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Original Article

# Knowledge, Attitude and Practice Towards Sexually Transmitted Infections Among Kaduna State University Students.

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**ABSTRACT**

**Introduction:** Sexually transmitted disorders (STI) are infections caused by bacteria, viruses or parasites that are spread through sexual contact. Transmission may be through genitals (commonly), anal or oral routes. It is a significant health problem seen in the sexually active/reproductive age group and spans across different socio-economic, regional/cultural and geographical variations.[1] **Methodology:** This was a cross-sectional descriptive study. A total of 257 undergraduate students were selected using multi-stage sampling technique. Data was collected using semi-structured interviewer-administered questionnaire and analyzed using Statistical Package for Social Sciences (SPSS) version 25. Variables were presented by means of frequency tables, quantitative data was summarized using mean and standard deviation and bivariate analysis was carried out using chi-square to test for associations between independent and dependent variables. The level of statistical significance was set at p-value of <0.05%. **Results:** The mean age of the respondents was 21±3.2 years. About two-third of the respondents were females (66%). More than three-quarters are aware of STIs but only one-tenth of the respondents have a good knowledge. The commonest STIs known by the respondents were HIV (84.7%) and gonorrhea (78.8%). Unprotected sexual encounter was identified as the most common route of transmission (96.7%). Only one-tenth of the participants know that some STIs can present without symptoms. Two-third of the respondents used condoms and one quarter had a past history of STIs. There was a statistically significant relationship between age of the respondents (p=0.0000); gender (p=0.019), attitude (p=0.001) and STIs. About two-fifths of the respondents underwent screening for STIs annually. **Conclusion:** There is a poor knowledge and preventive attitude towards STIs despite a high rate of awareness in students in this university.

**Keywords:** Students'. Knowledge, Attitude, Practice, Sexually Transmitted Infections

## INTRODUCTION

Sexually transmitted infections (STI) constitute a significant health problem among the sexually active/reproductive age group and spans across different socio-economic regional/cultural and geographical variation. STIs are caused by bacteria, viruses or parasites that areead through sexual contact. Transmission may be through genitals (commonly), anal or oral routes.[1]

Historically, STIs have been present since time immemorial, it dates back to around 1550 BC.[2] Presentation of these infections have been affected by many human activities like travels, trade, war, migration, industrialization increasing public education, prostitution, the emancipation of women, slaves, and men who have sex with men (MSM)[3]

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The highest reported rates of STIs are found among people between 15 and 24 years and up to 60% of the new infections and half of all sero-positive people globally are in this age group.[4] This may not be unrelated to the fact that this age group have a tendency to change sex partners frequently. Most STIs are asymptomatic, thus leading to transmission from asymptomatic partner during unprotected sexual intercourse.[5]

According to World Health Organization (WHO) over 340 million new cases of STDs occur every year with majority being in developing countries.[6] Similarly, 75-80% of the most common and curable STIs (gonorrhea, Chlamydia infection, syphilis and trichomoniasis) occur in these regions.[6] Research shows that early age at first intercourse which leads to multiple sexual partners, inconsistent and incorrect use of condoms, illiteracy and stigma associated with seeking treatment when infection occurs among others are likely factors leading to the disproportionately higher burden.

More than a million people acquire an STI every day worldwide.[7] About 1.1 billion people had STIs other than HIV/AIDS[8] with almost 500 million new cases of curable STIs (gonorrhoea, chlamydia, syphilis and trichomoniasis) occurring every year.[9] At least an additional 530 million people have genital herpes and 290 million women have Human Papilloma Virus (HPV) infection.[9] HPV infection causes an estimated 530,000 cases of cervical cancer and 275,000 cervical cancer related deaths each year.[4] The majority of STIs have no symptoms or only mild symptoms that may not be recognized as an STI.[9] Nine hundred and eighty-eight thousand pregnant women were infected with syphilis in 2016, resulting in over 350,000 adverse birth outcomes including 200,000 stillbirths and newborn deaths.[6] The burden of STIs is greatest in low income countries and have a profound impact on sexual and reproductive health.[4] STIs such as gonorrhoea and chlamydia are an important cause of infertility. In sub-Saharan Africa, untreated genital infection may be the cause of up to 85% of infertility among women seeking infertility care.[4]

The presence of one STI exponentially increases the chances of getting other infections especially HIV. Similarly, the overall sequelae of these STIs have a significant effect on welfare of those affected and also indicate the standard of reproductive health care.[7] Therefore this study aims to assess the knowledge, attitude, and sexual behaviors towards Sexually Transmitted Infection among University Students.

## SUBJECT, MATERIALS AND METHODS

Study design and setting: This was a cross-sectional descriptive study carried out over a six-month period between February to August 2021 in a Nigerian University

### Study population

The study population were undergraduate students of Kaduna State University. This university is located in Kaduna North local government area.[25] It was established on 21st May, 2004.[28]

It is located at coordinates: latitudes 100 30I 58.6″ North and longitudes 70 27I 7.4″ East in the National grid.[32]

Currently, the University has 2 Colleges, 2 Schools, 8 Faculties, 51 Academic Departments, 38 Undergraduate Programmes and 54 Postgraduate Programmes in the 2 campuses.[28] with a total population of 19,000 undergraduate students.

The Institution has a clinic that offers medical care, medical examination, eye and dental care, immunization, laboratory services and pharmacy.[33] Cases requiring specialist care are mostly referred to the Barau Dikko Teaching Hospital. The other surrounding referral tertiary health facilities domiciled within the metropolis are namely, the 44 Army Reference Hospital, the National Ear Care Centre (a facility specialized in otorhinolaryngology also known as ear, nose, and throat), the National Eye Care Centre (a facility specialized in ophthalmology), and the National Neuropsychiatric Centre.[34]

**Sample Size Calculation:** The sample size was determined using Cochran's formula for calculating sample size.[7] $n = [Z^2pq]/d^2$. Where n = Minimum sample size, z = 1.96 for 95% confidence interval. P = prevalence of knowledge, attitude and practice of STIs in a previous study (0.187).[8] q = Complementary probability of p which is 1-p = 0.667, d is precision (0.05) n= 257

**Inclusion Criteria:** Undergraduate students of the University, in the Faculties of Sciences, Social Sciences, Management Sciences, Arts, and Pharmaceutical Sciences

**Exclusion Criteria:** Students of the same faculties who were absent or declined consent to participate in the study during data collection.

**Sampling Method:** A multi-stage sampling technique was employed in this study. Simple random sampling was used in the selection of five out of eight faculties and departments. The respondents were then selected by

systematic random sampling. The data were collected using a semi-structured interviewer-administered questionnaire containing information about the demography of the respondents, knowledge, attitude and practices towards sexually transmitted diseases.

### Data Analysis

The results were collated and data were analyzed using Statistical Package for Social Sciences (SPSS) version 25 software package and variables were presented by means of frequency tables. Chi-square test and Fishers Exact were used as applicable to test for associations. The level of statistical significance was set at p-value of <0.05.

### Ethical consideration:

Ethical clearance was obtained from the Ethical and Scientific Committee of the University. Permission was obtained from the Deans and respective Heads of Departments of the respondents. Informed consent was obtained from each participant, and they were explicitly told of their right to withdraw at any stage. Confidentiality was maintained by de-identifying the data provided.

## RESULTS

Table 1: Socio-demographic characteristics of the respondents (n=257)

| Age (years) | Frequency(%) |
|---|---|
| 16-18 | 29 (11.3) |
| 19-21 | 129 (50.2) |
| 22-24 | 62 (24.1) |
| 25-27 | 30 (11.7) |
| 28-30 | 05 (1.9) |
| >30 | 02 (0.8) |
| **Sex** | |
| Male | 88 (34.2) |
| Female | 169 (65.8) |
| **Religion** | |
| Christianity | 164 (63.8) |
| Islam | 93 (36.2) |
| **Marital status** | |
| Single | 251 (97.7) |
| Married | 6 (2.3) |
| **Tribe** | |
| Igbo | 19 (7.4) |
| Hausa | 84 (32.7) |
| Yoruba | 22 (8.6) |
| Others | 132 (51.4) |

## DISCUSSION

Sexually transmitted infections are diseases not readily talked about due to its sensitive nature. It is associated with lot of stigmas as such a great proportion of the population get their information on the subject matter from peer groups or social media. The mean age of the respondents was 21±3.2 years which is similar to the mean ages obtained from studies conducted in Ibadan, Port Harcourt (Nigeria) and Italy respectively.[8,9,10] Almost all of the respondents in this study were single (97.7%). This is similar to what was obtained in studies done in Ibadan, Ethiopia, Abuja, Ilorin, Lagos.[8,11,12,13,14] This is not unexpected since the study was conducted in a tertiary institution where most of the students are their twenties and single. (Table 1).

Only one tenth of the respondents had good knowledge of the causes, symptoms and complications of STIs. (Table 2) This is worrisome considering the fact that these are young growing population who are likely to be influenced by peer groups, who will also be involved in risky sexual behaviors further leading to spread of STIs. Studies in Ibadan (18.7%), Lagos (65.6%) and Ethiopia (50.5%) had higher percentages of awareness.[8,15,16] This may be connected to the fact that these areas are more developed, have access to health facilities and are economically more advantaged than the north. The poor knowledge observed in this study may in future lead to a high rate of complications associated STIs.

However more than three quarters (86.4%) have heard of STIs. This is comparable to studies done in Lagos (84.7%), Abuja (87.4%), India (90%) and Malaysia (86.6%).[12,15,17,18] Nonetheless, a study done in Southern Nigeria (Calabar) had an awareness rate of (98%).[19] There is large disparity between knowledge and awareness in this study. The implication of this is that the that more efforts should be geared towards educating students in this institution.

Table 2: Respondents' knowledge and awareness (n=257)

| Variable | Frequency (%) |
|---|---|
| Aware | 222 (86.40) |
| Not aware | 35 (13.6) |
| **Total** | **257 (100)** |
| **STIs knowledge** | |
| Gonorrhea | 175 (78.8) |
| Syphilis | 130 (58.6) |
| Genital herpes | 41 (18.5) |
| Genital warts | 38 (17.1) |
| Candidiasis | 47 (21.2) |
| Trichomoniasis | 32 (14.4) |
| HIV/AIDS | 188 (84.7) |
| Others | 2 (0.9) |
| **Information source** | |
| Radio | 78 (35.1) |
| Television | 133 (59.9) |
| Newspapers | 46 (20.7) |
| Internet | 151 (68.0) |
| Teachers | 126 (56.8) |
| Family | 96 (43.2) |
| Religious institution | 60 (27.0) |
| Friends | 107 (48.2) |
| Health workers | 78 (35.1) |
| Others | 2 (0.9) |
| **Awareness of organisms causing STIs** | |
| Aware | 143 (63.5) |
| Not aware | 79 (36.5) |
| **Knowledge of organism causing STIs** | |
| Good knowledge | 22 (8.6) |
| Fair knowledge | 60 (23.3) |
| Poor knowledge | 175 (68.1) |
| **Knowledge of modes of transmission of STIs** | |
| Aware of modes of transmission | 212 (95.5) |
| Unprotected sex | 205 (96.7) |
| Blood transfusion | 126 (59.4) |
| Sharing injection needles | 126 (59.4) |
| Kissing | 27 (12.7) |
| Infected pregnant mother to child | 94 (44.3) |
| Don't know | 10 (4.5) |
| Others | 02 (0.9) |

Table 3: Respondent's knowledge and Attitude n=210

| **Knowledge on prevention of STIs** | |
|---|---|
| **Variable** | **Frequency (%)** |
| Sex education | 165 (80.0) |
| Use of condoms | 156 (75.7) |
| Monogamy | 24 (11.7) |
| Sexual abstinence | 116 (56.3) |
| Don't know | 10 (4.5) |
| Others | 3 (1.5) |
| **Respondents' awareness on vaccine prevention of STI** | |
| Aware | 97 (43.7) |
| Not aware | 125 (57.3) |

Table 4: Relationship between respondents' knowledge of STIs and age, gender, religion, and attitude

| **Variable** | **Grade** | | | |
|---|---|---|---|---|
| **Age (years)** | **Acceptable** | **Unacceptable** | | **P** |
| 16-18 | 27 | 2 | | 0.000 |
| 19-21 | 107 | 22 | | |
| 22-24 | 29 | 62 | | |
| 25-27 | 15 | 15 | | |
| **Gender Attitude towards STI** | | | | |
| | **Positive** | **Negative** | | |
| Male | 58 | 30 | | 0.019 |
| Female | 134 | 35 | | |
| **Religion** | **Good** | **Fair** | **Poor** | |
| Christianity | 19 | 50 | 95 | 0.001 |
| Islam | 3 | 10 | 80 | |
| **Religion** | **Sexual behavior of respondents towards STI** | | | |
| | **Acceptable** | **Unacceptable** | | |
| Christianity | 110 | 64 | | 0.007 |
| Islam | 77 | 16 | | |
| **Knowledge** | **Attitude of respondents towards STIs** | | | |
| | **Positive** | **Negative** | | |
| Good | 19 | 3 | | 0.001 |
| Fair | 54 | 6 | | |
| Poor | 119 | 56 | | |

Internet (68.0%) and television (59.9%) were the major sources of information for the participants in this study this is consistent with findings from other studies[19,12,20]. Relying on information from unverified sources with little quality control create false hope and unnecessary fear. However, an Abuja study had a higher value of (82%), this may be explained by the fact Abuja that, being a capital city of the country there is a high level of awareness and access to media facilities.

HIV/AIDS was the commonest (84.7%) type of STI known by the respondents in this study. (Table 2) This is similar to a Lagos study (85.8%) but lower than 95.0% observed in the Malaysian study.[15,20] This could be because HIV/AIDS has been given more attention compared to other STIs in awareness campaigns/health promotions in schools and media places.

Four fifths (86.4%) of the respondents are aware of the mode of transmission of STIs with almost all of them (96.7%) recognizing unprotected sexual intercourse as the commonest route of spread. (Table2) A study conducted in Lagos had a similar finding regarding the knowledge of transmission (92.2%).[15] This may not be unrelated to the fact that people generally associate STIs with unprotected sex. (Table 2)

Majority of the respondents knew that STIs are preventable and the commonest way of prevention was sex education (80.1%) and condom use (75.7%) This is similar to what was obtained in the Lagos and Messina studies where majority (92.2% and over 90% of respondents respectively) were in favor of educating young people on STIs in academic institutions, as a means of prevention.[15,21] Nonetheless, an Abuja study

showed that the use of condoms was the commonest preventive measure known by the respondents (88.2%).[12] Only 56.3% picked abstinence as a way of preventing STIs. This further emphasizes the importance of regular sex education at all levels in order to reduce the morbidity associated with STIs.

About 43.7% of the respondents in this study were aware that vaccines can be used to prevent some STIs. This is in contrast with an Italian study in which almost all (96.8%) respondents knew that vaccines can prevent some STIs.[10] The high level of the knowledge of vaccine preventable STIs observed in the Italian study may be attributed to the fact that Italy is a developed country compared to Nigeria which is a developing nation.

On the knowledge of the range of symptomatology of STI, (75.7%) of the respondents in this study reported that pain while passing urine and vaginal/penile discharge as the top STIs symptoms while vaginal itching and vaginal discharge were the main symptoms identified by Ntia et al in a study in southern Nigeria.[19] Only one-tenth (10.8%) of the respondents knew that some STIs may be asymptomatic, in two studies done in Lagos, Nigeria had 14% and 58.1% of the respondents knew that STIs could be asymptomatic.[15,22] Most STIs may be symptomless as such leading to spread of infections from asymptomatic carriers.[19]

About two-fifths of the respondents knew that the presence of other STIs could increase the risk of getting HIV. This is similar to the findings in an Ethiopian study.[11]

Almost seventy-one percent of the respondents in this study knew that some STIs can be cured. This is in contrast to 17% and 33% observed in the Malaysian and Lagos studies respectively.[18,22]

Infertility was listed as a major complication of STIs by two-thirds of the respondents in this study. But three-quarters of participants knew of this complication in a study in Lagos.[15] This high level of awareness in the Lagos study may be related to the level of development in the Western region of the country as compared to the North.

Almost three-quarters of the respondents in this study agreed that avoidance of sexual activity with an infected person would prevent its spread this was lower than what was found in the Malaysian study.[20] This further buttress the point that abstinence is vital in the prevention of STIs (knowing fully well that most STIs are asymptomatic).

Almost all the respondents agreed that an individual infected with STI should seek medical help, this was similar to what was obtained from the Malaysian study (96.7%).[20]

About three quarter of the respondents were opposed to premarital sex and having multiple sexual partners, which is lower than what was obtained in a Malaysian study[20].This finding suggest that the respondents exhibit a good preventive attitude towards sexually transmitted diseases.

About half of the respondents believed that masturbation is harmful to health. This is in contrast with what was found in an Indian study where only one sixth of the respondents' felt masturbation was harmful to health.[17] Seventy-one percent of the respondents in this study felt that premarital sex was not right. This is in contrast with the results obtained from an Indian study, where about 50% of the participants felt that one should wait until marriage to have sex.[17] This disparity could be due to the conservativeness of the study area and religious beliefs as regards matters concerning sex.

More than three quarters of the respondents in this study disagree with isolating patients with STI for the safety of others. The same proportion was observed in the Lagos study (83.3%) in contrast to an Indian study (42%).[15,17]. Except for where an STI is characterized by visible skin lesions there is no need isolating those affected, this shows that most of the responds have a good knowledge pertaining this aspect.

The idea of banning prostitution to control the spread of STIs was agreed upon by two-thirds of the respondents in this study. This was higher than what was found in the Indian study (50.5%).[17]. This could be due to the cultural and religious believe in the north where this study was carried out.

Emergency contraceptive pill was considered a preventive measure for STIs by one third of the respondents in this study. While a much lower rate was observed in a Lagos study.[15] The lower figures in the Lagos study may be due to the rural community where the study was carried out. The false perception of prevention of pregnancy provided by these pills also exposes the user to other STIs with its attendant sequelae.

About a quarter of the respondents in this study believe that HIV/AIDS can be cured while higher rates were recorded in the Indian (31.4%) and Ethiopian (50.0%) studies.[11,17] This is disturbing considering all the awareness campaigns on HIV/AIDS there is still a wide knowledge gap that needs to be filled.

Condom was considered not necessary if both partners are infected with STIs by one quarter of the respondents in this study. This is similar to what was observed in a Malaysian study (30.6%)[18]. This misconception could lead to the spread of STIs among sexual partners or spread of a different strain and increase viral load as in the case of HIV/AIDS.

A quarter of the respondents in this study believed that homosexuals are solely to be blamed for the spread of STIs. This is lower than what was observed in the Malaysian study (38.3%).

Three-quarters of the respondents had positive attitude towards prevention of STIs while the Ethiopian and Lagos studies had 79.9% and 94.4% respectively.[15,23]. The importance of prevention in most diseases cannot be overemphasized. Preventive methods employed by the respondents in this study include abstinence and the use of condoms.

About a quarter of the respondents in this study had a history of premarital sex which is lower than what was reported in studies in Ethiopia, Port Harcourt, Kenya, Lagos, Ilorin, Brazil and Portugal (41.6%, 52.0%, 57.9%, 61.9%, 72.7%, 79.9% and 96.7% respectively)[9,13,14,24,25,26,27] The finding in this study was higher than that of an Ethiopian study where, the mean age of first sexual contact for females and males were 17.1 and 17.3 years respectively.[11]The level of sexual recklessness within this age group may be due to the fact that there is high level of experimentation, peer group pressure and independence associated with teenagers.[9]

The top reasons given by the respondents' involvement in sexual activities were mostly mutual decision by two thirds of the respondents and desire to experiment by one third. A similar Malaysian study showed that three quarters had a mutual decision to involve in sex while one-third were experimenting on sex.[20] The latter study was carried in prison inmates, thus explaining the higher proportions.

This study also revealed that, just over a half of the sexually active respondents reported that living alone increases the tendency of engaging in sex while one third attributed same to living with friends.

Living independently away from home may create chances for some students to have multiple sexual partners and engage in reckless sexual behaviours without fear or condemnation from peers or community members. On the other hand, risky sexual behaviours are more common in this age group.[28]

The university years are, for many individuals, a time of curiosity and experimentation. It is often one's first taste of freedom and independence, leaving increased opportunity to make personal choices. It is for reasons such as these, that these individuals are at an increased risk of becoming infected with STIs. In addition, peer pressure, lack of life experience, poor knowledge, early sexual debut, multiple partners, alcohol and drug use add to the risk of contracting STIs.[26]

About two-thirds of the respondents in this study had been sexually active during the last six months prior to the interview, of these one third reported not using condom as compared to more than half of the respondents in a Laotian study.[29] In the same vein, one-third of the sexually active respondents in this study had multiple sexual partners in the past twelve months. This is lower than the findings in Ethiopian and Malaysian studies which had over 40% and 66.7% respectively.[11,18] Having multiple sexual contacts is a well-known behavioral risk factor for acquiring STIs, including HIV.[11] Four fifths of the respondents in this study reported that their sex partner was their boy/girlfriend, which was higher than the finding in an Ethiopian study (50.4%).[24] This could be as a result of the respondents in this study being university students as against secondary school students in the Ethiopian study.

About half of the respondents who had a history of premarital sex, had had sex through unusual routes. This is higher than the result gotten from the Ethiopian study (31.7%).[11] Oral and especially anal sex are known risk factor for transmission of opportunistic STIs including HIV.[3]

About one tenth of the respondents in this study co-habit with their sexual partners and about a quarter of the respondents had more than one sexual partner. A Brazilian study found out that, living with a partner and schooling were not shown to be protective factors against STIs.[30] People living with partners generally do not perceive themselves to be vulnerable to STIs and thus may fail to adequately protect themselves against STIs.[30] A small proportion of sexually-active respondents in this study (one tenth) had taken drugs and consumed alcohol before and during sexual encounter. This is lower than what was obtained in the Ethiopian and Kenyan studies where about one-third (30.0% and 27.2% respectively) of the sexually active students had sexual intercourse under the influence of alcohol and drugs.[11,26] Drugs and alcohol are contributing factors in the transmission of STIs due to dis-inhibition which prevent its users from making sound judgment.

Concerning STIs screening, even though more than three quarter of the respondents in this study agreed it was important, only one quarter of them tested for STIs annually (HIV screening). About two-thirds of the sexually active respondents in this study, used condoms during sexual intercourse. This is similar to what was obtained in an Ethiopian study (71.2%)[24] and higher than that observed in Loatia (30.2)[29], Kenya (34.8%)[8], Ibadan (23.1%)[12], Abuja (30.9%)[24] and Ethiopia (49.2%)[26] This could be as a result of increased awareness over the years, on the use of condom as a preventive measure against STIs.

About three-quarters of the sexually active respondents in this study used condom during their last sexual contact. This is in contrast to what was obtained in the Malaysian study in which less than half of sexually-active respondents used condom the last time they had sex.[18] The high percentage recorded in this study might have been due to the increase level of campaigns and awareness on condom use, although a quarter of the respondents who used condoms felt embarrassed when buying them due to socio-cultural beliefs.[11]

A quarter of the respondents in this study who had history of premarital sex had a history of STIs in the past

and were treated by health care workers. This is twice the proportion in an Ethiopian study (12.9%) indicating that the respondents in this study had better health care seeking behavior.[24]

Two-fifths of the respondents in this study screened for HIV annually and out of these, only just over a third of their sexual partners screened for HIV annually. These figures are quite low, thus there is need to encourage voluntary screenings in educational institutions.

About three-quarters of the respondents in this study practiced good preventive measures against STIs as against (34.0%) in a Lagos study[15]. This study was carried in university students, thus explaining the higher prevalence of preventive attitudes as compared to the urban community in Lagos.

There was a statistically significant relationship between religion and knowledge of STIs among respondents in this study with more Christians having a poor knowledge of STIs (Table 3). In the United Kingdom study, religion was considered very influential with most participants of the view that it provided a guide to safe sexual behavior like abstinence.[28]

There was a statistically significant relationship between age and knowledge of STIs in this study with the higher ages having a good knowledge of STIs (Table 3). This is similar to what was obtained in the Lagos study but in contrast to the Indian study.[15,17]. It is generally expected that with increasing age most individuals become more matured and can make informed decisions and choices.

There was also a statistically significant relationship between knowledge of STIs and attitude towards prevention with those who had good knowledge exhibiting preventive measures towards STIs (Table 3). This is similar to what was found in the Lagos study.[15] Good knowledge tends to sharpen one's attitude and vice versa.

## CONCLUSION

Sexually transmitted diseases are a cause of concern. The study revealed that there was a poor knowledge of sexually transmitted infections amongst the respondents. Only one tenth of the respondents in this study had a good knowledge of STIs and more three quarter of the respondent did not know that some STIs could be asymptomatic. There was a high rate of risky sexual behaviors in the study participants. However female gender and increasing age and knowledge were factors observed to be associated with prevention of STIs and this was statistically significant. There is need to intensify programmes aimed at educating the public especially university students about STIs and its complications.

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