practices as coitus interruptus also termed as (withdrawal) isn't a practice of safe sex and doesn't offer protection from sexually transmitted infections, penile circumcision isn't a safe sex practice and doesn't offer protection from sexually transmitted infections, and the use of emergency contraceptive pill doesn't offer protection from sexually transmitted infections. (Mean value of 2.85 and corresponding SD value of 5.76) finding is well expected and encouraging as it further demonstrates the significant effect of school-based-educational programme in combating certain sexual risky behaviors that are prevailing among the students in school environments. This finding is in accordance with Castillo-Arcos et al.[17]

reported that safe sex is practiced among adolescents in Southern Mexico. Also, the finding is in line with Mwale and Muula[18] who found significant effect of safe sex practices among students in Northern Malawi. It is therefore plausible to attribute these peculiarities in the findings to the adoption of appropriate research design.

The study revealed that students have awareness of the control and prevention of sexually transmitted infections by agreeing that the use of condoms is the best way of preventing sexually transmitted infections (3.57 and corresponding SD value of 7.00), abstinence from sexual activities is the best in controlling and preventing STIs (3.34 and corresponding SD value of 6.41), sexual health education and enlightenment campaigns on sexuality provide knowledge on the control and prevention of STIs (3.63 and corresponding SD value of 8.05). However, the vast majority of the students do not have adequate knowledge and awareness that emergency contraceptive use is not a control and preventive measure for STIs (2.66 and corresponding SD value of 5.19). The finding was not surprising rather expected. The finding agrees with Bell[19] who posited that knowledge is an organized set of statement of fact or ideas, presenting a reasoned judgment or an experimental result such as the present and is being transmitted to others through some their preventive and control measures. In furtherance of the author's postulation, appropriate STIs knowledge of the preventive measures, risk factors, and consequences by the students would enhance their sexual and reproductive health positively. Ajide and Balogun[20] found that the knowledge of STIs and its prevention was poor among the adolescents in Nigeria. The authors further stated that the adolescents were either already involved in risky sexual behaviour or have intention to engage in risky sexual behaviour. Similarly, Munakampe, Zulu and Michelo[21] stated that the main barriers found among young people to use contraceptives for prevention of STIs is the lack of knowledge. This finding is not in agreement with previous study[18] and therefore surprising. The disparities in the findings of the studies could be due to variations in both geographical and socio-cultural settings where the studies were conducted.

The study also revealed that female students are more influenced knowledgeably than male students because female students seek more information from healthcare professionals, educational institutions, and reliable sources on sexually transmitted infections and have a higher awareness of STIs than male students, females often experience complications from STIs than males, and several STIs are more prevalent in females than males (3.16 and corresponding SD value of 6.18). This implies that gender influenced positively the impact in increasing the STIs knowledge of the students. The outcome of the study could also be attributed to the composure and readiness of the who were consistently exposed to well-organized learning experiences and mental exercises by their mothers in their houses. This finding agrees with Rizwan et al.[11] who saw the need for intervention such as the present in addressing multiple long term problems including pregnancy complications, fetal and neonatal demise, cancer, infertility, sexual dysfunction, and enhanced HIV transmission emanating from STIs cases. Also, the finding is in line with Okere[15] who found that the male in-school adolescents had poor knowledge of STIs when compared to their female counterparts with adequate knowledge in the selected urban and semi-urban areas of Enugu State. Ogbe[16] in a descriptive survey showed that the female rural dwellers in Delta State had higher

knowledge than their male counterparts on STIs knowledge-based survey. There are obvious similarities in these studies as they addressed STIs knowledge with respect to gender. It is therefore plausible to attribute these peculiarities in the findings to the participants' composition and the appropriateness of the adopted research design.

Conclusion

The findings of this study have revealed five major aspects. Firstly, the study revealed that students have knowledge of the signs and symptoms of Sexually Transmitted Infections (STIs) but vast majority of them do not have adequate knowledge of other STIs. Secondly, the study revealed that students have adequate knowledge of the mode of transmission of STIs. Thirdly, the study revealed that students have healthy practices towards sex. Fourthly, the study revealed that students are aware of the control and prevention of STIs. Fifthly, the study revealed that female students seek more information from health professionals on sexually transmitted infections while male students seek information from the internet.

Recommendation

The following recommendations were made based on the findings of the study: School authorities should sustain efforts towards improving student's knowledge of sexually transmitted infections and safe sex practices. Parents/guardians should put considerable effort in adequately educating their children about the importance of safe sex practice. Government should include sexual health as a course in tertiary institution's curricula for students to have an in-dept knowledge on sexually transmitted infections or diseases and safe sex practices. Federal Ministry of Health, Ministry of Education, private organizations, communities, religious leaders, cultural leaders, and other government agencies to provide effective programmes on sexuality education for students, train and equip professionals who will further educate students on the right knowledge and attitude towards sexually transmitted infections or diseases and safe sex practices. Government should support through the ministry of health and ministry of education in creating awareness and enlightenment campaigns and workshops on sexual health to improve students' knowledge and the public on sexually transmitted infections and safe sex practices.

Limitation and Strength of the Study

- The study was restricted to only in-school adolescent, leaving the out-of school categories in Adamawa State. Thus, the findings of the study may not serve a general representation of the entire adolescents in the state.
- The study was restricted to the use of questionnaire tool, thus only quantitative data were generated analysed. The finding might not be generalized since qualitative measures were not assessed.
- Only students in Adamawa State College of Health Technology participated in the study while students in other institutions or states of the country did not. Thus, the findings may not represent a general situation in Nigeria.
- The structure of the research instrument did not allow the participants to express views and experiences. The students were restricted to respond to only the items of the questionnaire.

REFERENCE

1. Rahel Tamrat, Tesfaye Kasa, Zewdineh Sahilemariam, Mulatu Gashaw, "Prevalence and Factors Associated with Sexually Transmitted Infections among Jimma University Students, Southwest Ethiopia", International Journal of Microbiology, vol. 2020, Article ID 8859468, 6 pages

2. Ajayi, A.I., Ismail, K.O. & Akpan, W. (2019). Factors associated with consistent condom use: a cross-sectional survey of two Nigerian universities. *BMC Public Health* 19, 1207 (2019). https://doi.org/10.1186/s12889-019-7543-1

3. Basim Matar AL-Malki (2014). Knowledge and awareness of sexually transmitted disease among male university students in Taif, Saudi Arabia. *International Journal of Medical Science and Public Health*, 3 (3), 342-348. doi:10.5455/ijmsph.2014.070120141

4. Workowski, K. A., & Bachmann, L. H. (2022). Centers for Disease Control and Prevention's Sexually Transmitted Diseases Infection Guidelines. *Clinical Infectious Diseases*, *74*(Supplement_2), S89-S94. https://doi.org/10.1093/cid/ciab1055. Last accessed April 5, 2023

5 Brookmeyer, K. A., Haderxhanaj, L. T., Hogben, M., & Leichliter, J. (2019). Sexual risk behaviors and STDs among persons who inject drugs: A national study. *Preventive medicine*, *126*, 105779. https://doi.org/10.1016/j.ypmed.2019.105779

6. Ejike O. (2015). Factors and Attitudes affecting sexual behavior and sex practices among secondary school students in Enugu. *Journal of Experimental Research, Vol 3 No 1 June 2015*. Retrieved from *https://www.er-journal.com/papers/OBUOHA_JUNE_2015_3_1.pdf.*

7. World Health Organization (2023) Sexually transmitted infections https://www.who.int/health-topics/sexually-transmitted-infections#tab=tab_1. Last accessed April 5, 2023

8. Nigussie, T., & Yosef, T. (2020). Knowledge of sexually transmitted infections and its associated factors among polytechnic college students in Southwest Ethiopia. *The Pan African Medical Journal*, *37*. https://doi.org/10.11604/pamj.2020.37.68.22718. Last accessed April 4, 2023

9. Jacques M. Nsuami, Ladatra S. Sanders & Stephanie N. Taylor (2013). Knowledge of Sexually Transmitted Infections Among High School Students, American Journal of Health Education, 41:4, 206-217, DOI: 10.1080/19325037.2010.10599147

10. Van Gerwen, O. T., Muzny, C. A., & Marrazzo, J. M. (2022). Sexually transmitted infections and female reproductive health. *Nature Microbiology*, *7*(8), 1116-1126. https://doi.org/10.1038/s41564-022-01177-x

11. Rizwan, S., Rath, R. S., Vivek, G., Nitika, A. G., and Farhad, A. (2015). Knowledge Attitude Practice Study on Sexually Transmitted Infections/Reproductive Tract Infections (STIs/RTIs) among married women in rural Haryana. *Indian Dermatology Online Journal. 2015;6(1):9-12.*

12. Amu, E. O., &Adegun, P. T. (2015). Awareness and Knowledge of Sexually Transmitted Infections among Secondary

School Adolescents in Ado Ekiti, Southwestern Nigeria.

13. Oluyemi, J. A., Yinusa, M. A., Abdullateef, R., Sunday, A.,& Kehinde, K. (2015). *Factors Influencing the practice of self-medication among bankers in selected new generation banks in Ilorin, Nigeria*.

14. Nwatu, C., Ekenechukwu, Y., Ezeala-Adikaibe, B., Okafor, C. &Onwuekwe, I. (2017). *HIV and sexually transmitted infections knowledge and practices: a survey of female secondary school students in Enugu, Southeast Nigeria*. Department of Internal Medicine, College of Medicine, University of Nigeria (UNN), Nsukka, Enugu State, Nigeria.

15. Okere, A.U. (2006). Knowledge of HIV/AIDS issues among in-school Adolescents. *Journal of Educational Foundations, 3,* 44-53.

16. Ogbe, J. O. (2011). Knowledge, source of information and practice of condom use in the prevention of sexually transmitted infections (STIs) among rural Delta state. Studies on Ethno-Medicine. 2011;5(2):107–114.

17. Castillo, A., Carmen, L. D., Aguirre, A., Barrera, A. B., Valle-Solís, Y., Ofelia, M., Montero, V., Kantún-Marín, C. & Amparo, M. J. (2017). Age, Gender and Resilience in Sexual Risk Behavior of STI among adolescents in Southern Mexico. Nursing Science Doctoral.

18. Mwale, M., &Muula, A.S. (2018). Effects of adolescent exposure to behaviour change interventions on their HIV risk reduction in Northern Malawi: a situation analysis. *Journal of Social Aspects of HIV/AIDS,* 15, 1, 146-154. Doi:10.1080/17290376.2018.1529612

19. Bell, J. W. (2009). USFDA andensuring food safety: Perspective of a seafood scientist. *Paper presented at the Institute of Medicine: National Research Council Committee on Review of FDA's Role in Ensuring Safe Food Meeting*. Washington, DC: USA.

20. Ajide, K. B., & Balogun, F. M. (2018). *Knowledge of HIV and intention to engage in risky sexual behaviour and practices among senior school adolescents in Ibadan*, Oyo State, Nigeria.

21. Munakampe, M. N., Zulu, J. M., &Michelo, C. (2018). Contraception and abortion knowledge, attitudes and practices among adolescents from low and middle-income countries: a systematic review. *BMC Health Services Research, 18*(1), 909. https://doi.org/10.1186/s12913-018-3722-5

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