

## Assessment of knowledge regarding sexually transmitted diseases among college students

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### *Abstract:*

*Background:* Sexually transmitted diseases (STD's) are passed from one person to another through intimate physical contact. STDs are a common public health problem in developing countries, contributing a huge economic burden among individuals and health systems. If STDs are not treated adequately, it can lead to various complications.

*Methods:* Questionnaires based study was performed for three months at RIPER, Anantapuramu to assess knowledge regarding sexually transmitted diseases among 304 college students. The validation of questionnaire had been done by considering the opinions from experts regarding the reliability, simplicity & understanding of the questionnaire. Then validated questionnaire was distributed to students & asked them to return the filled forms with in one day. After receiving the filled forms the returns were calculated.

*Results:* 100% of the students know about STDs , 92% of the students stated that STDs are communicable diseases, 98% of the students known that STDs are preventable, 100% of the students think that intercourse with multiple partners increases the risk of getting STDs, 99% of the students know that STDs

can be congenital. 37.5% think that these three STDs are commonly affect the teenagers (Chlamydia, Human papilloma virus, syphilis). About 40% of the students considered HIV as a co-infection, 29% Hepatitis B&C, 21% Gonorrhoea and 1.3% genital herpes.

*Conclusion:* The study concludes the students' knowledge has to be improved in multi aspects of STDs so that they can prevent and control the incidence of STDs in future.

**Keywords:** *Sexually Transmitted Diseases (STD's), Knowledge, College Students, Questionnaire*

## 1.INTRODUCTION

Sexually transmitted diseases (STDs) are a common public health problem in developing countries, contributing a huge economic burden among individuals and health systems. STDs include many different sexually transmittable infectious diseases such as Chlamydia, gonorrhea, genital herpes, human papilloma virus (HPV), human immunodeficiency virus (HIV), and syphilis. In most countries Sexually Transmitted Diseases are the commonest group of notifiable infectious diseases particularly in age group of 15 – 50 years and in infants. (1)

*Global Scenario:* Sexually Transmitted Diseases have a intense impact affecting more than 1 million STDs everyday. In 2020, there are estimated 374 million new infections with 1 of 4 STDs:

Chlamydia	-	129 million
Gonorrhea	-	82 million
Syphilis	-	7.1 million
Trichomoniasis	-	156 million

More than 490 million people are suffering from genital HSV (herpes) infection. One of the most common STDs in more than 300 million women is HPV infection. And World Health Organization (WHO) also estimates that 254million people were living with Hepatitis B infection in 2022. (2)

*Indian Scenario:* Recent statistics from the United Nations AIDS Programme (UNAIDS) suggest that India currently has the largest number of HIV infected people in the world, with estimates of 3 to 5 million infected people<sup>[6]</sup>. The spread of HIV in India is predominantly by heterosexual transmission, and

the prevalence of HIV infection has been increasing rapidly among patients attending sexually transmitted diseases (STD) clinics. (3)

Every year, about 6 percent of the adult population in India is getting infected and between the years 2007 and 2017, a total 34.9 million episodes of sexually transmitted infections/reproductive tract infections were treated. (4) According to World Health Organizations

Low STD knowledge has been shown to be connected with unsafe sex practices and HIV. Due to lack of knowledge and/or non availability of healthcare facilities is often undiagnosed and untreated in low income countries. (5) Youth are considered to be at more risk for STDs when compared with adults as they won't have proper education related to sex and may not have proper sources for information and services to prevent STDs. (6)

STDs related information to public is available through many ways such as media and government programs. Even after that knowledge about STDs in developing countries is relatively low. A survey among students showed that there is a need to add sex education in the curriculum. (7)

So it is necessary to control the infection at the younger age itself. As young students they are also responsible to provide awareness about sexually transmitted diseases in their local community areas. So this study aims to assess the knowledge of sexually transmitted diseases among college students.

## **2.METHODS**

Questionnaires based study was performed for three months among 400 college students who were willing to participate. Permission was obtained before initiating the study. The questionnaire required to assess the knowledge was designed & validated on sexually transmitted diseases. A structured questionnaire (20 questions) was developed based on various studies conducted to assess knowledge regarding sexually transmitted diseases. The validation of questionnaire had been done by considering the opinions from experts who include faculty & some college students regarding the reliability, simplicity & understanding of the questionnaire. Then validated questionnaire was distributed to students & asked them to return the filled forms with in one day. After receiving the filled forms, they were reviewed for

any missing data and forms which have all the questions answered were only included in assessing the results.

### 3.RESULTS

A total of 304 students were included in the study after scrutinizing the data for missing data. From which 46.05% were B. Pharmacy students, 30.92% were Pharm D students and 23.03% were from M. Pharmacy. Among 304 students 36.2% were boys and 63.8% were girls.

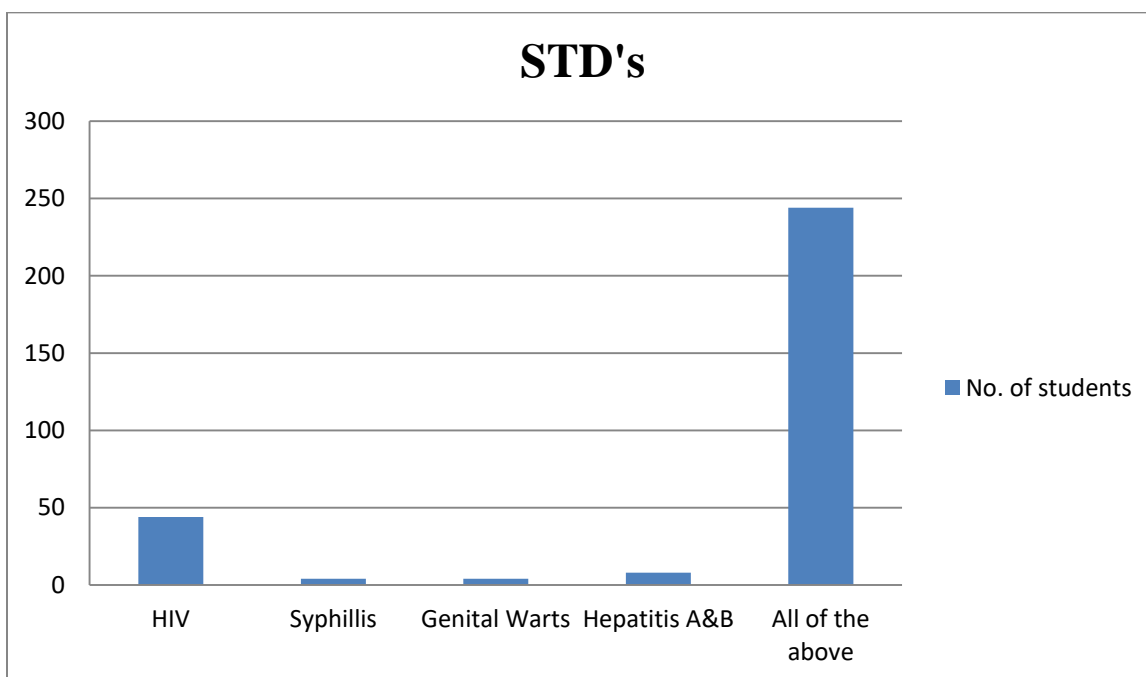
**Table No. 1 – Student responses to the following questions**

Questions	Yes (%)	No (%)
Do you have any idea about STDs?	304(100%)	–
Do you agree STDs are communicable diseases?	279(91.78%)	25(8.22%)
Do agree STDs are major health problem nowadays?	228(75%)	76(25%)
Do you believe STDs are major health problem affecting mostly young people?	280(92.11%)	24(7.89%)
Whether STDs are preventable?	240(78.95%)	64(21.05%)
Do you think so, if a person has STDs, then his/her partner may also have an enhanced risk to get STDs?	284(93.42%)	20(6.58%)
Do you think having intercourse with multiple partners increases the risk of getting STDs?	269(88.49%)	35(11.51%)
Have you ever gone for screening STDs?	12(3.95%)	292(96.05%)
Do you believe STDs can be congenital?	198(65.13%)	106(34.87%)

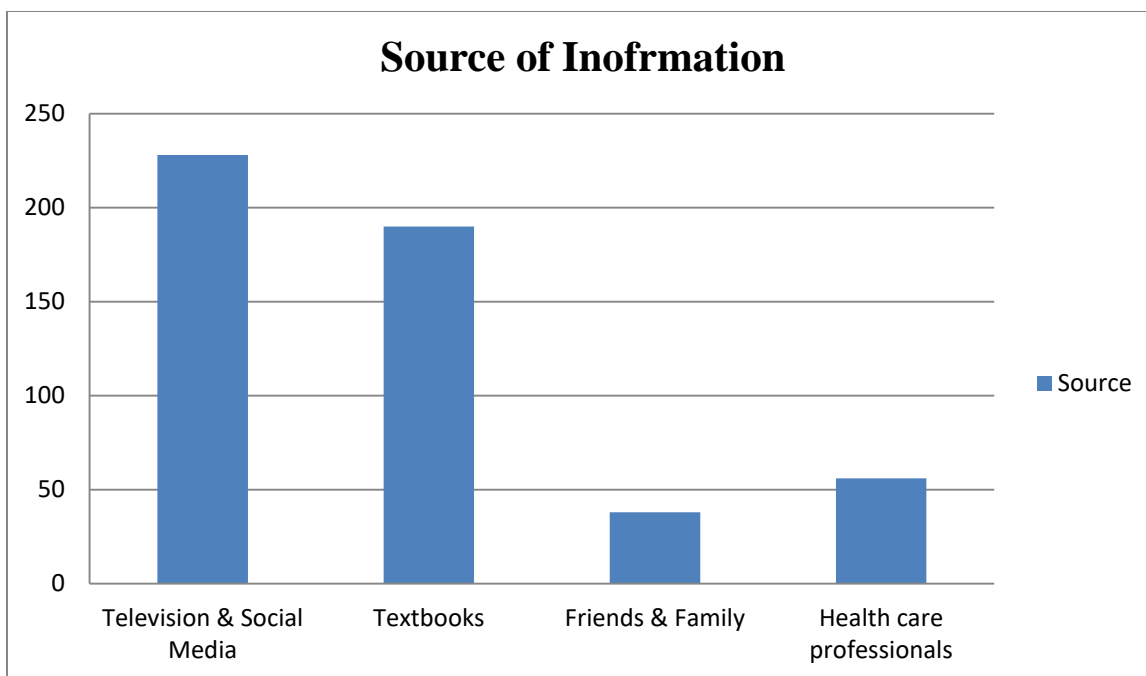
Table 1 illustrated the student's knowledge regarding sexually transmitted diseases. It shows that 100% of the students know about STDs , 91.78% of the students know about the STDs are communicable diseases , 75% of the students know that STDs are the major health problem nowadays, 92.11% of the students think that STDs are major health problem affecting mostly young people , 78.95% of the students known

that STDs are preventable, 93.42% of the students think that if a person has STDs his/her partner also have increased chances to get STDs, 88.49% of the students think that intercourse with multiple partners increases the risk of getting STDs, 3.95% of the students have gone for screening of STDs, 65.13% of the students believe that STDs can be congenital.

Following Figure No. 1 shows, 80.26% of the students considered all the mentioned diseases as STD's whereas 14.47% said only HIV, 2.63% said Hepatitis A & B. The remaining considered only syphilis & genital warts as STD's.



**Figure No.1 - Student consideration of STD's**



**Figure No.2 – Source of information for students**

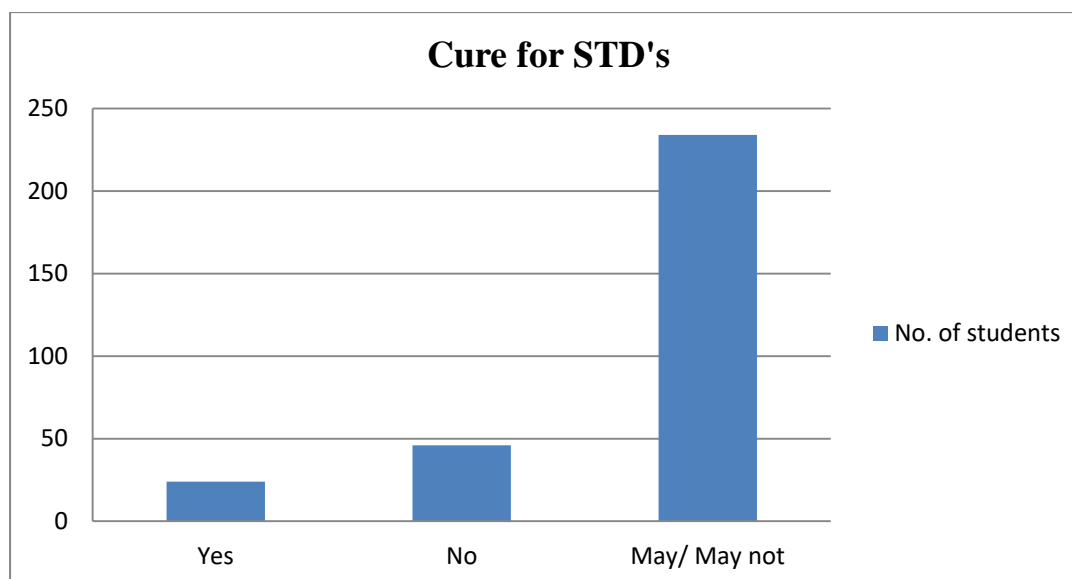
Figure No. 2 shows that majority of the students got the information about STD's through television and social media and textbooks followed by health care professionals and friends. In this aspect students have selected multiple options and all the responses were considered for evaluation.

**Table No. 2 Students responses regarding causes, diagnosis and prevention of STD's**

Questions & Responses	No. of Students (%)
<i>Which of the following can be considered as etiology for STDs</i>	
Through sharing food/water	4(1.32%)
Through only sexual contact	286(94.08%)
Both	14(4.60%)
<i>Which samples are used for the diagnosis of STDs</i>	
Blood	124(40.79%)
Urine	13(4.28%)
Sputum	15(4.93%)
All of the above	152(50%)

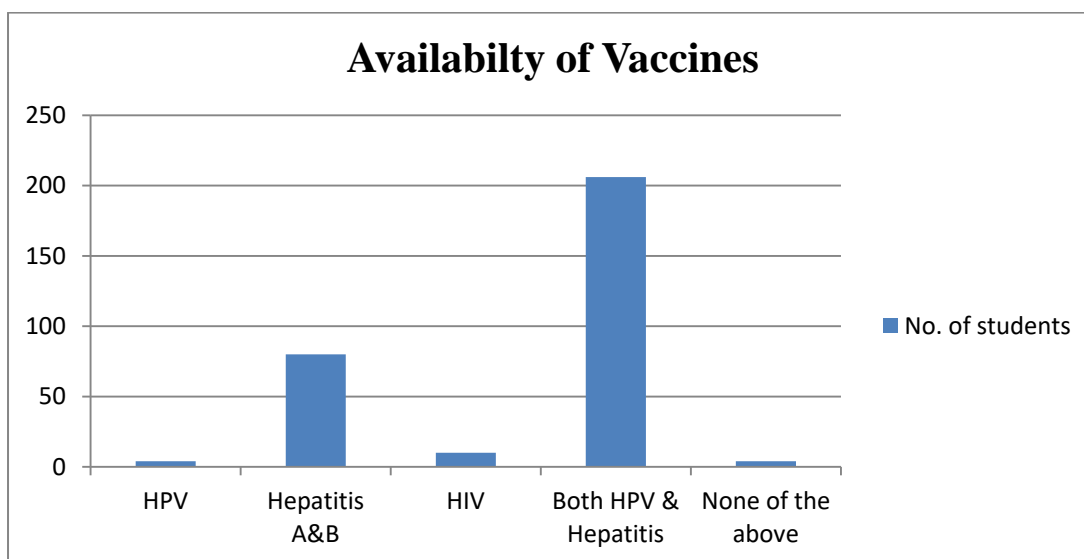
<i>How STDs are spread( Route of Transmission)</i>	
Blood	175(57.57%)
Vaginal fluid	92(30.26%)
Infected skin	21(6.91%)
Others	16(5.26%)
<i>Which type of preventive methods can be used for STDs</i>	
Avoid Sharing	0(0%)
Vaccination	3(0.99%)
Avoid Unprotected sex	9(2.96%)
Screening	0(0%)
All of the above	292(96.05%)

Table No. 2 shows that majority of the students (94/08%) believe that only sexual contact as a major reason for the etiology of STD's. 40.79% students considered blood as a sample for diagnostic purpose. 57.57% students believed that blood was the major route of transmission but some of the students (5.26%) stated that used injections and other body fluids also as a route of transmission. Majority of the students (96.05%) believed that avoiding sharing, unprotected sex, getting vaccination and regular screening will prevent sexual transmitted diseases.



**Figure No. 3: Students response towards cure of STD's**

Figure No. 3 shows that most of the students (76.97%) stated that STD's may or may not be cured, 15.13% students that there is no cure for STD's.



**Figure No. 4 Students knowledge regarding availability of vaccines**

Figure No. 4 shows that 67.76% of the students think that vaccine availability for both HPV & Hepatitis A&B; 3.29% of the students think that vaccine is available for HIV and 1.3% believe that vaccines are not available for any of the STD's.

#### 4.DISCUSSION

The study was performed among college students studying in various programs such as B. Pharmacy, M. Pharmacy and Pharm.D. Though all the participants (304) have said they had idea about STDs and 91.789% agreed STDs as communicable diseases and 75% agreed STDs major health problem nowadays. Especially 92.11% students agreed STDs as a major health issue for young people and only 78.95% of students said STDs are preventable.



A study conducted by E.O. AMU P.T. Adegun(8) shows that 92.4% of study participants know about STDs and they got information majorly from 3 sources electronic media(68.7%) and teachers (68%) as the main source followed by print media(44.9%). And in a study by El-Tholoth, Hossam S(9), 71.7 % stated internet as their main source of information followed by schools (35.1%), television (30.2%), health institutions (15.7%). Similarly in our study majority of the students got the information from television and social media (75%), text book (62.5%) followed by health care professionals (18.4%), family & friends (12.5%). Whereas in a study by Almeida R. A. A. S (10) and Itisha S Jefferson(11), the responders stated teachers and schools served as their first choice of source of information.

In the study by E.O. AMU P.T. Adegun(8) majority of the participants considered HIV/AIDS (78%) and Gonorrhoea (23%) as STDs and they said the 80% participants were able to identify only one or two STIs where as in our study 80.26% of our study population were able to identify all the given STDs.

In a study done by Luca Cegolon,(12) 97.2% were able to identify AIDS as a STD where as in our study around 90% were able to identify HIV/AIDS as an STD but the problem is in that 14.47% considered only HIV/AIDS as an STD.

In a study done by Basim Matar AL- Malki (13) 37.3% were aware chlamydia as a STD whereas in our study only 4.6% of the participants agreed chlamydia as a common STD among teenagers. In our study only 15.13% of the study stated that they were not aware and 76.97%are not sure about curing of the disease. Whereas in the study by Basim Matar AL- Malki (13) 66.8% Students said STDs are not curable and only 12% were unsure. In the same study 36.8% of the participants knew that STDs can be transmitted to new born during labour if the mother is infected, where as in our study 65.13% students stated STDs are congenital.

In our study 57.57% of students stated Blood transfusion, 30.26% stated vaginal fluid/semen, and 6.91% stated infected skin as the way of STDs spreading. In a study by E.O. Amu & P.T.Adegun (8) 73.1%

states that infected blood and blood Products as mode of transmission. In a study by Maria Lagadinou(14), 65.8% stated unprotected sex as the main reason of STD.

In our study 1.3% of participants stated vaccines are not available for the severe diseases, whereas study by Basim Matar AL-Malki (13) 38% participants said they were no available against STDs.

A survey (15) on current knowledge on STD and sexual behaviour in Italian adolescents stated that only 17% of students stated there was a vaccine against HPV &only 0.1% student stated the vaccine against hepatitis A&B. whereas in our study 1.3% agreed HPV has a vaccine 26.32% agreed hepatitis A&B has a vaccine & 67.76% stated there was vaccination against both HPV & hepatitis A&B.

In our study, though the participated students were 304, due to excluding some of the students for incomplete filling of the questionnaire. Majorly of the students does not answered whether STD is a communicable diseases and most common STD among teenagers. Followed by STDs as a major health problem of students and other questions related to STD prevention, co-infection, screening of STD & STD as a congenital disease.

The major limitation of our study includes one sample size. The study participants are only from one institute which will serves as a sample about the knowledge STDs among all students cannot be generalized. The questionnaire does not cover aspects such as various symptoms of STDs and students' suggestion regarding preventive measures.

## **5.CONCLUSION**

The students have very brief knowledge about sufficient types of STDs. Majority of the students were unclear about epidemiology, etiology, risk factors, mode of transmission and preventive measures. The students have to know the importance of screening & various diagnostic tests for STDs. To control the

STDs in the country, major role can be played by students who can educate the normal. Implementation of educational tools can help in increasing awareness and can also impact behaviours. So, our study concludes the students' knowledge has to be improved in multi aspects of STDs so that they can prevent and control the incidence of STDs in future.

## **6.ACKNOWLEDGEMENTS**

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## **7.CONFLICTS OF INTEREST**

The authors hereby declare no conflict of interest and there is no any source of external funding for this study.

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