

# Assessment of Knowledge, Attitude and Preventive Practices towards Sexually Transmitted Infections among Preparatory School Students in Shone Town, Southern Ethiopia, 2014

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## Abstract

**Background** :Sexually transmitted infections are a major global cause of acute illness, infertility and long-term disability especially in women and children. In Ethiopia, Sexually transmitted infections are among the top five disease for which child bearing age group and adult seek medical care. However, information with regard to knowledge, attitude and practice towards STI is limited in our country.

**Objective** :To assess Knowledge, Attitude and Preventive Practice towards sexually transmitted infection among preparatory school students, in Shone Town, SNNPR of Ethiopia.

**Methodology** :Institution based cross sectional quantitative study was conducted among 982 students in Shone preparatory school. The sample size was calculated by using single population proportion formula and stratified sampling method was used to get the study subjects. Finally data were collected from respondents and the collected data was analyzed by SPSS version 20.

**Results** :Almost all of the respondents had heard about STIs before the interview. They had good knowledge regarding to mode of transmission, prevention methods and other in the study group. Only 15.18% had negative attitude towards STIs. Among the respondents 42.20% didn't agree with the idea that having history of STIs increase acquisition of HIV/AIDs and 27.70% had not agreed with condom can prevent STIs. About 41.25% had practiced sexual intercourse and 1.60% of them had practiced with commercial sex workers and 71.2% used condom. Sexually transmitted infections prevention practice was higher among respondents who had good sexually transmitted infections knowledge (AOR [95%CI]=1.76[1.74,4.21]) and those who had positive attitude towards sexually transmitted infection (AOR[95%CI]=2.91[2.48, 5.72])

**Conclusion and Recommendations** :Awareness about STIs and methods of prevention of STIs were high. Generally the level of knowledge towards prevention of STIs was high despite half of them had negative attitude towards STIs can cause social stigma and discrimination. The link between STIs and HIV/AIDS should be reinforced.

**Keywords:** Sexually transmitted infections; Shone; Students; Knowledge; Attitude; Practice

## Introduction

Sexually transmitted infections (STIs) are infections that transmit from human to human by means of sexual contact, including vaginal, oral and anal sex. The term sexually transmitted infections (STIs) has a broader range of meaning; a person may be infected, and may potentially infect others, without showing signs and symptoms of disease. Some STIs can also be transmitted via the use of intravenous (IV) drug needles after its use by an infected person, as well as through childbirth or breastfeeding. STI is caused by more than 30 different pathogens including bacteria, virus, protozoa, fungus and ecto-parasites [1].

Young adulthood is an age at which decisions are taken on whims and unless provided with appropriate knowledge, their chances of

engaging in risky sexual behavior become high. Many studies have shown that this behavior is influenced by determinants like age, gender, level and stream of education, socio-economic status, etc. It is interesting to note that poor knowledge and risky practices related to STIs are a universal phenomenon in the young adulthood. STI prevalence directly affects the rate of transmission of HIV [2]. Adolescents are disproportionately affected by STIs because of their engagement in unsafe sexual practices such as multiple sexual partnerships, casual sex and inconsistent condom use [3].

Sexually transmitted infections (STIs) remain a public health problem of major significance in most parts of the world. It imposes an enormous burden of morbidity and mortality in developing countries, both directly through their impact on reproductive and child health, and indirectly through their role in facilitating the sexual transmission of HIV infection. In developing countries STIs are responsible for up to 15% of the disease burden in urban populations.

In tropical communities STIs ranks second to malaria in their socio-economic impact [4].

The size of the global burden of STIs is uncertain because of the lack of effective control and notification systems in many countries. The World Health Organization (WHO) report published in 2011 has estimated a total of 340 million new cases of curable STIs in adults per annum, mainly in South and South East Asia (151 million new cases per year), and sub-Saharan Africa (69 million) [5].

Ethiopia is one of the countries most affected by HIV/AIDS epidemic in sub-Saharan Africa. The adult HIV prevalence in 2005 is estimated at 4.7%, and 1.7 million people are believed to be living with HIV/AIDS. The majority of HIV infections are transmitted through unprotected sexual contact. The presence of STI and having more than one sexual partner are the two most important factors contributing to the spread of the virus through heterosexual contact. Conventional STI, and HIV infections share similar risk factors and several studies have demonstrated the synergy of the two conditions [6].

Sexually Transmitted infections have an enormous social and economic consequence. For instance, marital disharmony may occur when one partner develops STI or infertility. Sexually transmitted infections are extremely wide spread and add high budget to the nation's health care cost each year. In addition to that, the costs of STI drugs place a heavier financial burden in families, communities and country at large. This is in part because antimicrobial resistance of several sexually transmitted pathogens has been increasing in most parts of the world and has rendered some low cost regimens ineffective [6].

As any adult people, preparatory students are often viewed as being high risk for HIV and other sexually transmitted infections due to their tendency to engage in the multiple sexual behaviours and their needs for peer social approval. Even though they were reported to be informal about sexually transmitted infections, sexually active teenagers are reluctant to change their sexual behaviours and obtained sexually transmitted infections service. In addition, health care providers are often uncomfortable in discussing sexuality and risk reduction with their patients; this lead to missing opportunity to counsel and screen young people for sexually transmitted infections. As a result, sexually transmitted infections are spreading fast in young people and leads to serious and painful health consequences including infertilities and long-term disability [7].

So, the main aim of this study was to assess Knowledge, Attitude and preventive Practice towards sexually transmitted infection among students of Shone preparatory school, Shone Town, SNNPR, of Ethiopia and the results of this study will provide important information to preparatory educational institutions and enable them to plan intervention program on STIs and also serve as a base line data for future study in the area.

## Method and Materials

### Study area and period

An Institution based cross sectional quantitative study was conducted from April to May 2014 in Shone town which is one of the oldest cities in the southern part of Ethiopia, situated 345km south from Addis Ababa. It is situated in SNNPR, Hadiya zone, East Badawacho woreda. It lies on 3515 hectares area. In this town there are 7 Kindergarten schools, 13 primary schools out of which 11 are

privates and 3 secondary schools out of which 2 are privates (grade 9-10) and one governmental preparatory school. The study was conducted in Shone preparatory school, which is the first governmental high school that was established in 1984 and additionally was becoming preparatory school since 1996. It was established to accommodate 750 students but currently the average accommodation over 1000 per year. In that academic program there were a total of 982 students which were enrolled in grade 11-12, of this about 572 were male and 410 were female students. All students who were attending grade 11 and 12 in Shone preparatory school were the source population for this study and the study population was all Students who were attending grade 11 and 12 class and fulfill the inclusion criteria during the study period.

### Sample size determination and sampling procedures

Sample size was determined by using single population proportion formula by taking an assumption of the prevalence of STI knowledge of 45.4% (from study conducted on STIs among Gondar high school students (9), 95% confidence level, 5% margin of error, design effect of 1.5 and an addition of 10% non-response rate. The final sample size was computed to be 303 students.

$$\frac{(1.96)^2 \cdot 0.454 \cdot (1-0.454)}{(0.05)^2} = 381$$

Since the study population was less than 10,000 we used the correction formula as follows:

$$N_F = n1 = 381$$

$$1 + n1 = 1 + 381 = 275$$

$$N = 982$$

After adding 10% non-response rate, the final sample size was computed to be 303 students.

A multistage sampling technique was applied. There were a total of 982 preparatory students (522 from grade 11 and 460 from grade 12) in Shone preparatory school. They were distributed into 12 sections. Six sections (A-F) for grade 11 and 6 sections (A-F) for grade 12. The number of students among sections varies ranging from 75 to 85. For this study first the students were stratified based on their grades as grade 11 and 12. Finally, the study samples were selected by systematic sampling method (by calculating 'k' value and taking every 3rd student, since the calculated 'k' value was 3 for both strata).

### Data collection

Data were collected by facilitator guided structured self-administered questionnaire. Facilitators were university instructors who received training on the study procedures. Two facilitators per class room were assigned to facilitate the data collection process. To keep the quality of data, the questioner was pretested on 5% of the sample at other preparatory school and data collection was closely monitored. Finally data were sorted, checked, entered into the computer and cleaned for analysis.

### Measurements

The following operational definitions were used: knowledge was defined as the level of information and understanding difference about the mode of transmission, sign and symptoms and way of prevention as well as control of STIs. Students were considered as having a good

knowledge if they answer >75% of the knowledge question and Poor knowledge if they answer <75% of the knowledge question. Attitude is defined in this study as respondents' perception towards STI both negative and positive or the value of students to ward STI. Positive attitude was defined as those respondents who responds attitude question 50% or more by saying YES and negative attitude was those respondents who responds attitude question less than 50% by saying YES. Practice was defined as experience of respondents toward risky sexual behaviour leading to STI and its prevention method. Practiced were those who score more than 50% for practice related question and not practiced were those who score less than 50% for practice related question. STIs are groups of diseases, which are mainly transmitted by sexual contact. Adolescent are people in age group of 10 to 19.

### Data processing and analysis

The collected data were checked for completeness before the analysis. Then data were entered and analyzed using SPSS-20 version statistical software. Descriptive statistics were used to give a clear picture of background variables like age, sex and other variables. The frequency distribution of both dependent and independent variables were worked out. Finally the summarized result was presented by frequency tables, graphs and summary statistics.

### Ethical consideration

Ethical clearance was obtained from Institutional Health Research Ethics Review Committee of Arba Minch University, College of Health and Medical Sciences. Permission letter was obtained from Shone Health Bureau to director of the school and data was collected after obtaining permission from school administration and study subjects.

### Results

#### Socio demographic characteristics of the respondents

Information on the studies was given to the participants, including purposes and procedures. It was explained that participation was voluntary and that information given by the respondents would be protected. A total of 303 students took part in the study making response rate of 100%. Of these, 177(58.40%) were males giving a male to female ratio of 1.4:1. The age of the respondents range from 15 to 26 with mean of 18.61 and standard deviation of  $\pm 1.89$ . Majority 266 (87.8%) were Hadiya in Ethnicity, followed by Wolaita 21 (6.93%), Oromo 7(2.7%), Amhara 5(2.3%) and Gurage 4(1.3). Majority of the respondents 235(77.6%) were protestant in religion and the least was Catholic 11 (3.6%). Concerning their educational and marital status most of them 161(53.1%) were grade 11 and unmarried 278(91.7%) (Table 1).

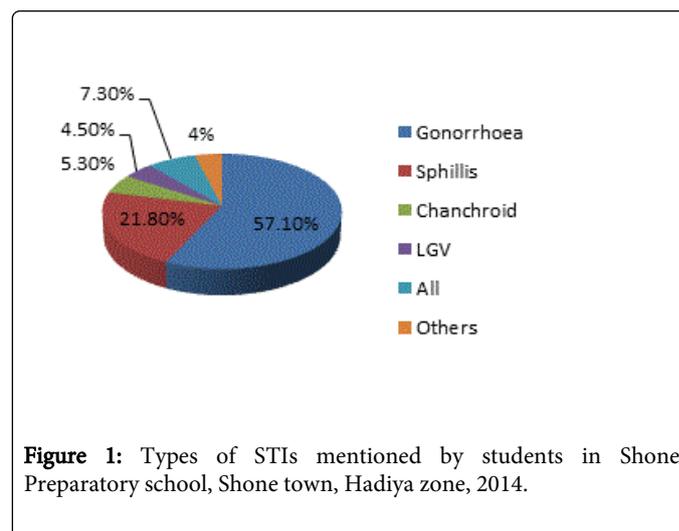
#### Knowledge of preparatory students

Out of the total 303 students 295 (97.4%) of them were heard about STI and source of their information was radio/TV 142(48.1%), school 117(39.7%), from radio/TV and school 30(10.2) and other source 6(2%). About 57.10% of the respondents know Gonorrhoea among STIs (Figure 1)

Variables frequency percentages			
<b>Sex</b>	Male	177	58.4

	Female	126	41.6
<b>Age</b>	15-19	222	73.3
	20-24	78	25.7
	25-29	3	1
<b>Religion</b>	Protestant	235	77.6
	Orthodox	43	14.2
	Muslim	14	4.6
	Catholic	11	3.6
<b>Grade</b>	11th	161	53.1
	12th	142	46.9
<b>Marital Status</b>	Unmarried	278	91.7
	Married	25	8.3

**Table 1:** Socio demographic characteristics of the Shone preparatory Students, Shone town, Hadiya zone, 2014.



**Figure 1:** Types of STIs mentioned by students in Shone Preparatory school, Shone town, Hadiya zone, 2014.

Out of 295(97.4%) who heard about STIs, 278(94.2 %) of them were knew about sign and symptom of STI. Among those who knew signs and symptoms of STIs, lower abdominal pain in females, burning sensation on urination, redness on genital area, discoloration of urine, Vaginal discharge in females, urethral discharge in males, menstrual abnormality in females, impotency in males and scrotal swelling in males were known by; 13.31%, 74.82%, 7.94%, 8.64%, 30.94%, 23.38%, 3.6%, 0.71% and 17.62% respectively [Table 2].

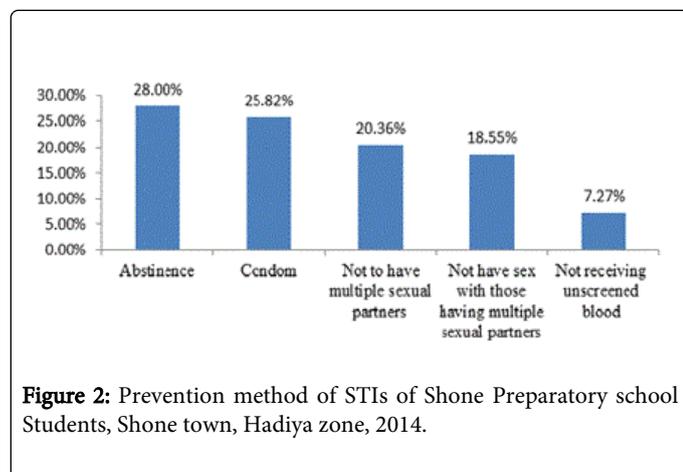
Characteristics	Response	Frequency (%)		
		Male	Female	Total
Do you know mode of transmission of STIs	Yes	167(55.12 %)	111(36.63 %)	278(91.75 %)
	No	10(3.30%)	15(4.95%)	25(8.25%)
Which mode of transmission	Unprotected sex (correct)	141(50.72 %)	80(28.78 %)	221 (79.50%)

	Contaminated blood (correct)	7(6.48%)	7 (2.52%)	14(5.041%)
	Mother to child (correct)	2(1.12%)	13(4.68%)	15(5.40%)
	Mosquito bite (incorrect)	3(1.08%)	4(1.44%)	7(2.52%)
	Who know more than One answers(>1 correct answers)	15(5.40 %)	6(2.16%)	21(7.55)
Do you know prevention Method of STIs	YES	275(90.76 %)	166(54.79 %)	109(35.97 %)
	NO	28(9.24%)	11(3.63%)	17(5.61%)

**Table 2:** Mode of transmission and prevention method of STIs of Shone preparatory school students, Shone town, Hadiya zone 2014.

### Attitude of students

About 257(84.82%) of the respondents had positive attitude and 46(15.18%) had negative attitude towards STIs. 217(79.62%) of the students had agreed STIs are disease and 67(22.11%) had agreed as STIs are syndromes. One hundred fifty two (50.17%) respondents were not agreed with the idea of STIs are common in community. One hundred fifty one (49.83%) of respondents were agree that STI transmitted in other ways than sexual intercourse and 101(33.33%) agree that students were more exposed to STIs[Figure 2].



**Figure 2:** Prevention method of STIs of Shone Preparatory school Students, Shone town, Hadiya zone, 2014.

Among the respondents 127(41.91%) agreed that STIs can be transmitted in homosexual intercourse and 101(33.33%) agreed that person with STIs can be easily identified from community [Table 3].

Variable	Frequency (%) Agree	Disagree
A person who is infected by has a high Chance to be infected by HIV	175(57.80)	128(42.20)
We can easily prevent STI	261(86.10)	42(13.90)
Using Condom prevents STIs	219(72.30)	84(27.70)
Health education can reduce transmission of	240(79.20)	63(20.80)

Having single partner prevents STIs	207(68.30)	96(31.70)
Person who have got STI can go to health institution for treatment	277(91.40)	26.(8.60)
STI can cause social stigma and discrimination	149(49.20)	154(50.80)

**Table 3:** Attitude of shone preparatory school students toward STIs, Shone, Hadiya, 2014.

### Preventive practice of students

Out of 303 students 126(41.58%) had history of sexual intercourse and the rest had hadn't. The mean (SD) age of their sexual practice was 17.34 ( $\pm$  1.39). The minimum and maximum age was 15 and 23 respectively.

Among those who had sexual intercourse, 63(50.40%) had sex with their boy or girl friends, 43(34.40%) with classmate, 14(11.20%) with teachers, and 3(2.40%) had sex with others. Additionally 2(1.60%) of the males had sex with commercial sex worker. The common place used for sexual intercourse was at home 69(55.20%), school 37(29.60%), hotel 10(8%), and street 9(7.20%) and the common cause for sexual engagement was Sexual desire 55(44%), girl or boy friend pressure 30(24%), peer pressure 28(22.40%), whereas 5(4%) for other reason. Additionally 7(5.60%) of them engaged for economic purpose.

Out of 125 students who had sex, 89(71.20%) reported that they had used condom and 36(28.80%) didn't use it. Among condom users, 31(34.83%) used always, 22(24.72%) used usually and 36(40.45%) used sometimes. Out of 178 respondents who had no history of sex, 89(50%) of them prefer to being faithful, 59(33.15%) to abstain, and 18(10.11%) to use condom.

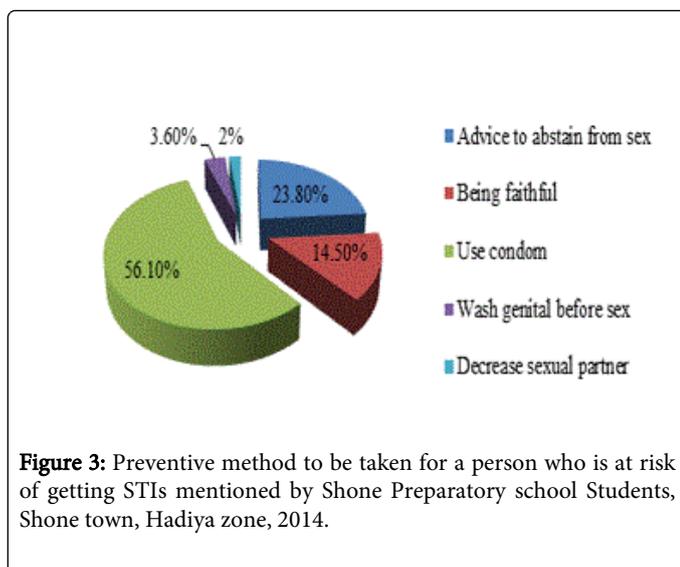
Among 303 students, 39(12.90%) of them had history of STIs. From those who exposed, about 23(58.97%) treated at health institution, 16(41.03%) treated by traditional medicine and the most commonly used types of home treatment were animal product 6(30.50%), by root 4(23.53%), by steam 2(12.50%), and by leaf 5(31.25%).

Among those who advice to use condom for a person who is at risk of getting STIs, 43(25.29%) said only male have to use and 124(72.90%) said both have to use. One hundred thirty one (77.10%) of them advice to use condom always, 14(8.24%) advice as available and 25(14.71%) advice to use sometimes [Figure 3].

Out of 303 respondents, 295(97.40%) said that they had discussed about STIs. Among these 204(69.15%) discussed with their friends, 25(8.48%) with their mother/father, 21(7.12%) with their brother/sister, and the rest 45(15.25%) discussed with above listed persons.

### Factors associated with preventive practices

Logistic regression analysis shows that, knowledge of the respondents was significantly associated with preventive practices of sexually transmitted infections. In that, respondents who had a good knowledge of STIs were 1.76 times more likely to practice prevention of sexually transmitted infections than those who had poor STI knowledge(AOR[95%CI]=1.76[1.74, 4.21]). Similarly, respondents who had positive attitude towards STI were 2.91 times more likely to practice prevention of sexually transmitted infections (AOR [95%CI]=2.91[2.48, 5.72]). (Table 4)



**Figure 3:** Preventive method to be taken for a person who is at risk of getting STIs mentioned by Shone Preparatory school Students, Shone town, Hadiya zone, 2014.

Variables	Practice status		AOR (95% CI)
	Practiced	not	
<b>Grade Level</b>			
12	61	81	1.11(0.70,1.76)
11	65	96	1
<b>Knowledge status</b>			
Good knowledge	114	167	1.76(1.74,4.21)*
Poor Knowledge	12	10	1
<b>Sex</b>			
Male	67	110	0.69(0.44,1.10)
<b>Female Attitude status</b>	59	67	1
Positive	106	151	2.91(2.48,5.72)*
Negative	20	26	1

**Table 4:** Multivariable logistic regression analysis indicating factors associated with practice towards STI prevention among Shone Preparatory school Students, Shone town, Hadiya zone, 2014.

N.B.\*=statistically significant association at p-value of <0.05.

## Discussion

In this study, knowledge towards STIs was around 278(91.75%). It is higher than study conducted in preparatory students in Gondar town which is 45.4% and study conducted among high school adolescents in Addis Ababa, which is 17.9% (9, 3). Similarly, the finding of this study is higher than study conducted in Bangladesh, in which 54.8% of the adolescents know about AIDS and STIs [9]. The difference might be due to the time gap among the above studies, since acquisition of knowledge increase from time to time.

The difference might be due to the time gap that could bring considerable change in the Knowledge between the two studies from 2009 to 2014 and also may be due to their exposure to the disease (STIs) which is around 39(12.87%) in this study which lead the students to had good knowledge about STIs [8].

In this study, around 15.18% of the respondent have a negative attitude towards STIs, whereas a cross sectional study which was conducted in 2009 on the KAP and risk behaviours towards HIV/AIDS and other sexually transmitted infections among preparatory students of Gondar town shows that about 34% of the respondents had negative attitude towards AIDS and STI's [8]. When we compare the two prevalence, it is lower in this study and this may be due to high knowledge about mode of transmission and prevention of the disease in this study.

In this study, about 57.80% of the respondents believe that STIs increases the chance of acquiring HIV/AIDS, whereas cross sectional study conducted in Gondar shows that, 45.4% knew acquisition of other STIs increases the chance of HIV transmission following unsafe sex with known cases [9]. This difference may be due to the study time difference and the effect of continued information dissemination through different mechanisms.

In our study about 41.25% of the respondents have history of sexual intercourse, whereas study conducted in Agaro high school in Feb. 2001 shows that 25% of the students had history of sexual intercourse [11], the difference may be due to following western fashion that make them attractive for sexual intercourse, another reason is the norm and value of the population (even though they have high knowledge about risk of having sexual intercourse for STIs, they practice it). Similarly, the finding of this study is higher than the study conducted in Haramaya U University students, in which only 33.5% of students had sexual experience [12]. The reason may be due to difference in the study population, i.e. this study was conducted on Preparatory students and that one was conducted on university Students.

From those who had sex, 89(71.20%) had used condom and 36(28.80%) didn't use it. Among condom users 31(34.83%) used always, 22(24.72%) used usually and 36(40.45%) used sometimes, whereas the study conducted in Agaro shows that among those who had previous sexual exposure, 49(54.4%) used condom at least once. Of these, 23(46.9%) were using condom always [11]. The difference may be due to the time gap between the two studies and high level of knowledge in present study. Also the reason may be due to increment of knowledge from time to time in the community as technology advances.

In this study, knowledge was significantly associated with preventive practices of sexually transmitted infections. Respondents who had a good knowledge of STIs were more likely to practice prevention of sexually transmitted infections than those who had poor STI knowledge. Similarly, respondents who had positive attitude towards STI were almost three times more likely to practice prevention of sexually transmitted infections. This is due to, those who are knowledgeable and have positive attitude towards the problem also aware about the prevention methods of the problem.

## Conclusions and Recommendations

Almost all students had heard about STIs. Knowledge regarding modes of transmission, prevention methods was quite high despite half of them had negative attitude towards STIs which causes social

stigma and discrimination. Despite high level of knowledge, there were also misconception and speculation, among these; Mosquito bite was speculated to transmit STIs. Among those who practiced sexual intercourse, some of them didn't use condom and from those who had history of STIs, some were treated by traditional medicine. Thus knowledge alone is not enough to prevent STIs. Based on the study findings, the following recommendations are forwarded.

Strategies to instill more positive attitude and better practice for preventing STIs transmission should be implemented. Administrative of the school should target to address the sexual issues regarding the transmission ways and preventive methods of STI among the students through clubs like Gender clubs, Anti-AIDS movement clubs. The health office of the town should work to raise the attitude by designing proper health education targeting the preparatory school students. The health office of the town should work in collaboration with anti AIDS club of the school on how to prevent transmission of STI among youths by having youth centres to educate about reproductive health issues.

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