

# Knowledge, Attitude and Practices about Sexually Transmitted Infections- A Study on Undergraduate College Students of Mumbai

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# Knowledge, Attitude and Practices about Sexually Transmitted Infections- A Study on Undergraduate College Students of Mumbai

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## Abstract

The aim of this study was to assess knowledge, attitudes and practices of undergraduate students with respect to STIs and preventive behaviours. An interview schedule was used to gather information from a cross section of 279 undergraduates from Mumbai. Study results indicate that the majority of undergraduates had a low to moderate level of STI knowledge while HIV related knowledge was found to be much better. Boys showed relatively more acceptance for people with STI while girls expressed more negative feelings. Students majoring in science performed better than other students on all aspects except of knowledge but showed negative attitudes and poor practices. Majority of the students confessed to have had multiple sexual partners and experienced their first sexual activity below 15 years of age. Most students were unaware of ICT centres. Students also expressed their need for communication with their parents and the educational institute. To conclude, students' knowledge about STIs was found to be incomplete. There are major concerns regarding students' preventive sexual practices. Due to focus on HIV-AIDS campaign, other STIs seem to have been neglected, which clearly reflects in the study results.

## Introduction

The age group of 19 to 24 years is often called as the 'generation of hope'. It plays a vital role for the present as well as future health status of a nation. This is because the behaviours, attitudes and beliefs of these youth are shaping the societies of the future and their health is an important determinant of the nation's productivity.

India is on the fast-track to become the HIV capital of Asia. Sexually Transmitted Infections (STIs) in general, and among young population in particular, are of paramount concern as they are the 'silent killers'. According to the World Health Organization (WHO); Department of Child and Adolescent Health and Development (CAH), "the highest reported rates of

STIs are found among people between 15 and 24 years; up to 60% of the new infections and half of all sero-positive people globally are in this age group"<sup>1</sup>. This particular statistics becomes even more alarming considering the fact that diseases like Gonorrhoea, Chlamydia and Herpes show an ice-berg phenomenon and therefore go virtually undetected. Reproductive health of young adults has to be recognised as a vital prerequisite for fulfilling our commitment towards achieving the Millennium Development Goals. Thus, it is essential to evaluate the level of awareness regarding STIs in the population.

Recognizing this growing need for reproductive health, the Government of India initiated Reproductive and Child Health (RCH) program in 1997-98<sup>2</sup>. This program has a long history and has its roots in the population policy of India<sup>2</sup>. Inevitably, it is highly targeted towards pregnant women and contraception for adults. This program is widely criticised for not giving much attention to the needs of the adolescent population<sup>3,4</sup>.

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 behaviour become high. Many studies have shown that this behaviour is influenced by determinants like age, gender, level and stream of education, socio-economic status, etc.<sup>5,6,7,8,9,10,11,12</sup> In India, a study was done by Jaya and Michelle Hindin<sup>5</sup> in Delhi (583 males and 475 females). They observed that in spite of restrictive social norms, youth in India engage in multiple premarital romantic and sexual partnerships. Moreover, gender disparity exists since males are more likely to form such partnerships while women are seen to be forced into sexual activities.

It is interesting to note that poor knowledge and risky practices related to STIs are a universal phenomenon in the young adulthood. A closer look at the literature reveals that differences exist in the kinds of misconceptions depending on the cultural norms and beliefs. Sexual behaviour also differs in various regions. Deviations in the number of partners or in sexual mixing patterns have been noted most commonly. Others have claimed that STI prevalence directly affects the rate of transmission of HIV<sup>6</sup>. But

overall, the poor state of affairs regarding the knowledge, attitudes and practices about STIs and related matters have been similar. This is exemplified by two studies, one in China and the other in Albania. The Chinese study reported that boys express more acceptance and positive attitudes towards people with HIV and AIDS than girls. The Albanian study<sup>7</sup> on 729 undergraduates showed that the knowledge about STIs was less in females and the parental background was found to be an important determinant of students' knowledge.

In Indian society, it is seen that STIs are widely associated with social stigma, embarrassment and denial. Sexuality, and associated health risks are still a major taboo. This is especially true for young adults<sup>8</sup>. While their rights and needs may be acknowledged in theory, in practice they are still confronted with many barriers when it comes to obtaining practical support. An expression of their unmet needs is the low level of knowledge and many appalling misconceptions about STIs and their treatment. A study done by Pramik et al<sup>9</sup> in New Delhi on 186 middle-class students from high-schools reported that adolescents with greater exposure to HIV/AIDS information demonstrated significantly greater knowledge. But this also led to the expression of stigmatizing attitude towards the infected individuals.

Another study by Ganguli et al<sup>10</sup> was performed in colleges of Nasik, Maharashtra. They observed that though students were aware of the risks of sexual promiscuity but the other routes of transmission were not known, particularly among the students of Arts. Some misconceptions regarding modes of transmission were observed among few students (kissing, sharing utensils/personal items, using common swimming pools and insect bite spread infection). Attitude towards HIV-AIDS patients were not sympathetic. Apart from this, overall knowledge of Science students was better compared to that of the Commerce and Arts students. Thus in India, the educational background seems to play a role with regards to knowledge and attitude towards STIs.

Gender disparity is another critical issue in STI prevention and care. Gender-based inequalities put girls and young women at increased risk of acquiring STIs<sup>13</sup>. A study in this context by Dhar and McManus found that knowledge among women about preventive practices is much worse than expected.<sup>12</sup> The study performed on 251 female students from two senior secondary schools of New Delhi, concluded that misconceptions are widespread about the role of OC pills in preventing HIV-AIDS. In addressing these inequalities, it is important to consider the differences

in needs and constraints of young women and young men, and to design interventions accordingly. If these individuals lack adequate information regarding STI knowledge and behaviour, they are at the risk of being hit hard by the HIV pandemic.

Mumbai has seen rapid changes in socio-economic characteristics in the last 20 years. Along with these, the population dynamics have changed, which has created a new set of public health problems. The youth of Mumbai are now at a greater health risk than ever before. According to National AIDS Control Organization (NACO), most young people in Mumbai become sexually active during adolescence<sup>14</sup>. In the past few years, there has been a debate over how best to sensitize our youth before they engage in sexual union. But unfortunately, all the decisions taken and policies made have been heavily reliant on the decision-makers' point-of-view. The needs and beliefs of the target beneficiaries (i.e., the youth) has not been given due consideration. This means that there is potential hazard of failure of STIs preventive measures. The data from CMIS of NACO shows that utilization of ICTCs by young people is low in Mumbai<sup>15</sup>. Thus, in order to reach out to the youth in a way which is acceptable to them, it is important to understand their perspectives, attitudes, knowledge and behaviours. This study aims to do exactly the same.

## Methodology

This research is a cross-sectional study analysed by quantitative methods.

### *Sampling*

A sample of 279 college-going students enrolled for bachelor's degree in Science, Arts or Commerce was collected from 3 colleges in Mumbai which were selected by judgement sampling. These colleges are situated in 3 distinct regions of Mumbai, viz. South Mumbai, Western suburbs and Central suburban region. Informed consent was taken from the Mumbai University and the individual colleges under the condition that anonymity of both, the college and the individuals, be strictly maintained. From each college, sample size was determined with confidence interval of 9 and confidence level of 95%.

### **Figure 1:** Sampling and distribution

### *Tool of data collection*

A pre-tested semi-structured interview schedule was

used to record responses of the individuals during face-to-face interview. Pilot testing was done for assessing the feasibility of the process. The pre-tested questionnaire yielded a Cronbach's alpha of 0.73. Test-retest reliability was 0.88. It was found that some sensitive personal questions were not being answered. For this reason, a separate questionnaire was prepared for collecting responses for such questions. This questionnaire was personally completed by the individuals (separately pilot-tested).

#### *Data Collection*

Data collection was done during a period of 4 months: July - October, 2010. A complete sampling frame of the enrolled students was obtained from the colleges. A computer-generated random number table was used for selection of individuals. The selected individuals were contacted personally and interviewed inside the premises of the college. A typical interview lasted for about 20 minutes.

## Results

#### *Sample Characteristics*

The sample collected is of 279 (N=279) individuals in 3 colleges of Mumbai enrolled in bachelor's degree programs (table 1). None of the students were married or formally engaged to be married.

#### **Knowledge related to STI (Table 2)**

In order to gain comprehensive understanding of the situation, STI related Knowledge was tested under 7 distinct headings. Science students have performed significantly better under most of the components.

#### *Awareness about individual diseases (STI)*

Almost everyone in the sample was aware about HIV-AIDS but knowledge about Syphilis, Herpes, Warts was low and that about Gonorrhoea, Chlamydia and Trichomoniasis was virtually non-existent.

#### *Modes of transmission*

It is interesting to note that there were no misconceptions regarding the modes of transmission. But only 29.7% (n= 83) of the sampled individuals could identify all the 3 routes correctly. This indicates that the knowledge is incomplete. The science students have fared consistently better in recognizing these modes of transmissions than commerce and arts students.

#### *Symptoms of STI*

Significantly large number of girls recognised

white/yellow discharge through genitals and burning sensation while urination as symptoms of STIs. This difference was especially large within the Arts students.

#### *Contraceptives*

To understand the knowledge levels about contraceptives more thoroughly, the individuals were asked about different types of contraception that they felt were effective in preventing STIs. A majority of the individuals reported condom, whereas 'Oral Contraceptive pills' (n= 135, 48.39%) and 'Copper T' (n= 57, 20.43%) were also reported which are misconceptions. Only 15 individuals (5.38%) were aware of 'Female condoms'. Thus, only 41.2% (n= 115) of the sampled population had correct knowledge of the contraceptives and 58.8% (n= 164) had incorrect knowledge. Here too, the science students have fared better than the rest (table5).

#### *Preferred health-care provider for STIs*

Only 5.4% (n=15) reported ICTC/ STI clinics, which reflects the sorry state of affairs when it comes to information dissemination by ICTCs. There was a clear preference for general practitioner followed by Private and Government hospitals, respectively.

#### **Attitudes (Table 3)**

In this section, respondents were asked questions that reflected their attitudes towards factors related to STIs and those suffering from STIs.

#### *Attitude towards infected people*

It was seen that most of the students expressed Pity followed by Anger, Disappointment and Disgust in that order. Thus, at least 1/4<sup>th</sup> of the sampled students (26.9%) showed negative attitudes (Anger and Disgust) towards victims of STI. Here, the attitude of males was significantly more negative while that of the females was significantly more sympathetic.

#### *Social isolation*

When asked whether they would want people living with STIs to be isolated from the society, 66.7% (n= 186) agreed while only 33.3% (n= 93) said that there was no such need. Significantly more numbers of males and students from Arts stream were of such disposition than their female counterparts.

#### *Attitude towards HIV and STI*

A set of questions was designed to compare between attitudes expressed for people living with HIV and victims of STI. The analysis showed that the students were more accepting of people living with HIV than STI infected individuals. But this was limited to living with and/or touching the person with HIV. Beyond that students universally expressed that they would not

share utensils, food and swimming pool with a person with STI or HIV. Thus, the social stigma still remains but in a more subtle form.

The interview schedule had 2 questions which were asked for understanding students' willingness for getting themselves tested for STIs. Most of the students (n= 220, 78.9%) responded that they wouldn't like to be tested. But a majority (n= 209, 74.9%) said that they would like their spouse to be tested before marriage. This particular attitude was expressed significantly more by the Science students.

#### **Practices: (Table 4)**

A majority of the sampled student population reported that they have experienced sexual activity or are currently active and no gender difference was observed. Significantly more number of science students were sexually active than the rest. It is seen that boys experience sexual activity earlier than girls (as early as 12 years of age). This difference was particularly stark for boys from Science and Arts streams.

More number of boys admitted to have had sexual contact with multiple partners and this difference was statistically significant. Here again, Science students had significantly more number of sexual partners than the rest. Alarming, 43.72% students had at least 2 sexual partners, 14.7% had more than 3 while 1.8% had more than 4 sexual partners.

An even more concerning statistic is about the preventive behaviours undertaken by the youth is that 28% reported that they had not always taken precautions while indulging in sexual activity. Significantly more numbers of boys (across all streams) were indulging in this risky behaviour.

#### **Additional Information: (Table 5)**

When asked about the role played by the educational institutes in disseminating information, 88.9% (n= 248) students reported that they did not get enough information about STIs from their respective schools or colleges. Even larger proportion of students reported dissatisfaction on part of their parents to provide information on a sensitive topic like STI (n= 250, 89.6%). A question was asked to know whether they would like their college to arrange a class on sex education. Forty percent (n=113) students replied in the affirmative, which reflects the unmet need for sex-education in undergraduate students.

Questions were asked to assess parent-child interactions regarding STIs. A vast majority (n= 257, 92.11%) said that it was not possible to talk to their parents about STIs. Girls seemed to have interacted

with their parents more than boys.

## Discussion

In India, the National AIDS Control Organization (NACO) spearheads the efforts for control and prevention of HIV-AIDS and STIs. Four clear themes emerge from the vision statement of NACO-

1. Spreading information about HIV
2. Promoting the use of condoms
3. Promoting treatment of STIs
4. Promoting responsible sexual behaviour

Even though all the 4 issues have been theoretically given equal importance, the issue of HIV awareness has been the mainstay of the campaign. The campaign is jointly run by NACO and some NGOs with mass media being an important partner. If we take a closer look at the advertisements, it becomes clear that information about routes of transmission and promotion of use of condoms are the only 2 clear themes which are consistently and clearly repeated. Social marketing of condoms seemed to have been successful due to innovative ad-campaigns like 'Balbir Pasha'. This study shows that although the awareness about HIV has increased, knowledge about other STIs and the behavioural practices has not. Throughout the campaign, HIV seems to have stolen the show while other STIs have been ignored.

HIV-AIDS was the most known STI but unfortunately, it seems to have masked all the other sexually transmitted diseases. Almost all students have recognized unprotected sex as a potential mode of transmission possibly due to condom promoting media messages. Condoms have been looked at as a panacea for STIs while behaviours that should be avoided are ignored. Thus, the Do's dominate the scene and the messages for Don'ts are not registered by the students. This was further substantiated by the common practice of having multiple sexual partners.

Students believe that there is widespread marketing campaign for condoms done by various brands but campaign for spreading knowledge and awareness is virtually non-existent. A vast majority of the students expressed their discontent with the lack of communication on behalf of their parents while accepting that internet has emerged as a popular source of information.

There are multiple agencies that hold a stake in prevention of STIs- NACO, ICTCs, parents, educational institutes and the media to name a few.

One might expect that with a specialized vertical program and with a constant flow of foreign funds, the impact in the community will be noticeable. But as many studies have shown that the burden of STIs is ever increasing and the youth have emerged as one of the most vulnerable groups. There is a huge unmet need for information, counselling and treatment of STIs in urban India. As of now, NACO's efforts have been limited to promotion of condoms and providing information on routes of transmission. Prima facie, the campaign seems to have been successful in removing social stigma. But on a deeper look, one realizes that there are widespread misconceptions and negative attitudes which can frustrate our goal.

We have seen that the sexual activity in urban India starts in early adolescent age. Thus, it is important to have specific interventions for this age group. This lack of early intervention can prove fatal for the future of the country. But the failure cannot be the fault of a singular stakeholder. There are things going wrong at each and every level. Unperceptive parents, insensitive mass media and inert educational institutes, all are the partners in crime. Because of lack of co-ordination, the collective impact of various campaigns has been weakened. Need based planning and integration of the youth in the existing framework is the key to success.

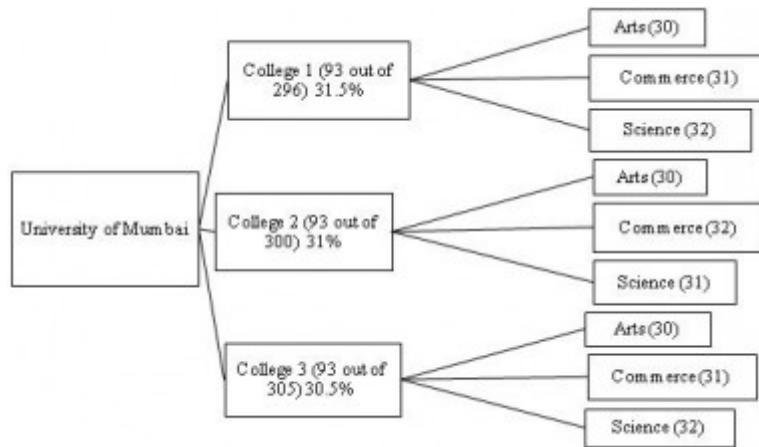
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# Illustrations

## Illustration 1

Sampling and distribution



## Illustration 2

Table 1: Sample characteristics and distribution

		No. (%) of students
<b>Gender</b>	Females	131(47)
	Males	148 (53)
<b>Age</b>	19	31 (11.1)
	20	121 (43.4)
	21	60 (21.5)
	22	67 (24)
<b>Religion</b>	Hindu	134 (48)
	Muslim	43 (15.4)
	Buddhist	39 (14)
	Christian	34 (12.2)
	Jain	29 (10.4)
<b>Stream</b>	Science	95 (34.1)
	Commerce	94 (33.7)
	Arts	90 (32.3)
<b>SES*</b>	Upper class	39 (14)
	Upper middle class	176 (63.1)
	Lower middle class	64 (22.9)

\* According to the modified Kuppaswamy Scale for urban regions<sup>16</sup>



### Illustration 3

Table 2: Knowledge related to STIs with distribution according to gender and stream of studies (in percentage)

Questions	Arts (90)		Commerce (94)		Science (95)		Total (279)			
	F (45)	M (45)	F (46)	M (48)	F (40)	M (55)	F (131)	M (148)	Total	
<i>Awareness about</i>										
HIV-AIDS	97.8	100	100	100	100	100	99.2	100	99.64	
Hepatitis B	55.6	44.4 <sup>\$</sup>	54.3	41.7 <sup>\$</sup>	92.5	81.8 <sup>\$</sup>	66.4	57.4 <sup>\$</sup>	61.64	
Syphilis	15.6	13.3	17.4	14.6	55.0	45.5	28.2	25.7	26.88	
Herpes	6.7	6.7	8.7	10.4	22.5	14.5 <sup>\$</sup>	12.2	10.8	11.47	
Warts	2.2	2.2	4.3	2.1	15.0	10.9	6.9	5.4	6.09	
Others*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
<i>Modes of Transmission`</i>										
Unprotected sex	95.6	95.6	97.8	100	100	100	97.7	98.6	98.20	
Blood transfusion	44.4	33.3	45.7	52.1	87.5	61.8 <sup>\$</sup>	58	50	53.76	
Mother to child	37.8	22.2 <sup>@</sup>	37.0	25 <sup>\$</sup>	65	47.3 <sup>@</sup>	45.8	32.4 <sup>\$</sup>	38.71	

<i>Symptoms of STIs</i>										
White/yellow discharge	66.7	44.4**	67.4	60.4	100	81.8**	77.1	63.5@	69.89	
Ulcers	44.4	44.4	65.2	56.3	95	87.3	67.2	64.2	65.59	
Burning sensation	53.3	22.2\$	54.3	45.8\$	87.5	94.5	64.1	57.4\$	60.57	
Pain in genitalia	11.1	17.8	32.6	25	57.5	43.6	32.8	29.7	31.18	
Lumps (swollen lymph nodes)	0.0	4.4	6.5	4.2	10	7.3	5.3	5.4	4.66	
Could not answer	6.7	6.7	6.5	2.1	0.0	0.0	4.6	2.7	3.58	
<i>Modes of Prevention</i>										
Condoms	84.4	73.3	91.3	87.5	100	100	91.6	87.8	89.61	
Avoiding multiple sexual partners	40	40	63	54.2\$	90	83.6	63.4	60.8	62.01	
Transfusing tested safe blood	22.2	20	43.5	43.8	75	69.1	45.8	45.9	45.88	
Treating a positive pregnant woman	11.1	8.9	13.0	10.4	30	16.4\$	17.6	12.2	14.70	
Others	0.0	8.9	0.0	2.1	2.5	0.0	0.8	3.4	2.15	
<i>Correctness of Knowledge about Contraceptives</i>										
Correct knowledge	26.7	17.8	26.1	20.8	82.5	72.7	43.5	39.2	41.22	
Incorrect knowledge	22.2	20.0	43.5	43.8	82.5	76.4	48.1	48.6	48.39	
No knowledge	13.3	15.6	10.9	12.5	5.0	5.5	9.9	10.8	10.39	

<i>Are STIs treatable? (except HIV)</i>										
	No	4.4	6.7	17.4	14.6	60.0	36.4 <sup>\$</sup>	26.0	20.3	22.9
	Yes	95.6	93.3	82.6	85.4	40.0	63.6 <sup>\$</sup>	74.0	79.7	77.1
<i>Where should one go for STI testing</i>										
	General Practitioner	22.2	22.2	45.7	45.8	90.0	83.6	51.1	52.7	52
	Private hospitals	24.4	33.3	37.0	29.2	40.0	29.1 <sup>@</sup>	33.6	30.4	31.9
	Government hospitals	6.7	8.9	6.5	10.4	17.5	14.5	9.9	11.5	10.8
	ICTC/STI clinic	0.0	0.0	2.2	4.2	12.5	12.7	4.6	6.1	5.4

\* Gonorrhoea, Chlamydia, Trichomoniasis

\*\* Significant difference between males and females according to Fisher's exact test ( $p < 0.01$ )

@ Significant difference between males and females according to Fisher's exact test ( $p < 0.025$ )

\$ Significant difference between males and females according to Fisher's exact test ( $p < 0.05$ )

## Illustration 4

Table 3: Distribution of variables related to Attitude towards STIs and people suffering from STIs

Questions	Arts (90)		Commerce (94)		Science (95)		Total (279)			
	F (45)	M (45)	F (46)	M (48)	F (40)	M (55)	F (131)	M (148)	Total	
<i>What do you feel for a person with STI</i>										
Pity	67.5	55.7*	62.5	58.6	61.5	60.5	65.1	58.3*	60.2	
Anger	14.3	19*	14.1	23.5*	14.4	20.1*	13.3	21.5*	17.6	
Disgust	15.4	4.1**	15.5	3.5**	13.4	2.1**	15.2	3.5**	9.3	
Disappointment	10.4	11	13	12.1	14.5	13.6	13.8	12.1	12.9	
<i>Should a person with STI be isolated from the society</i>										
No	38.8	35.6	36.5	35.1	26.5	28.1	36.5	30.1*	33.3	
<i>Would be willing to touch a person with</i>										
STI	28.9	30.1	33.1	38.1	20.5	23.1	26.7	29.1	28	
HIV	54.8	60.1	50.2	55.6	60.6	54.5	54.1	51.5	52.7 <sup>\$</sup>	
<i>Would be willing to live with a person with</i>										
STI	31.9	30.1	34.2	35.1	34.4	30.3	35.9	32.7	34.8	
HIV	55	52.9	56.6	50.1	56.5	50.4	54.2	53.1	53.8 <sup>\$</sup>	

<i>Would be willing to share utensils with a person having</i>										
	STI	20.6	20.1	23.1	19.1	19.3	22.4	20.1	21.4	20.8
	HIV	18.3	17.9	19.5	19.4	18.3	20.1	18.3	19.8	19
<i>Would be willing to share food with a person having</i>										
	STI	10.4	11	13	12.1	14.5	13.6	13.8	12.1	13.3
	HIV	17.3	16.9	18.5	18.4	17.3	19.1	17.3	18.8	17.9
<i>Would be willing to share swimming pool with a person having</i>										
	STI	0	0	0	0	0	0.4	0	0.8	0.4
	HIV	0	0	0	0	0	0	0	0	0
<i>Would be willing to get tested for STIs now</i>										
	Yes	18	23	20.4	21.7	20.6	21.8	22	20.1	21.1
<i>Would like their spouse to be tested for STI before marriage</i>										
	Yes	69.8	70.2	74.2	75.3	82.1	80.4	73.2	76.7	74.9

\* Significant difference between males and females according to Fisher's exact test ( $p < 0.05$ )

\*\* Significant difference between males and females according to Fisher's exact test ( $p < 0.025$ )

§ Significant difference between STI and HIV according to Chi square analysis ( $p < 0.001$ )

## Illustration 5

Table 4- Practices: Percent distribution according to gender and stream of studies

Questions	Arts (90)		Commerce (94)		Science (95)		Total (279)			
	F (45)	M (45)	F (46)	M (48)	F (40)	M (55)	F (131)	M (148)	Total	
<i>Are you sexually active</i>										
Yes (n = 200)	63.2	60.3	72.3	76.6	87.88	90.2	70.22	72.97	71.68	
<i>Age at the first sexual experience</i>										
Below 15 years	42.4	70.5 <sup>\$</sup>	46.44	50.3	50.45	62.3**	46.6	60.5 <sup>\$</sup>	53.5	
Below 18 years	41.3 <sup>\$</sup>	20.57	42.6 <sup>\$</sup>	23.2	40.3 <sup>\$</sup>	28.4	41.2 <sup>\$</sup>	23.8	32.5	
Below 20 years	16.3**	8.93	10.96	26.5**	9.25	9.3	12.2	15.7	14	
<i>Whether multiple partners</i>										
Yes (n = 122)	33.1	55.67 <sup>\$</sup>	32.4	48.5 <sup>\$</sup>	42.4	51.3*	36.84	50.6**	43.72	
<i>Number of partners</i>										
0	27.6	29.13	26.5	30.31	27.3	28.4	27.4	29.73	28.32	
1	27.4	28.03	28.2	28.1	26.8	26.4	27.48	28.44	27.96	
2	31.4	24.1	34.8	24.45	34.3	25.4	33.1	25.1	29.03	
3	13.5	15.76	10	14.11	11.3	15.4	11.62	13.55	12.9	

	4 or more	0.1	2.98*	0.5	3.03**	0.3	4.4\$	0.4	3.18**	1.79
<i>Whether precautions have been taken always (condom)</i>										
	Yes (n = 144 out of 200)	77.7*	60.4	77.4*	65.6	79.2*	70.4	78.5*	65.5	72
<i>Sources of information</i>										
	Internet	40.3	42.4	50.2	53.2	53.5	55.4	47.1	48.03	47.31
	Print media	36.33	36.4	36.1	36.8	36.23	36.7	36.34	36.8	36.56
	AV media- TV, radio	23.37	21.2	13.7	10	10.27	7.9	16.56	15.17	16.13
<i>Is it possible to talk to your parents regarding STIs?</i>										
	Yes	10.4\$	4.8	10.3\$	4.6	9.6**	5.1	10.1\$	4.8	7.89

\* Significant difference between males and females ( $p < 0.05$ )

\*\* Significant difference between males and females ( $p < 0.025$ )

\$ Significant difference between males and females ( $p < 0.001$ )

Note: according to Fisher's exact test

## Illustration 6

Table 5: Between stream comparison for knowledge, attitudes and practices (only significant results of ANOVA are included)

			<b>F statistic (df 2,276)</b>	<b>p value</b>
<b>Science</b>				
<i>Knowledge</i>				
		Awareness of STIs	4.436	< 0.025
		Modes of transmission	3.99	< 0.025
		Symptoms of STIs	3.341	< 0.05
		Modes of prevention	3.602	< 0.05
		Correctness of knowledge of contraceptives	5.19	< 0.01
		STI treatability	5.035	< 0.01
		Awareness of ICT centres	4.132	< 0.025
<i>Attitude</i>				
		Want the spouse to be tested before marriage	3.405	< 0.05
<i>Practices</i>				
		Are sexually active	4.66	< 0.025
		First sexual experience below 15 years	3.110	< 0.05
		Multiple partners	4.1	< 0.025



		Internet as a source of information	3.671	< 0.05
<b>Commerce</b>				
	<i>Attitude</i>			
		Willing to touch	3.132	< 0.05
	<i>Practices</i>			
		First sexual experience between 18-20 years	4.052	< 0.25
		Internet as a source of information	3.25	< 0.05
<b>Arts</b>				
	<i>Attitude</i>			
		Justify social isolation	3.576	< 0.05
		Willing to be tested for STIs now	3.104	< 0.05
	<i>Practices</i>			
		First sexual experience below 15 years	4.552	< 0.025
		AV media as a source of information	3.73	< 0.05

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