

Original Research Article

Knowledge, attitude, and practices regarding sexually transmitted infections among students of Punjab university, Chandigarh

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ABSTRACT

Background: Sexually Transmitted Infections are a major public health concern. Young adults have risk-taking behavior and casual attitude, engaging themselves in risky sexual activities thus contracting STIs. This study aimed at assessing knowledge, attitude, and practices regarding sexually transmitted infections among students of Panjab University, Chandigarh.

Methods: A cross-sectional study was conducted among 252 students of Panjab University, Chandigarh, selected here through simple random sampling. A self-administered, semi structured and validated questionnaire was used for collecting data. The data was analysed using SPSS and presented as percentages, mean, standard deviation and ANOVA.

Results: The current study had 125 (49.5%) males and 127 (50.4%) female students. 228 (90.5%) had correct knowledge that multiple partners can increase risk of STI. Around 171 (67.9%) responded that it is possible to get STI after having sex first time while 151 (59.9%) responded that STI can cause long term health problems. 217 (86.1%) of respondents agreed with statement "one should go for STI test". While 96 (38.1%) respondents believed that prohibiting prostitution would control spread of STI. Majority of respondents (81.8%) opined for introducing sex education at schools. 65.9% of respondents were reluctant to disclose about multiple sexual partners. 179 (71%) respondents felt comfortable discussing STIs with family members, friends, and co-workers.

Conclusions: The current study found the need of introducing sexual health education among university students to fill gaps in existing knowledge which can further reduce the risk of STIs among them and ultimately help in achieving the targets of Sustainable Development Goals.

Keywords: Sexually transmitted infections, Knowledge, Attitude, Practices

INTRODUCTION

Sexually transmitted infections (STIs), are infections that are passed from one person to another through sexual contact. STIs are a major public health concern both in developed as well as developing countries. More than 1 million STIs are acquired every day globally and the Human Papillomavirus (HPV) is the most common type of STI around the world. In 2020, WHO estimated 374

million new infections with one of four STIs: chlamydia (129 million), gonorrhoea (82 million), syphilis and trichomonas (156 million).¹ In India according to the National Family Health Survey (NFHS-5), it was also noted that the STIs among the age group 15-24 years was 5.6% in males and 2.0% in females.² STIs are caused by microorganisms like bacteria, viruses and parasites that pass from one person to another by sexual contact (vaginal, oral, and anal), infected needles, and skin to skin contact and

from mother to child during pregnancy or breastfeeding. Major symptoms of STIs include pain and discomfort during sexual intercourse or urination, rashes, itchiness, sores in or around vagina or penis, unusual discharge and bleeding from vagina or penis, pain while passing urine, warts around genital areas, mouth, and throats. Major complications include increased risk of HIV/AIDS, fertility problems, infertility, pregnancy related complications, eye inflammation etc.³ During pregnancy Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth weight and prematurity, sepsis, pneumonia, neonatal conjunctivitis and congenital deformities.⁴

STIs affect individuals of all ages, particularly young people as during this stage various physical, mental and social developments take place in an individual. College students are most active due to their freedom of living away from home, alcohol use and influence by peers which leads to curiosity, experimentation resulting in the involvement of risk-taking behaviour and casual sex activities. Moreover due to limited knowledge regarding STIs, their symptoms and causes among college students they get more involved in premarital sex and risky sexual practices.⁵ It is important to understand the region specific factors influencing the knowledge, attitude and practices with respect to the sexual knowledge and practices in youths to raise awareness among them and to plan interventions to overcome the barriers, if any. The current study assessed the knowledge, attitude and practices of students of Panjab University, Chandigarh, regarding sexually transmitted infections.

METHODS

A cross sectional study was conducted among the students of Panjab University, Chandigarh (North India). The study was conducted from May 2022 to July 2022. The sampling frame consisted of both male and female students of Panjab University located in Chandigarh. Sample Size was calculated by using the following formula with approximation for large population:

$$N = Z^2 P (1 - P) / d^2$$

Where, P = Anticipated population proportion, $1 - \alpha$ = Confidence Coefficient, d = Absolute precision, and Z is the value of standard normal variate. Taking awareness of STI among adolescents as 89%, assuming 95% confidence interval and 5% absolute precision sample size comes out to be 157.⁶ The unit of analysis was the individual students, who were administered the survey instruments. The participants were selected by simplified random sampling technique. Hence a sample of 252 students was assessed. These students were categorized into two groups according to their sex, i.e., males and females. A sample was then drawn from each category having 127 females and 125 males. The students were enrolled in the study after verifying their identity card. Confirmation of enrolment was done through physical proof of the library card.

Exclusion criteria: 53 Students from the Centre for Public Health were excluded as participants for the study, 7 incomplete questionnaires were also excluded from study.

A self-administered, semi structured and validated questionnaire, by experts from Centre for Public Health, Panjab University and Government Medical College and Hospital sector 32, Chandigarh was used for collecting data about knowledge, attitudes and practices regarding Sexually Transmitted Infections from students after explaining them the objectives of the study and taking their written consent. The students were assured and not ensured regarding confidentiality of their identity so that they can be comfortable in giving correct answers even to the sensitive questions. Statistical Package for Social Sciences (SPSS) version 28 computer software was used for coding and data entry for descriptive and inferential analysis of data. Appropriate descriptive analysis was used to generate frequency distributions tables for knowledge, attitude and practices regarding STIs. ANOVA and Pearson correlation was used to find correlation between knowledge, attitude and practices related to STIs.

RESULTS

Demographics of respondents

The study was conducted amongst 252 students. There were 125 (49.5%) males and 127 (50.4%) females. The age group of participants was classified into 17-19 (8.7%), 20-24 (66.7%), 25-29 (22.6%) and >30-50 (2.0%). Total 77.8% of participants belonged to urban areas while 22.2% were from rural areas. Regarding religion of participants 60.3% were Hindu, 25.4% Sikh.

Assessment of total knowledge about STI

90.5% had the correct knowledge that multiple sexual partners can increase risk of STI. 82.5% of participants answered correctly that it is irresponsible to have sex with someone without a condom and 69.8% answered that STI can be transferred from mother to child during pregnancy. Only 68.3% participants answered correctly that a person can have STI without any visible signs and symptoms. Out of 252 participants, 67.9% responded that it is possible to get STI when you first have sex and 59.9% responded that STI can cause long term health problems. 26.2% of participants did not know that the early stage of STI is not contagious and 25% did not know that STI can lead also to infertility. 92.50% of respondents had heard about AIDS, 68.70% of syphilis, 65.90% of Gonorrhoea and 60.30% of Hepatitis B, while only 2.40% responded to Genital warts as a STI. Participants were aware of symptoms of STI, 77.70% responded itching/burning sensation on genital areas 70.90% sores on sexual organs, 66.90% discharge from genital area. Virus causes STI was responded by 80.40% followed by bacteria (65.20%) and fungi (33.60%). 92.1% responded vaginal sex, 73.00% anal intercourse, 65.5% oral sex while 22.60% responded

kissing as the main act for STI transmission. The Internet was chosen as a source for providing information on STI by 77.80% followed by TV/radio (68.30%).

Assessment of attitude about STI

Around 86.1% agreed with the statement that “one should go for an STI test”. When participants were asked if sex before marriage is becoming a normal practice, 62.7% agreed. 46% of respondents disagreed that having multiple sexual partners was not a problem. While 38.1% agreed that banning prostitution can control spread of STIs? 64.7% of respondents stated that one should not have extramarital affairs, 24.6% supported isolating people living with STIs for the sake of public safety. Majority of respondents opined on introducing sex education at school level.

Assessment of practices about STI

Only 10.7% of respondents had tested for STI at some point of time whereas the majority of them (78.2%) never tested. 79.8% had no sign and symptom of STI. 19.4% agreed with the statement about having multiple sexual partners while 65.9% were reluctant to disclose on having such partners. 64.7% of the respondents denied experiencing injecting intravenous drugs. 71% of respondents felt comfortable discussing topics such as sex and STIs with family members, teachers, friends, co-workers. 10.3% experienced violence during sexual encounters with a spouse or other sexual partners. Only 16.7% agreed to drinking alcohol in the past. On statement about premarital sex, 54% refused to disclose such affairs. However, 26.6% opined they did know how to use a condom correctly.

Correlation of knowledge, attitude and practices with STI

The Pearson correlation was used in this study to find a correlation between the total scores on knowledge, attitude, and practices. The study found a statistically significant weak correlation was found between knowledge and practice ($r=0.357$).

DISCUSSION

The current study assessed the knowledge, attitude and practice regarding sexual transmitted infections among university students of Chandigarh. The present study found that the majority of the participants were aware about diseases like HIV/AIDS (92.5%), 60.3% of hepatitis and 68.7% of syphilis, 65.9% of gonorrhoea. Majority of participants agreed one should get a STI test and sex before marriage is becoming common practice. Around one fifth of the participants agree with having multiple sexual partners. A similar proportion stated that biological and socio-cultural settings make women more vulnerable to STI. Majority of respondents have never tested for STI,

19.4% had multiple sexual partners.

Table 1: Demographic distribution of participants (n=252).

Demographic characteristics	N	%
Gender		
Female	127	50.4
Male	125	49.6
Age category		
17-19	22	8.7
20-24	168	66.7
25-29	57	22.6
30-40	5	2
Residence		
Urban	196	77.8
Rural	56	22.2
Religion		
Hindu	152	60.3
Sikh	64	25.4
Muslim	17	6.7
Buddhist	11	4.4
Christian	8	3.2
Course Pursuing		
Non-medical	90	35.7
Medical	78	31
Arts	55	21.8
Commerce	29	11.5

Around 10.7% of respondents had encountered or experienced violence in the course of a sexual affair with their partner, 16.7% preferred drinking alcohol before sex, 21.8% have experienced pre-marital sex and 26.6% did not know how to use condom correctly. The current study found that the University students had exceptional awareness about HIV (92.5%), hepatitis B (60.3%), gonorrhoea and syphilis. A study conducted in Chandigarh also found higher awareness regarding HIV among college students followed by hepatitis B.⁷ The Government of India has a separate programme on HIV/AIDS named National AIDS Control Programme (NACP) which is under National AIDS Control Organization (NACO) being run since 1992, whereas the programme for Hepatitis B started in 2018.

This gap in stressing upon the severity of diseases led to differential awareness regarding these diseases among college/ University students. Furthermore gonorrhoea and syphilis are a part of STIs which are covered under NACP as a subunit of it and there is no separate dedicated programme for these diseases further leading to less awareness among students. Educating children about these diseases in their school curriculum can be a promising step in raising the awareness and further capping the morbidity due to these diseases in India. The present study found sexual intercourse (94%) and blood transfusion (73.4%) were the main causes of STI transmission.

Table 2: Distribution of Knowledge regarding STI (n=252).

Parameters	N	%
Names of STI heard		
Aids	233	92.5
Syphilis	173	68.7
Gonorrhoea	166	65.9
Hepatitis B	152	60.3
Genital Herpes	148	58.7
Pelvic inflammatory disease	121	48.0
Chlamydia	113	44.8
Don't know	15	2.3
Symptoms of STI		
Itching/burning sensation on genital area	195	77.7
Sores on sexual organ	178	70.9
Discharge from genital area (penis /vagina)	168	66.9
Any kind of fluid filled lesion on sexual organs	136	54.2
Feeling of weakness	131	52.2
Lower abdominal pain	130	51.8
Loss of weight	98	39.0
Any other	6	2.4
Don't know	36	5.7
Organism causing STI		
Virus	201	80.4
Bacteria	163	65.2
Fungi	84	33.6
Any other	15	6.0
Routes of STI transmission		
Sexual intercourse	237	94.0
Blood transfusion	185	73.4
Sharing needle	180	71.4
Mother to child	157	62.3
Sharing clothes/ things	35	13.9
Sharing food	20	7.9
Don't know	12	2
Sources of information regarding STI		
Internet	196	77.8
TV/movies/radio	172	68.3
Newspaper/magazines	171	67.9
Teachers	169	67.1
Friends	162	64.3
Textbook	156	61.9
Family/parents	147	58.3
No information	13	2.0

The study conducted among Turkish adolescents found that 92.6% respondents reported sexual intercourse ever in their life where as a study among Nigerian adolescents found that 61.9% had received blood transfusion in their life.^{8,9} High prevalence of sexual intercourse in current study can be attributed to the easy availability of condoms, casual attitude towards sexual intercourse these days and residing away from home with no one watching them.¹⁰ More than three fourth of the students reported the internet

as source of information for STIs while two third of the total participants responded TV/Radio as an information source. A study in Nigeria reported that the main source of information about STI was TV and radio (68.7%).¹¹ It is worth noting that the internet and visual media have largely replaced many traditional sources of information in this age group. The wide coverage and easy accessibility to the Internet in India has made people have access to information via mobile phones. Further the awareness about the STIs by the Government of India on television and radio has also helped in spreading the awareness about these infections.¹² Our study found that 21.8% of the participants experienced premarital sexual intercourse. A study conducted in Malaysia reported that around 20% of students had experienced sexual intercourse. Premarital sexual intercourse is no longer a taboo these days. Many people are considering it normal and thus indulging. Sexual activity during young adult period is a normal physiological phenomenon and instead of making it a thing of taboo, people should be taught about the safe sexual practices by imparting them with sex education and providing various contraceptive methods otherwise it will lead to spread of STIs. Due to the fact that the data was self-reported by the students, the figure in the current study may be an underestimate of their true promiscuous behaviors.¹³

In the current study 82.1% of participants agreed that in every sexual encounter, a condom should be used consistently and correctly. A study conducted in a semi urban area of Ethiopia showed that only 36.3% used condoms as a contraceptive. Regarding the use of contraceptives, participants in the current study expressed a liberal attitude.¹⁴ The finding may be understood in light of recent major AIDS prevention campaigns that promote the use of contraceptives. The campaign is primarily conducted through mass media, to which everyone is frequently exposed.¹⁵ In this current study only 20% participants were involved in premarital sex. A study among college students of Mumbai found that 66% respondents had premarital sex. The reasons for involvement in premarital sex included relying on post-sexual encounter emergency contraceptive pills, having no fear of pregnancy because "we had sex only once," "only people with HIV should use condoms," lack of access to contraceptives during spur-of-the-moment acts, and embarrassment over buying them from the store.¹⁶ Having multiple sexual partners was favoured by only 19.4% of respondents which are less as compared to a study done in Maharashtra, where 44% respondents agreed to have multiple sexual partner.¹⁷ Even though college students are well aware of the risk of having sexual activity resulting in STIs, they continue to engage in it due to influence of their peer groups of having multiple sexual partners, further this can also be attributed to background prevalence of sexual perversions in the society mainly influenced by the social media which is accepting having multiple sexual partners of either sex.¹⁸ Only 25.4% of respondents in the current study agreed that culture does not restrict them from sexual activity.

Table 3: Frequency distribution of attitude regarding STI (n=252).

Attitude towards sexually transmitted infections	Strongly agree N (%)	Agree N (%)	Neutral N (%)	Disagree N (%)	Strongly disagree N (%)
One should go for anSTI test.	151 (59.9)	66 (26.2)	27 (10.7)	4 (1.6)	4 (1.6)
Sex before marriage is becoming normal practice.	66 (26.2)	92 (36.5)	63 (25.0)	12 (4.8)	19 (7.5)
There is no problem having more than one sexual partner.	27 (10.7)	29 (11.5)	80 (21.7)	53 (21.0)	63 (25.0)
One should not have extra marital affairs	110 (43.5)	53 (21.0)	56 (22.2)	14 (5.6)	19 (7.5)
Condom should be consistently and correctly used in all sexual intercourse	152 (60.3)	55 (21.8)	32 (12.7)	8 (3.2)	5 (2.0)
Banning prostitution can control the spread of STI.	35 (13.9)	61 (24.2)	80 (31.7)	45 (17.9)	31 (12.3)
Women are more responsible than men for prostitution.	24 (9.5)	30 (11.9)	59 (23.4)	51 (20.2)	88 (34.9)
People living with STIS should be isolated from general people for the safety of others	26 (10.3)	36 (14.3)	48 (19.0)	82 (32.5)	60 (23.8)
Women are more vulnerable to get infected with STI.	54 (21.4)	74 (29.4)	77 (30.6)	31 (12.3)	16 (6.3)
Sex education should be introduced at school level.	167 (66.3)	39 (15.5)	32 (12.7)	11 (4.4)	3 (1.2)
Women are more vulnerable to get infected with STI.	54 (21.4)	74 (29.4)	77 (30.6)	31 (12.3)	16 (6.3)
Sex education should be introduced at school level.	167 (66.3)	39 (15.5)	32 (12.7)	11 (4.4)	3 (1.2)

Table 4: Table of distribution of practices regarding STI (n=252).

Practices regarding STI	Yes N (%)	No N (%)	No answer N (%)
Have you ever gone for a STI test?	27 (10.7)	197 (78.2)	28 (11.1)
Have you ever had any sign and symptom of STI?	21 (8.3)	201 (79.8)	30 (11.9)
Culturally there is no such restriction for premarital sexual affairs in your society?	64 (25.4)	138 (54.8)	50 (19.8)
Have you ever had more than one sexual partner?	49 (19.4)	166 (65.9)	37 (14.7)
Have you ever discussed topics of sex and STIS with friends and co-workers, teachers?	179 (71.0)	48 (19.0)	25 (9.9)
Have you ever encountered/experienced violence on sex affair with a spouse or other sexpartner?	26 (10.3)	174 (69.0)	52 (20.6)
Do you prefer drinking alcohol before having sex?	42 (16.7)	122 (48.4)	88 (34.9)
Will/have you experienced premarital sex?	55 (21.8)	136 (54.0)	61 (24.2)
Do you know how to use a condom correctly?	118 (46.8)	67 (26.6)	67 (26.6)

Discussing sexual issues with parents or counsellors only 19% of respondents were reluctant. The results of the study of Jain et al are inconsistent as majority of respondents (55.7%) were reluctant to discuss with parents or counsellors.¹⁹ In present study 81.8% favoured imparting sex education to students whereas in a similar study in Ambala (Haryana), 93.5% were in favour of sex education.²⁰ For youths, culture could have a double-edged effect by inhibiting their ability to discuss STDs openly

with their parents and teachers. It is generally accepted that culture protects youth from STDs, but this is not true. The message for protecting against STDs can be introduced in the context of our religion and culture, particularly in light of our concern over the desire to teach STDs in schools and colleges.²¹ But the study has few limitations. Because this was a sensitive issue study, some respondents might have answered some of the sensitive questions wrong leading to social desirability bias. Some participants only responded partially to the questionnaire.

Table 5: Correlational analysis of knowledge, attitude and practices on STI (n=252).

Variable		Test score on knowledge	Test score on attitude	Test score on practices
Total score on knowledge	Pearson Correlation	1	-0.122	0.357**
	Sig. (2-tailed)		0.053	<0.001
Total score on attitude	Pearson Correlation	-0.122	1	-0.161*

The study conducted was a one-time cross sectional survey. Due to time and resources constraints, the findings of the study only give a general view of the current situation amongst the University students in Panjab University, Chandigarh. The closed question format used in the current study may also increase the risk of reporting bias.

CONCLUSION

The study findings show mixed responses in assessing youth knowledge level on various facts related to STIs. Majority of the students had correct knowledge and awareness on STI transmission routes, STI symptoms, and STI complications; correct and consistent use of condoms as a preventive measure. A favourable attitude toward STI on some of the statements, such as one should go for a STI test; condom should be consistently and correctly used in all sexual intercourse; and sex education should be introduced at school level' were found in the current study. On the contrary, some respondents expressed oppositional attitudes toward STI in response to claims like banning prostitution can control the spread of STI and women are more responsible for prostitution than men. Furthermore, a sizable proportion of respondents had a free and relaxed attitude toward premarital, multiple-partnership, and extramarital sexual affairs. Many young people appeared to have engaged in risky sexual behaviours, including having their first sexual experience at a young age, having multiple partners and premarital affairs, having affairs with the same sex, using violence during sex, and referring to alcohol consumption before having sex.

Recommendations

Government should provide free services and encourage younger generation for sexual health screenings by setting up regular on-campus or reachable STI screening clinics. Higher education institutions should strengthen their current health education and awareness programmes by including sex education in their curriculum. In view of current widespread availability of the Internet, this may be used as a tool to increase coverage on STIs and related topics in the form of text messages as well as transparency in the content available on websites.

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REFERENCES

1. Sexually transmitted infections (STIs). Available at: https://www.who.int/health-topics/sexually-transmitted-infections#tab=tab_1. Accessed on 28 July 2022.
2. National family health survey (NFHS-5). Available at: http://rchiips.org/nfhs/factsheet_NFHS-5.shtml. Accessed on 28 July 2022.
3. Common STD symptoms. Available at: <https://www.mayoclinic.org/diseases-conditions/sexually-transmitted-diseases-stds/in-depth/std-symptoms/art-20047081>. Accessed on 28/7/2022. Accessed on 28 July 2022.
4. Common STD symptoms. Mayo Clinic. Available at: <https://www.mayoclinic.org/diseases-conditions/sexually-transmitted-diseases-stds/in-depth/std-symptoms/art-20047081>. Accessed on 28 July 2022.
5. STD. Available at: https://www.A_study_on_knowledge_attitude_and_practice_of_sexually_transmitted_diseases_and_HIV_in_adolescent_population_in_Wardh_a_Maharashtra_India. Accessed on 28 July 2022.
6. Kumar D, Goel NK, Bakshi RK, Sharma MK, Ghosh AK. Sexual behavior of adolescent students in Chandigarh and their perceptions regarding family life education. J Family Med Primary Care. 2017;6(2):399.
7. Sharma A, Goel NK, Prashar S, Choudhary K. A study to find the awareness level regarding prevention and control of sexually transmitted diseases among university students of Panjab university, Chandigarh, India. Int J Community Med Public Health. 2021;8:4362-5.
8. Kaptanoğlu AF, Süer K, Diktaş H, Hınçal E. Knowledge, attitudes and behaviour towards sexually transmitted diseases in Turkish Cypriot adolescents. Central Eur J Public Health. 2013;21(1):54-8.
9. Osanyin GE, Ogunyemi DO, Oluwale EO, Oyekanmi OD. Knowledge, attitude and preventive practices of sexually transmitted infections among unmarried youths in an urban community in Lagos State, Nigeria. Afr J Primary Health Care Family Med. 2020;12(1):1-7.
10. Dorji T, Wangmo K, Tshering D, Tashi U, Wangdi K. Knowledge and attitude on sexually transmitted infections and contraceptive use among university students in Bhutan. Plos One. 2022;17(8):e0272507.
11. Amu EO, Adegun PT. Awareness and knowledge of sexually transmitted infections among secondary school adolescents in Ado Ekiti, South Western Nigeria. J Sex Transmit Dis. 2015.

12. Mukherjee A, Gopalakrishnan R, Thangadurai P, Kuruvilla A, Jacob KS. Knowledge and attitudes toward sexual health and common sexual practices among college students-A survey from Vellore, Tamil Nadu, India. *Indian J Psychol Med*. 2019;41(4):348-56.
13. Folasayo AT, Oluwasegun AJ, Samsudin S, Saudi SN, Osman M, Hamat RA. Assessing the knowledge level, attitudes, risky behaviors and preventive practices on sexually transmitted diseases among university students as future healthcare providers in the central zone of Malaysia: a cross-sectional study. *Int J Environ Res Public Health*. 2017;14(2):159.
14. Tadesse G, Yakob B. Risky sexual behaviors among female youth in Tiss Abay, a semi-urban area of the Amhara Region, Ethiopia. *PLoS One*. 2015;10(3):e0119050.
15. Dutt S, Manjula M. Sexual knowledge, attitude, behaviors and sources of influences in Urban college youth: A study from India. *Indian J Social Psychiatr*. 2017;33(4):319.
16. Mutha AS, Mutha SA, Baghel PJ, Patil RJ, Bhagat SB, Patel SB, et al. A knowledge, attitudes and practices survey regarding sex, contraception and sexually transmitted diseases among commerce college students in Mumbai. *Journal of clinical and diagnostic research: JCDR*. 2014;8(8):HC14.
17. Jain MA, Jain SM, Patil S, Bang A. A study on knowledge, attitude and practice of sexually transmitted diseases and HIV in adolescent population in Wardha, Maharashtra, India. *Int J Contemp Pediatr*. 2016;3(2):367-72.
18. Kejela G, Soboka B. Assessment of Knowledge, Attitude and Preventive Practices towards Sexually Transmitted Infections among Preparatory School Students in Shone Town, Southern Ethiopia, 2014. *J Health med inform*. 2015;6(183):2.
19. Jain MA, Jain SM, Patil S, Bang A. A study on knowledge, attitude and practice of sexually transmitted diseases and HIV in adolescent population in Wardha, Maharashtra, India. *Int J Contemp Pediatr*. 2016;3(2):367-72.
20. Kumar R, Goyal A, Singh P, Bhardwaj A, Mittal A, Yadav S. Knowledge attitude and perception of sex education among school going adolescents in Ambala District, Haryana, India: a Cross-Sectional study. *J Clin Diag Res. JCDR*. 2017;11(3):LC01.
21. El-Tholoth HS, Alqahtani FD, Aljabri AA, Alfaryan KH, Alharbi F, Alhowaimil AA, et al. Knowledge and attitude about sexually transmitted diseases among youth in Saudi Arabia. *Urology Ann*. 2018;10(2):198.

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