# Profile of Knowledge and Exposure to STIs in the Academic Scope of Biological, Exact and Human Sciences

Bruna De Martino Mansilha Vilela<sup>1</sup>, Camila Nogueira Vieira<sup>2</sup>, Julia Guerrero Teixeira De Freitas<sup>3</sup>, Luiz Carlos Maciel<sup>4</sup>

Unitau - Faculdade de Medicina de Taubaté

Abstract: <u>Objective</u>: The present study evaluated the incidence and prevalence of STIs in different academic areas, at a university academic population in Brazil. Methods: Descriptive study, with a quantitative and qualitative approach. The target population consisted of academics of the biological, exact, and human sciences, regularly enrolled in the Medicine/Dentistry, Engineering and Law courses, of both sexes, adults. For data collection, an online questionnaire of a quantitative nature, unidentified and spontaneous adherence, was applied, whose determined variables are related to the knowledge about STIs and the sexual habits of this group. Data obtained through non-parametric statistical tests were analyzed. <u>Results</u>: The results of the study pointed to 16.8 years as the average age of sexual initiation among university students, in addition to recording that 61.7% of them had 1 to 5 sexual partners in their lifetime. It was also shown that the prevalence of STIs was 7.4% among the volunteers, of which 60% were from the Medicine course, 20% from Engineering, 12% from Law, 2% from Dentistry. Regarding the wearing of condoms, 48.7% reported that they always wear condoms. Regarding knowledge about the subject, 97% reported contact with the subject. However, as seen, sex education alone was not enough for lower prevalence rates of these infections, evidencing the need for new strategies for their control, such as the implementation of early tests within the academic environment together with reinforcement of guidance measures. <u>Conclusion</u>: The data obtained point to a prevalence of STIs in the young population under study, especially in the Medicine course, as well as point to protection for those who wear condoms.

Keywords: Sexually Transmitted Infection; College students; Sex; Genital

#### 1. Introduction

Sexually transmitted infections (STIs) are considered a major public health problem in Brazil (1) and are among the most common communicable diseases, affecting the lives of people around the world. These infections have an annual incidence of 357 million cases, among them, the most frequent infectious agents are: Trichomonas vaginalis (143 million), Chlamydia trachomatis (131 million), Neisseria gonorrhea (78 million), Treponema pallidum (5.6 million). That said, according to the World Health Organization (WHO), it is estimated that there are more than 1 million new cases of STIs per day on the planet, most of which are undiagnosed, which increases the number of transmissions between individuals (2).

The impacts of STIs mainly affect young people between the ages of 15 and 29 years (3), including university students, who are more exposed to the risks of contamination due to multiple sexual partners and sexual intercourse without the use of condoms. (1) Furthermore, regarding refers to its psychological consequences, highlighting the development of depression, and social consequences, the embarrassment in relation to adequate treatment, which affects the quality of life of the infected patient. (3)

Studies show that the lack of knowledge in sexual health is significantly associated with the risk of acquiring STIs. (3) Suggesting that in biological sciences courses, which have academic subjects related to infections, they present a greater understanding about the subject in relation to those in exact sciences and humansciences, indicating that biological academics are the least infected. (4) Thus, although there are some correlated publications, there is still a need for further research to determine its prevalence within academic variants.

Thus, it is known that knowledge about the prevalence and incidence of STIs is still insufficient at the university level. (4) Based on this information, it is necessary to increase study policies on sexual health, to broaden the understanding about the social, emotional, and general health impact of young university students, who are frequent victims of these infections. (1) Therefore, this research aims to better understand the prevalence of STIs in different academic areas, such as biological, exact, and human sciences, with the purpose of assisting in the elaboration of specific actions for these social groups.

#### Goals

- 1) General: To know the personal and sexual characteristics of university students in Medicine/ Dentistry, Engineering and Law.
- 2) Specific: To know the incidence and prevalence of STIs in the different academic areas of biological, exact, and human sciences, at a university academic population in Brazil. Obtaining knowledge about the gender and sexual orientation of the volunteers; in addition to knowing their sexual habits, such as the number of partners, as the previous ISTs illnesses.

### 2. Method

This is a descriptive study, with a quantitative and qualitative approach. The target population consists of academics from the biological, exact, and human sciences, regularly enrolled in Medicine/Dentistry, Engineering and Law courses, of both sexes, adults (above 18 years of age).

For data collection, an online questionnaire of a quantitative nature, unidentified and spontaneous adherence, was applied, whose determined variables were related to knowledge about STIs and the sexual habits of this group.

The target population was approached through an online form, where the researchers present the invitation to participate in the research, as well as the due explanations about the objectives and the volunteer and informed consent for the participants. Those who agreed to participate were directed to the next page where the survey-related questionnaire begins, students who did not agree were directed to the thank you page without access to the questionnaire. The completed questionnaire was made available on the Google Forms platform, remaining available for 90 days during the second half of 2021, after authorization by the Research Ethics Committee of the University of Taubate linked to Plataforma Brazil under number 40815820.0.0000.5501.

Data were evaluated epidemiologically, in general, and in separate groups and tabulated in Excel® Microsoft<sup>TM</sup> version 365 Software spreadsheets. Comparative analyzes were performed by groups, biological sex, and sexual orientation. The pattern of population distribution in terms of its general characteristics was evaluated using statistical tests.

# 3. Results

The study included 366 volunteers, of which only 1 did not accept to participate in the research, despite the expressive number, this fell short of the sample calculation, possibly due to the pandemic period and lockdown measures, interfering with face-to-face classes and, directly, with data collection.

Regarding sociodemographic data, the average age of university students participating in the study was 23 years (Figure 1). Of these, 49.9% were from the Medicine Course, 23.8% from Law, 14.8% from Engineering and 11.5% from Dentistry.

Biological sex was divided into 67.4% female and 32.6% male. As for sexual orientation, most volunteers declared themselves to be heterosexual, followed by bisexual, then homosexual (Figure 1).

Of the total number of volunteers, 91.8% reported that they had already had sexual intercourse, of which Figure 3 shows that there is a predominance at the beginning of sexual life at 17 years of age. Regarding the partnership, 32.7% of the active reported not having a steady partner.

Regarding condom use, 48.7% reported that they always use it, 40.3% sometimes, 10.9% never. Thus, Table 1 presents in detail the values about the sexual behavior of the volunteers.

 
 Table 1: Characteristics of sexual behavior and knowledge about STIs of study volunteers/ Sexual behavior characteristics and STI knowledge of study volunteers

#### Sex Life:

Variables	N=365	%
Yes	335	91,8
No	30	8,2

#### Number of sexual partners:

Variables	N=365	%
0	29	7,9
1-5	207	56,7
6-10	67	18,4
11-20	22	6,0
+20	40	11,0

#### Number of Sexual Intercourses Per Week:

	Variables	N=365	%
ſ	I don't have sex	95	26,0
Ī	1-2	191	52, 3
	3-5	66	18,1
Ī	+5	13	3,6

#### **Steady Partner:**

Variables	N=365	%
There is not	84	23,0
Yes	226	61,9
No	55	15,1

#### Sex with more than one partner at the same time:

	1	
Variables	N=365	%
Has no relations	29	7,9
Yes	33	9,0
No	303	83.0

#### **Knowledge about STIs:**

Variables	N=365	%
Yes	354	97,0
No	11	3,0

#### Ever gotten an STI:

Variables	N=365	%
Yes	25	6,8
No	340	93,2

#### How many times have you gotten an STI

Variables	N=365	%
0	339	92,9
1-2	23	6, 3
3-5	1	0, 3
+5	2	0, 5

#### Know how to control/prevent STI transmission:

Variables	N=365	%
Yes	343	94,0
No	22	6.0

#### Wear Condoms:

Variables	N=365	%
I don't have sex	35	9,6
Never	36	9, 9
Sometimes	133	36,4
Ever	161	44,1

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#### Have you had children or are you expecting:

	· · ·	0
Variables	N=365	%
Yes	31	8,5
No	334	91, 5

#### Knows that STIs can be harmful to the fetus:

Variables	N=365	%
Yes	297	81,4
No	68	18, 6

#### Do you think that all STIs are curable?

Variables	N=365	%
Yes	336	92,1
No	29	7,9

#### Do you think HIV is curable?

Variables	N=365	%
Yes	336	92,1
No	29	79

#### Do you think HIV is serious?

J		
Variables	N=365	%
Yes	344	94,2
No	21	5,8

#### Do you mind getting an STI?

Variables	N=365	%
Yes	360	98,6
No	5	1,4

# If you were a carrier, would you mind transmitting the STI?

Variables	N=365	%
Yes	361	98,9
No	4	1.1

#### Would you notify the partner if you had an STI?

Variables	N=365	%
Yes	357	97,8
No	8	2, 2

# Do you think men and women are equally responsible for buying condoms?

Variables	N=365	%
Yes	341	93,4
No	24	6, 6

# Would you respect your partner's sexual desire not to wear condoms?

Variables	N=365	%
Yes	275	75,3
No	90	24,7
Total	365	100%

When questioning the volunteers, considering only those who had sexual intercourse, about the prevalence of Sexually Transmitted Infections, 7.4% stated that they had some type of sexually transmitted infection, presenting 1 to 2 times (6.8% of these individuals). Within the academic scope: Medicine 60%, Engineering 20%, Law 12%, Dentistry 2%.

When asked about their knowledge of STIs, 97% said they understood a considerably positive number. Of the 3% who reported not knowing about STIs, the majority (73%) were from Engineering and Law courses.

Among the group that used a condom (always) during sex, 32.0% had STIs. However, in the group that did not use a condom (sometimes and never), this proportion was 68.0%. However, when comparing the studied groups using the chi-square test, no significant difference was found (p = 0.1536). When analyzing the volunteers who had knowledge about the cure for STIs, 7.9% said yes, while 92.1% said no. When applying the G Test, in view of the inadequacy of the Chi-square for the observed frequencies, a significant difference was verified (p = 0.0014).

#### 4. Discussion

The prevalence of STIs in undergraduate students reinforces the idea that having information on the subject is a necessary, but not sufficient, factor to modify sexual behavior. Possibly because many young people prefer not to wear condoms due to the thought that it causes discomfort during intercourse. Even though wear condoms among young people is known, as supposed by previous studies (8), there is still a significant portion that does not wear it, which may perpetuate the spread of STIs, a situation that is exacerbated by the fact that most of these university students do not have a steady sexual partner. (8) This evidence can be observed in the data of the present study, which point to a significant number, in percentage, of university students who do not use sexual protection frequently, a fact that justifies the prevalence of STIs in the student environment. From this, the question arises of the effectiveness of the propagation of public health policies among young people, who appear not to have adequate knowledge about the real need to use condoms and the risk of acquiring STIs.8 With regard to this study, the data, in agreement with the cited literature, indicate that 92.2% (Table 1) of the people who answered the questionnaire affirm that all STIs can be cured, but in reality some infections do not. Given this, it becomes clear in this research that in addition to the need for students to recognize the reason for wearing condoms, they need greater knowledge of the incidence, symptoms and consequences for health from STIs.

Despite there being a statistically significant difference in knowledge of the forms of transmission of STIs among students in the health area and other courses, Medicine and Dentistry courses were the ones that most presented STI transmission. This can be explained by the fact that Engineering and Law students are older in relation to other courses (Figure 4), since most university students at this age already have steady partners, reducing the transmissibility of infections since the partner will always be the one same.

During the data collection of the present study, when analyzing the number of partners versus the number of relations per week, it showed a significant number, in which 12% of the volunteers had more than 20 partners during their lifetime and 20% have 3 to 5 relations per week, facts that may also contribute to the increase in the incidence of STIs.

Volume 12 Issue 1, January 2023 <u>www.ijsr.net</u> Licensed Under Creative Commons Attribution CC BY The limitations of the study include the use of retrospective information, possible memory bias, in addition to the period of the Coronavirus pandemic and lockdown, however, the information obtained exposes a risk situation for a high number of university students, making clear the need for active measures in the which concerns the insertion of public policies with information, prevention and diagnosis strategies aimed at young people.

In addition to these strategies, policies to encourage the use of sexual protection, such as: distribution of condoms, teaching on the need for use and guidance on the importance of being with a steady partner, as in addition to avoiding STIs, it also acts as a contraceptive method.

Finally, there is a need to carry out longitudinal studies that can analyze the real factors that influence the appearance of STIs in the Brazilian population, as well as present other, deeper variables that exist in the lives of university students that may generate risky behaviors, contributing to map these factors so that, based on the results, prevention measures and more concise strategies are created. In addition, there is a need for these studies to advance in each university group, to better understand the characteristics of each university course so that these preventive measures reach their target audience.

# 5. Conclusion

The results obtained point to the prevalence of STIs in the young population, mainly in the medical course.

Evidence exposes the protection of those who wear condoms, as well as those who maintain a single relationship.

There is a negative influence on the prevalence of STIs as the number of sexual partners increases.

Access to information about STIs, if not associated with other preventive measures, was not enough to reduce their impact on the studied population.

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