# Awareness regarding sexually transmitted infectionsamong secondary level students in selected schools ofBharatpur

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## Abstract

Sexually transmitted infections (STIs) imposed a tremendous health burden on both young man and women and major public health concern in both industrialized and developing countries. STIs rank among the five most important causes of healthy productive life loss in developing countries. So the study was conducted to find out the awareness regarding sexually transmitted infections among secondary level schools students.

A descriptive cross-sectional study design was carried out on the 12 class students of three different government schools of Bharatpur. Total of 89 students were enrolled. After taking consent, data were collected by using simple random sampling technique using self-developed semi structured questionnaire. Obtained data was entered in Epi Data 3.1 and exported into IBM SPSS version 20. Datawere analyzed in terms of descriptive statistics (mean, median and standard deviation) and inferential statistics ($\chi^2$). Among 89 respondents, the level of awareness on students was adequate which is just more than half (57.3%).

There is statistically significant association between respondent's religion (p=0.042), educational level of respondent's father (p=0.025) and level of awareness regarding STIs The present study showed more than just half of the respondents have adequate awareness regarding STIs but not everyone were aware. Further research in this area is acquired to get wider perspective of student's awareness on STIs, to help prevent future spreading of STIs.

**Keywords:** Awareness, sexually transmitted infections, students

## Introduction

Sexually transmitted infections (STIs) is also known as sexually transmitted disease or veneral disease that spreads from person to person during sexual contact. STIs imposed a tremendous health burden on both young man and women. Currently more than twenty disease of STIs with different symptoms, among them gonorrhea, syphilis, HIV/AIDS are most widely known [1].

The majority of STIs diagnoses were cases of Chlamydia i.e 1.6 million. There were also 470,000 million gonorrhea cases and almost 28,000 million cases of primary and secondary syphilis. While young people, particularly young women aged 15-24, continue to bear the greatest burden of STIs [2].

More than one million STIs are acquired every day worldwide. Each year, there are an estimated 357 million new infections with 1 of 4 STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis. More than 500 million people are estimated to have genital infection with Herpes simplex virus (HSV). More than 290 million women have a Human papillomavirus (HPV) infection [3].

Among women aged 15-49 years, the estimated global prevalence of chlamydia was 4.2% million, gonorrhoea 0.8% million, trichomoniasis 5.0% million and syphillis 0.5% million. Among men, estimated chlamydia prevalence was 2.7% million gonorrhoea 0.6% million, trichomoniasis 0.6% million. These figures correspond to an estimated 131 million new cases of chlamydia, 78 million of gonorrhoea million, 143 million of trichomoniasis, and 6 million of syphillis Prevalence and incidence estimates varied by region and sex [4].

Total reported cases of STIs in Nepal were 1,40,559 they are HIV/AIDS, hepatitis, chlamydia, gonorrhea and syphilis. the estimated number of annual AIDS deaths of all ages is estimated to be around 1,771 for 2016 [5].

In Nepal, 94.16% have heard about STIs and HIV/AIDS. Result show that unsafe sexual contact 86.66% as major mode of transmission of AIDS and more than 90% of use of condoms as the true preventive method for the disease. Among them 6% were sexually

active and their partners were either sex worker 71% or friends 29% [6]. STIs rank among the five most important causes of healthy productive life loss in developing countries. However, information about infection rates is hard to come by especially for many developing countries like Nepal. STIs can cause many complications like acute morbidity as well as mortality in adults. Historically knowledge about STIs has been very low even in communities where there is high prevalence of STIs. Sometimes STIs may be viewed as unavoidable or may evenbe viewed as an "initiation into adulthood" [7].

Adolescents and young adults, aged 15–24 years, are more at risk for STIs than older adults. Youths are more likely to practice unprotected sex, have multiple sexual partners, and have trans generational and transactional sex. The cervical lining in female adolescents and young women makes them more predisposed to STIs. Adolescents is the transition to early adulthood, a crucial phase in a individual's life in term of physical growth and development, social and psychological maturity, sexual maturity and the onset of sexual activity experimentation. These behaviors potentially put them at risk for STIs. Thus, it is important that young people know the risk associated with certain lifestyles and sexual behavior that could have an adverse effect on their health, and to avoid these risks [8].

Above data shows there is limited knowledge of STIs in young adult. Most of the young adults are school going students. It is very important to secondary level school students to become aware on STIs in order to prevent the complications related to STIs like sub fertility or ectopic pregnancy. Teenagers are increasingly prone to HIV infection, have premature sexual activity and have risky sexual behavior, which eventually have an impact on family, community, society and the country that leads to increase suicidal tendency. So this study was conducted to identify awareness regarding STIs among secondary level students.

## Research Methodology

Descriptive, cross sectional study was carried out to identify the awareness regarding sexually transmitted infections in all the three government schools of Bharatpur, Chitwan.Students of class 12 were the study population. Sample size

$$n = \frac{z^2_{\alpha/2}\, pq}{d^2}$$, i.e., 89.

was calculated using the sampling formula, i.e., 89. Simple random sampling technique was used to select the sample. Self-developed structured questionnaire was developedwhich consisted of demographic status of the respondents and awareness related to STIs. Pre-test was done among10%of the total sample in similar setting. Item analysis was doneto find out the internal consistency of the tool and necessary modification of the questions was carried out. Ethical clearance was obtained from Chitwan medical college Institutional Review Committee (IRC). Formal written permission was taken from the selected schools. Verbal and written consent was taken from the students before collecting the data. Anonymity and confidentiality of collected information was maintained by using the signatureinstead of name of respondents and by not disclosing the information giving by them.

Collected data were checked after completing the data collection for the accuracy and completeness. The collected data were edited immediately after finishing the collection. Coded data was entered in EPI data 3.1. The entered data was exported into IBM SPSS 20.0. Data were analyzed by using descriptive statistics in terms of frequency and percentage and inferential statistic (Chi –square).

## Results

**Table 1:** Respondents' Socio – Demographic Characteristics n=89

| Variable | Frequency | Percent |
|---|---|---|
| Age (years) | | |
| ≤ 17 | 14 | 15.7 |
| >17 | 75 | 84.3 |
| (median age= 17 years, min=16max=19) | | |
| Gender | | |
| Male | 47 | 52.8 |
| Female | 42 | 47.2 |
| Religion | | |
| Hindu | 70 | 78.7 |
| Buddhist | 16 | 18.0 |
| Christian | 2 | 2.2 |
| Muslim | 1 | 1.1 |
| Faculty | | |
| Science | 47 | 52.8 |
| Management | 42 | 46.2 |

Table 1 shows that out of 89 respondents, most (84.3%) of the respondents were of age > 17 years. More than half (52.8%) of the respondents were male. Majority (78.7%) followed Hindu religion and more than half (52.8%) were from science stream.

**Table 2:** Respondents' Parent's Socio – Demographic Characteristics n=89

| Variable | Frequency | Percent |
|---|---|---|
| Educational status of father | | |
| Illiterate | 12 | 13.5 |
| Literate | 77 | 86.5 |
| Educational level of father (n=77) | | |
| Basic (1-8) education | 24 | 31.2 |
| Secondary (9-12) class | 36 | 46.8 |
| Bachelor degree | 9 | 11.7 |
| Master degree | 8 | 10.4 |
| Educational status of mother | | |
| Illiterate | 25 | 71.9 |
| Literate | 64 | 28.1 |
| Educational level of mother (n= 64) | | |
| Basic (1-8) education | 24 | 37.5 |
| Secondary (9-12) class | 29 | 45.3 |
| Bachelor degree | 9 | 14.1 |
| Master degree | 2 | 3.1 |
| Father's occupation | | |
| Agriculture | 23 | 25.8 |
| Teacher | 12 | 13.5 |
| Business | 24 | 27.0 |
| Foreigner | 6 | 6.7 |
| Laborer | 12 | 13.5 |
| Unemployed | 12 | 13.5 |
| Mother' s occupation | | |
| Housewife | 77 | 86.5 |
| Teacher | 11 | 12.4 |
| Foreigner | 1 | 1.1 |
| Monthly income of family (Rupees) | | |
| ≤ 30000 | 50 | 56.2 |
| > 30000 | 39 | 43.8 |

Table 2 represents parent's socio-demographic characteristics. Regarding educational status of father, most (86.5%) were literate and among them 46.8% obtained secondary level of education. Concerning educational status of mother, more than two third (71.9%) were literate among them, 45.3% obtained secondary level of education. Regarding the occupation of father, more than one fourth (27.0%) were involved in business and most (86.5%) of respondent's mothers were housewife. Regarding monthly income of family, more than half (56.2%) have ≤ 30000 Rs.

**Table 3:** Respondents' Participation on Awareness Programme and Source of Information regarding Sexually Transmitted Infections n=89

| Variable | Frequency | Percent |
|---|---|---|
| Participated in STI awareness related Programme | | |
| Yes | 23 | 25.8 |
| No | 66 | 74.2 |
| Times participated (n=23) | | |
| One time | 18 | 20.2 |
| Two time | 5 | 5.6 |
| Years before participated (n=23) | | |
| 1 year | 10 | 11.2 |
| 2 year | 10 | 11.2 |
| 3 year | 3 | 3.4 |
| Source of information* (n=23) | | |
| Mass media | 74 | 83.1 |
| IEC material | 70 | 78.7 |
| School curriculum | 71 | 79.8 |
| Health personnel | 73 | 82 |
| Peer group | 65 | 73 |

*Multiple response question

Table 3 represents that out of 89 respondents, just above one fourth (25.8%) were participated in awareness related programme. Among them about one fifth (20.2%) participated one time, and 11.2% participated one and two years back respectively. Regarding source of information, most (83.1%) of the respondents received from mass media, followed by health personnel (82%), school curriculum (79.8%), IEC material (78.7%) and peer group (73%).

**Table 4:** Respondents' Awareness regarding Sexually Transmitted Infections n=89

| Variable | Frequency | Percent |
|---|---|---|
| Meaning of STI | | |
| Correct | 71 | 79.8 |
| Incorrect | 18 | 20.2 |
| Mostly affected system | | |
| Correct | 69 | 77.5 |
| Incorrect | 20 | 22.5 |
| Example of STI | | |
| Correct | 70 | 78.7 |
| Incorrect | 19 | 21.3 |
| More risk group | | |
| Correct | 59 | 66.3 |
| Incorrect | 30 | 33.7 |
| Transmission of STI | | |
| Correct | 82 | 92.1 |
| Incorrect | 7 | 7.9 |
| Causes of STI | | |
| Correct | 62<br>27 | 69.7<br>30.3 |
| Incorrect Symptoms of STI Correct Incorrect | | |
| Symptoms of STI | | |
| Correct | 50 | 56.2 |
| Incorrect | 39 | 43.8 |
| Diagnosis of STI | | |
| Correct | 56 | 62.9 |
| Incorrect | 33 | 36.1 |
| Prevention of STI | | |
| Correct | 56 | 62.9 |
| Incorrect | 33 | 36.1 |
| Family planning method used to prevent STIs | | |
| Correct | 73 | 82 |
| Incorrect | 16 | 18 |
| Place for visit after suspecting STIs | | |
| Correct | 73 | 82 |
| Incorrect | 16 | 18 |
| Complication of STI | | |
| Correct | 59 | 66.3 |
| Incorrect | 30 | 33.7 |

Table 4 A shows that among 89 respondents, more than three fourth (79.8%) of the respondents answered infection transmitted by unsafe sexual contact with infected person is the meaning of STIs. Regarding mostly affected system by STIs, more than three fourth (77.5%) had answered reproductive system. More than three fourth (78.7%) had correctly answered syphilis as example of STIs. More than two third (66.3%) had answered as commercial sex worker are risk group for STIs. Most (92.1%) had answered unprotected sexual contact as transmission of STIs. Regarding causes, more than two third (69.7%) had answered as bacteria and virus.

Table 4 B shows that among 89 respondents, more than half (56.2%) answered the foul-smelling discharge as the common symptoms of STIs. Regarding the diagnosis of STIs, less than two third (62.9%) answered blood test. Similarly, for the prevention of STIs, less than two third (62.9%) answered use of condoms (male, female). Most(82%) of the respondents answered condom as the best family planning method used to prevent STIs. Most (82%) of the respondents correctly answered hospital as the place for visit after suspecting STIs. Regarding the complication, two third (66.3%) answered sub fertility.

**Table 5:** Respondents' Level of Awareness regarding Sexually Transmitted Infections n=89

| Level of awareness | Frequency | Percentage |
|---|---|---|
| Adequate | 51 | 57.3 |
| Inadequate | 38 | 42.7 |
| Total | 89 | 100.0 |

Median score 10, IQR=Q3-Q1 (11-8), (min=4, max=12, maximum possible score 12)

Table 5 reveals that, more than half (57.3%) of the respondents had adequate level of awareness whereas only 42.7% of the respondents had inadequate level of awareness regarding sexually transmitted infections.

**Table 6:** Association between Level of Awareness regarding Sexually Transmitted Infections and Selected Variables n=89

| Variables | Level of Awareness | | $\chi^2$ | p value |
|---|---|---|---|---|
| | Adequate N (%) | Inadequate N (%) | | |
| Age(years) | | | | |
| ≤ 17 | 5(35.7%) | 9 (64.3%) | 3.165 | 0.075 |
| >17 | 46(61.3%) | 29 (38.3%) | | |
| Gender | | | | |
| Male | 28 (59.6%) | 19 (40.4%) | 0.210 | 0.647 |
| Female | 23 (54.8%) | 19 (45.2%) | | |
| Religion | | | | |
| Hindu | 44 (62.9%) | 26 (37. 1%) | 4.134 | 0.042 |
| Other than Hindu | 7 (36.8%) | 12 (63.2%) | | |

Significance level at 0.05

Table 6 reveals that, there is statistically significant association between religion (p= 0.042) and level of awareness regarding STIs. There is no statistically significant association between age and gender with awareness regarding STIs.

**Table 7:** Association between Level of Awareness regarding Sexually Transmitted Infections and Selected Variables n=89

| Variables | Level of Awareness | | $\chi^2$ | p value |
|---|---|---|---|---|
| | Adequate n (%) | Inadequate n (%) | | |
| Education status of father | | | | |
| Illiterate | 7(58.3%) | 5 (41.7%) | 0.006 | 0.938 |
| Literate | 44 (57.1%) | 33 (42.9%) | | |
| Education level of father (n=77) | | | | |
| Bachelor and above | 10(58.8%) | 7(41.2%) | 0.874 | 0.025 |
| Below bachelor | 34 (56.7%) | 26(43.3%) | | |
| Education status of mother | | | | |
| Illiterate | 12(48.0%) | 13(52.0%) | 1.230 | 0.267 |
| Literate | 39(60.9%) | 25(39.1%) | | |
| Education level of mother (n=64) | | | | |
| Bachelor and above | 7(63.6%) | 4(36.4%) | 0.000 | 1.000* |
| Below bachelor | 32 (60.4%) | 21(39.6%) | | |
| Occupation of father | | | | |
| Unemployee | 8 (66.7%) | 4 (33.3%) | 3.165 | 0.418 |
| Employee | 43(55.8%) | 34(44.2%) | | |
| Occupation of mother | | | | |
| Housewife | 44 (57.1%) | 33(42.9%) | 0.006 | 0.938 |
| Other | 7(58.3%) | 5 (41.7%) | | |
| Monthly income | | | | |
| ≤30000 | 33 (66%) | 17 (34.0%) | 3.527 | 0.060 |
| >30000 | 18 (46.2%) | 21 (53.8%) | | |

Significance level at 0.05, *Continuity correction

Table 7 reveals that there is statistically significant association between education level of father (p= 0.025) and level of awareness regarding STIs. There is no statistically significant association between education status of father, education status of mother, education level of mother, occupation of father, occupation of mother and monthly income and level of awareness regarding STIs

**Discussion**

The present study carried out among 89 students showed that 57.3% of respondents had adequate awareness and 42.7% of respondents had inadequate awareness regarding STIs. The findings were inconsistent to the study conducted by the Narasimhalu CRV *et al* which showed that 77.8% respondents had adequate level of awareness regarding STIs and 22.2% respondents have inadequate awareness [9]. This might be because of different setting, different sample size and different measuring tools.

Regarding meaning of the STIs, 79.8% of the respondents answered correctly as the infection cause by unsafe sexual contact. The finding is supported by the study conducted by Thapa & Chand (2018) which showed 74% of the participants correctly answered the meaning of STIs [10].

The finding of the current study revealed that 78.7% of the respondents had answered syphills as one of the STIs from list of disease groups. This is inconsistent with the study Clark L *et al*. which revealed 65% respondents were aware that syphilis is one of the STIs [11].

The finding of the current study revealed that 66.3% respondents correctly answered commercial sex workers are the more risk group of STIs which is inconsistent with the study conducted by Subbaro NT *et al*. which revealed 79.7% respondents had knowledge of risk group as commercial sex workers [12].

Similarly, the current study showed that 92.1% respondents answered correctly transmission of STIs as unprotected sexual contact which is similar to the study conducted by Gyawalee M *et al*. which revealed 92% respondents had answered of mode of transmission as unprotected sexual contact as mode of transmission [13].

Findings of the current study revealed that 69.7% respondents correctly answered the causes of STIs that is bacteria and virus. This finding is consistent with the study of Amu EO *et al*. which revealed 63% (49% viruses and 14% bacteria) respondents had knowledge of causes of STIs [14].

Findings of the current study revealed that 56.2 % respondents correctly answered the symptom of STIs that is foul smelling discharge which is not similar with the results found in the study conducted by Zhang D *et al*. which shows 96% [15].

Concerning the prevention of STIs, 62.9% respondents correctly answered the question. This study is supported by study of Gyawalee M *et al*. which revealed that 58% respondents had knowledge of prevention of STIs by proper use of condom [13].

Regarding the complications of STIs, 66.3% respondents correctly answered the question as the infertility. This finding is contrary with the study of Svensson L *et al*. whichshows only 14.7% knew infertility as the complication of STIs [16].

The study found that there is statistically significant association between respondents' religion (p=0.042) and level of awareness regarding STIs which is consistent with the study of Anwar *et al*. which revealed there is statistically significant association between respondent's religion (p=0.005) and level of awareness regarding STIs [7].

The study found there is statistically significant association between respondents' educational level of father (p=0.025) and level of awareness regarding STIs.

**Conclusion**

The present study showed more than just half of the respondents have adequate awareness regarding STIs. However, few people were still lacking the concept. The level of awareness is statistically significant with religion of the respondent and educational level of respondent's father. Media should highlight on STIs related programs, STIs prevention education programs in secondary level students. Also, seminars and public talk should be conductedregularly to the school teachers and parents of students.

**Conflict of Interest**

No any

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