

KNOWLEDGE AND BELIEFS OF UNIVERSITY STUDENTS OF THE ENGINEERING COURSE ON SEXUALLY TRANSMITTED INFECTIONS

Conhecimentos e crenças de universitários do curso de engenharia sobre as infecções sexualmente transmissíveis

Conocimientos y creencias de los estudiantes universitarios del curso de ingeniería sobre infecciones de transmisión sexual

Carolina Passos Sodré¹, Thelma Spindola², Leticia Brito Tambasco³, Débora Fernanda Sousa Marinho⁴, Raquel Ramos Woodtli⁵, Rômulo Frutuoso Antunes⁶

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ABSTRACT

Objective: to analyze the knowledge and beliefs about sexually transmitted infections among university students in the engineering course. **Method:** descriptive, transversal, quantitative research carried out at a private university in Rio de Janeiro. A sample of 170 students from the engineering course was selected. The findings were organized and analyzed using descriptive statistics. **Results:** there was a predominance of males (86,47%); ages 18 to 23 years (78,83%); singles (60%); without children (97,06%); live with their parents (76,47%). They not use condoms continuously (62,25%); but they believe it is not possible to acquire infections (42,35%). They have insufficient knowledge about infections (77,65%), recognizing the most widely disseminated by the media. **Conclusion:** most students recognize the importance of condoms, but do not use them regularly. Young people have insufficient knowledge and beliefs that put their sexual health at risk.

DESCRIPTORS: Comprehension; Sexually transmitted diseases; Young adult; Sexual behavior; Education, higher.

1 Nurse. Graduated in Nursing from the State University of Rio de Janeiro. Resident in Family and Community Health of the Municipal Health Secretariat of Rio de Janeiro. Rio de Janeiro - Rio de Janeiro - Brazil. Orcid: <https://orcid.org/0000-0002-9819-2156>.

2 Nurse. Doctor in Nursing. Associate Professor at the Rio de Janeiro State University School of Nursing. Rio de Janeiro - Rio de Janeiro - Brazil. Orcid: <https://orcid.org/0000-0002-1785-5828>.

3 Nurse. Graduated in Nursing from the State University of Rio de Janeiro. Resident in Family and Community Health of the Municipal Health Secretariat of Rio de Janeiro. Rio de Janeiro - Rio de Janeiro - Brazil. Orcid: <https://orcid.org/0000-0002-1928-212X>

4 Nurse. Master in Nursing from the State University of Rio de Janeiro. Rio de Janeiro - Rio de Janeiro - Brazil. Orcid: <https://orcid.org/0000-0002-0158-4381>.

5 Nursing Academic. Nursing School of the State University of Rio de Janeiro. Rio de Janeiro - Rio de Janeiro - Brazil. ORCID: <https://orcid.org/0000-0002-6418-1037>.

6 Nursing Academic. Scientific Initiation Scholarship of CNPq. Nursing School of the State University of Rio de Janeiro. Address: Boulevard 28 de Setembro, 157 - Vila Isabel, Rio de Janeiro - RJ - Brazil. ZIP CODE: 20551-030. Telephone: (21) 2868-8236. E-mail: romulofantunes@gmail.com ORCID: <https://orcid.org/0000-0003-2800-5295>.

RESUMO

Objetivo: analisar o conhecimento e crenças sobre as infecções sexualmente transmissíveis entre universitários do curso de engenharia. **Método:** pesquisa descritiva, transversal, quantitativa, realizada em universidade privada no Rio de Janeiro. Selecionou-se uma amostra de 170 estudantes do curso de engenharia. Os achados foram organizados e analisados com emprego da estatística descritiva. **Resultados:** houve predomínio do sexo masculino (86,47%); idades de 18-23 anos (78,83%); solteiros (60%); sem filhos (97,06%); moram com os pais (76,47%). Não utilizam preservativo de forma contínua (62,25%), mas acreditam ser pouco possível adquirir infecções (42,35%). Apresentam conhecimento insuficiente sobre as infecções (77,65%); reconhecendo as mais divulgadas pela mídia. **Conclusão:** a maioria dos estudantes reconhece a importância do preservativo, mas não usa regularmente. Os jovens apresentam conhecimentos insuficientes e crenças que colocam em risco a sua saúde sexual.

DESCRIPTORIOS: Compreensão; Doenças sexualmente transmissíveis; Adulto jovem; Comportamento sexual; Educação superior.

RESUMEN

Objetivo: analizar el conocimiento y las creencias sobre las infecciones de transmisión sexual entre estudiantes universitarios en el curso de ingeniería. **Método:** investigación descriptiva, transversal y cuantitativa realizada en una universidad privada de Río de Janeiro. Se seleccionó una muestra de 170 estudiantes del curso de ingeniería. Los hallazgos se organizaron y analizaron mediante estadística descriptiva. **Resultados:** predominó el sexo masculino (86,47%); edades 18 a 23 años (78,83%); solteros (60%); sin hijos (97,06%); viven con sus padres (76,47%). No usan condones continuamente (62,25%), pero creen que no es posible adquirir infecciones (42,35%). Tienen un conocimiento insuficiente sobre las infecciones (77,65%); reconociendo lo más publicitado por los medios de comunicación. **Conclusión:** la mayoría de los estudiantes reconoce la importancia de los condones, pero no los usa regularmente. Los jóvenes tienen conocimientos y creencias insuficientes que ponen en riesgo su salud sexual.

DESCRIPTORIOS: Comprensión; Enfermedades de transmisión sexual; Adulto joven; Conducta sexual; Educación superior.

INTRODUCTION

Sexually transmitted infections (STIs) are generally sexually transmitted and are among the most common public health problems existing worldwide.¹ According to the *Epidemiological Bulletin* (2019)², from 2007 to June 2019, it was observed that the majority of cases of HIV infection reached individuals in the age group 20 to 34 years, corresponding to 52.7% of total cases. In the last ten years, there was an increase of 94.6% of cases among young males in the age group of 20 to 24 years, and a drop in the number of female cases in all age groups. These aspects demonstrate the need for preventive actions and health education directed at vulnerable groups.²

Currently some microorganisms such as *Neisseria gonorrhoeae* present an absence of sensitivity to antibiotics widely used in the care practice, making them multidrug resistant. One of the main ways to prevent multidrug resistance is to prevent the occurrence of new infections by continuous condom use.³

Young people are considered a vulnerable group to acquire STIs, considering the presence of some risk behaviors such as

early sexual initiation, discontinued or incorrect condom use, the occurrence of multiple partners, and the use of alcohol and/or drugs.^{4,5}

Knowledge is an important factor associated with sexual risk behavior during youth. The young person usually has an incorrect perception of the modes of transmission of the main STIs, or believes that it is not possible to acquire an infection. It is important to note, then, that each individual's knowledge is reflected in their choices and in the consequences of their actions.⁶

It is known that knowledge is an important tool that can encourage more frequent prevention actions related to STIs. In this context, it is relevant to investigate the knowledge about STIs among university students, considering the vulnerability of young people to these diseases and the damages they cause to sexual health. Thus, this study aims to analyze the knowledge and beliefs about sexually transmitted infections among university students in the engineering course.

METHOD

Descriptive, transversal, quantitative study that integrates the research "Sexuality and Vulnerability of Young People in Times of Sexually Transmitted Infections" coordinated by Prof. Dr. Thelma Spindola. The main research was carried out in 2016, with 768 university students of both sexes, from a private university, in the city of Rio de Janeiro. The sample was of the intentional type, for convenience, stratified by sex, 95% confidence interval and 5% sample error. The data were stored in a database with the help of Excel 2013 software.

For this cutout, information from undergraduate engineering students was selected from the bank, totaling 170 (22.14%) of the participants of the parent research. The choice of students from the exact area is justified, considering the authors' interest in knowing if there is a difference in the knowledge of young people, coming from a different area of health, about IST.

The study participants were aged between 18-29 years old and were approached in the university coexistence areas. A questionnaire with 60 closed questions was used to capture the data in the matrix survey. The data collection instrument contained variables related to socioeconomic aspects, sexual profile, STI knowledge, STI prevention practices and health care. For this study, questions related to knowledge and beliefs about STIs, sexual profile of students were selected, totaling 21 variables. The data were stored in a database with the help of Excel 2013 software and treated with the use of uni and bivariate descriptive statistics.

In the construction of the belief scale, the Likert model was adopted, which aims to verify the level of agreement with favorable or unfavorable assertives on the subject. For the data analysis, the frequencies indicated by the respondents for the options presented were added together.

All ethical procedures were respected, i.e., the university students signed the *Termo de Consentimento Livre e Esclarecido* (TCLE), the project was appreciated and approved by the institutional CEP with the opinion number 1,577,311 and CAAE 56763316.1,0000,5291.

RESULTS

170 undergraduate engineering students participated in the study. The socioeconomic characteristics of the university students evidences that 147 (86,47%) are male, 134 (78,83%) are between 18-23 years old, 102 (60%) single, 165 (97,06%) have no children, 111 (65,29%) declare themselves white, 130 (76,47%) live with their parents; 98 (57,65%) don't work, and 70 (41,18%) familiar income greater then seven minimum wages (the SM value, in 2016, was R\$880,00).

The knowledge of the students in relation to the Sexual Transmissible Infections was evaluated, as Table 1 demonstrates.

Table 1 - Knowledge of engineering students at a private university about sexually transmitted infections. Rio de Janeiro, RJ, Brazil, 2018

Variable	f	%
Knowledge about the forms of transmission		
Aids	164	96,47
Herpes	150	88,24
Syphilis	132	77,65
Gonorrhea	120	70,59
HPV	114	67,06
Hepatitis	113	66,47
Chlamydia	37	21,76
None of the infections	4	2,35
Infections with public bathroom transmission		
HPV	65	38,24
Gonorrhea	52	30,59
None of the infections	36	21,18
Syphilis	35	20,59
Hepatitis	34	20,00
Aids	14	8,24
Chlamydia	12	7,06
Herpes	5	2,94
Didn't answer	1	0,59
Diseases that have a cure		
Gonorrhea	106	62,35
Syphilis	88	51,76
Herpes	78	45,88
Hepatitis	77	45,29
HPV	51	30,00
Chlamydia	31	18,24
None of the infections	28	16,47
Aids	3	1,76
Total	170	100,00

Source: Sexuality and Vulnerability Research Database of Young People in Times of Sexually Transmitted Infections

When asked about diseases that a person may be infected by not using condoms in sexual intercourse, 162 (95,29%) reported AIDS, 129 (75,88%) syphilis, 124 (72,94%) gonorrhea; 69 (40,59%) hepatitis and only 54 (31,76%) chlamydia, revealing the little knowledge of young people about these infections.

The students' self-assessment of their knowledge regarding STIs is presented in Table 2.

Table 2 - Self-assessment of engineering students at a private university on knowledge about sexually transmitted infections and prevention methods. Rio de Janeiro, RJ, Brazil, 2018

Variables	f	%
All knowledge about the transmission of sexually transmitted infections		
No	132	77,65
Yes	36	21,18
Didn't inform	2	1,18
Do you know of any method to prevent sexually transmitted infections		
Yes	156	91,76
No	13	7,65
Didn't inform	1	0,59
What method of prevention of sexually transmitted infections do you know?		
Condom	131	77,06
Condom and sexual abstinence	4	2,35
Condom and Vacina	1	0,59
Condom and regular visit to the doctor	1	0,59
Condom and next day's pill	1	0,59
Didn't inform	18	10,9
Does not apply	14	8,24
Total	170	100,00

Source: Sexuality and Vulnerability Research Database of Young People in Times of Sexually Transmitted Infections

Table 3 presents the beliefs of engineering students about STIs.

Table 3 - Belief of engineering students at a private university about sexually transmitted infections. Rio de Janeiro, RJ, Brazil, 2018

Variables	f	%
The risk of HIV/AIDS transmission can be reduced if a person has sex only with a faithful partner		
I agree	119	70,00
Does not agree or disagree	21	12,35
I disagree	29	17,06
Didn't answer	1	0,59
A healthy looking person may be infected with HIV/AIDSs		
I agree	155	91,18
Does not agree or disagree	9	5,29
I disagree	4	2,35
Didn't answer	2	1,18
In some sexual relations a person may not use a condom and not be exposed to STIs		
I disagree	78	45,88
Does not agree or disagree	57	33,53
I agree	33	19,41
Didn't answer	2	1,18
Using a condom is the best way to prevent an STI from being transmitted during sexual intercourse		
I agree	156	91,76
Does not agree or disagree	10	5,88
I disagree	2	1,18
Didn't answer	2	1,18

Variables	f	%
The use of alcohol or drugs can make people have sex without using a condom		
I agree	124	72,94
Does not agree or disagree	21	12,35
I disagree	23	13,53
Didn't answer	2	1,18
Total	170	100,00

Source: Sexuality and Vulnerability Research Database of Young People in Times of Sexually Transmitted Infections

Students were asked about their sexual practices and the possibility of acquiring STIs, demonstrated in Table 4.

Table 4 - Sexual practices of engineering students at a private university and evaluation of the possibility of acquiring STIs according to sex. Rio de Janeiro, RJ, Brazil, 2018

Variables	Female		Male		Total	
	F	%	f	%	f	%
Had sex						
Yes	20	86,96	131	89,12	151	88,82
No	3	13,04	16	10,88	19	11,17
Use condom in all sexual relations						
Yes	4	20	53	40,46	57	37,74
No	16	80	78	59,54	94	62,25
Didn't answer	3	13,04	16	10,88	19	11,17
Possibility to acquire an IST						
Very possible	-	-	1	0,68	1	0,59
Possible	6	26,09	16	10,88	22	12,94
Neither possible nor impossible	1	4,35	22	14,97	23	13,53
Not much possible	12	52,17	60	40,82	72	42,35
Impossible	4	17,39	48	32,65	52	30,59

Source: Sexuality and Vulnerability Research Database of Young People in Times of Sexually Transmitted Infections

Condom use was evaluated according to the age group of students, with 22 (38.60) participants between the ages of 18 and 20 using the condom in all sexual relations, while 71 (75.53%) young people between the ages of 21 and 29 do not use the condom continuously.

DISCUSSION

The sociodemographic data of the university students show that the majority were male, white skin color and in the age group between 18 and 23 years. It is known that in Brazilian education, 87.7% of higher education institutions are private. The Higher Education Census, investigating 707 young people, showed that there is a predominance of female students among Brazilian university students.^{7,8} In relation to the age of entry into the courses, the average is 25.6 years and the age of completion is 28 years.⁷ In this research there was a predominance of males, depending on the greater probability of choosing the engineering course by male students, authors highlight.⁹

As for the economic profile of the university students, an expressive number (41,18%) had income superior to seven minimum wages (\$ 6160,00), which doesn't reflect the

profile of great part of the Brazilian population. A study with computer engineering students verified that they presented higher income when compared to those of computer science and information systems.¹⁰

The incidence of IST in the young population has increased significantly. Studies in several scenarios point out that youngsters inserted into the university context do not present satisfactory knowledge on STD/AIDS.^{11,12} Evaluating the general knowledge on STD/AIDS, it was found that this issue is not totally unknown to adolescents in a public school in Natal, northeast Brazil.¹³ Many had information out of school, mainly with friends, and could be superficial, impregnated by prejudices, and coming from unreliable sources, such as people who did not have access to sex education.¹³

Carrying out extension activities, with young people aged 15 to 19, researchers found that the lack of information on STIs was related to the difficulty in working on the topic in schools, because it is a taboo and because of the execution of biomedical and little humanized methodologies.¹⁴ A study showed that half of the adolescents reported knowing about sexually transmitted infections such as HIV, gonorrhea, syphilis, hepatitis, genital herpes and HPV, showing a good level of information on the topic.¹⁵

Engineering students questioned about the diseases a person can be infected with when using public toilets and sharing a syringe or needle answered HPV infection, 65 (38.24%) and 52 (30.29%), respectively. The findings show that university students do not have sufficient knowledge about the transmission of this infection, considering that it occurs, preferably, by sexual route and the transmission by vomiting is rare, as highlighted by the Ministry of Health.⁷

A study that evaluated the knowledge about HPV of 591 individuals in the city of Ipatinga-MG found limitations, especially among men, when they reported not knowing about HPV and the vaccine for prevention.¹⁶ Authors¹³ reported that adolescents discuss more about sexual behavior, risks of sexually transmitted diseases and pregnancy prevention. Adding that young people do not demonstrate adequate knowledge about the ways of transmitting STIs.¹³

In evaluating the knowledge of 2449 young people aged 12 to 18, researchers found that girls had greater knowledge of contraceptive methods and STIs than boys. In terms of sexual practices, they assumed risky sexual behaviors by not using the condom with sexual partnerships because of trust.¹⁷

The most cited method for STI prevention was the condom, 131 (77.09%), demonstrating that university students recognize the importance of this resource. The female and male condoms are primary effective technology methods for STI prevention.^{1,18} Public health services provide guidance on the condom, offered free of charge, regarding conservation, the correct and regular mode of use.¹⁸ A study with academics from a public university indicated that 98 (64.1%) used the condom as a form of protection, reinforcing the importance of use.¹⁹ Condom adoption occurs because of lack of confidence in the partner and ignorance about the integrity of his health. The consistent use of this resource is usually associated to the type of partnership, being more employed with casual partners.

It is known that when considering fidelity in relationships, one cannot discard one's partner's past sex life, and condom use is important in all sexual intercourse. A study of 18-29 year old college students indicated that only 23.3% of those interviewed believed that a faithful partner does not reduce their chances of contracting STIs.²¹

In relation to the use of licit and illicit drugs, the abusive use of alcohol can affect decisions, judgment and discernment, and leaves the young person exposed to risks such as acquiring STIs.²² A study indicated that the consumption of alcohol is directly related to risk behaviors, such as the practice of unprotected sex.²³ Research with young people from 18 to 29 years old showed that, although they knew that the use of alcohol or other drugs can favor risky sexual behaviors, they ignored this information and took risks, evidencing a distinction between the knowledge and the sexual practices adopted.²⁴

Gender, power and common sense are important factors in deciding how to use a condom. They are accompanied by beliefs and myths related to the reduction of pleasure or discomfort in the use of the resource as a prevention method.²⁵ It is known that women's disuse of condoms often results from the desire and imposition of partners. Young women face situations of submission because they lack bargaining, negotiation, and decision-making power. Female vulnerability in condom negotiation is a fact, yet women seek to use the condom more, while men tend to evade it. Research²⁰ found that both sexes did not use the condom continuously, which is similar to the findings of this study.

Men deny the presence of disease because they believe that caring is associated with the female gender.²⁰ It is known that since childhood men are taught to hide their feelings and value the demonstration of strength, endurance and virility.²⁶ Research with health professionals, with one year of experience, found that men consider themselves resistant, deny the possibility of getting sick, are prejudiced about prevention, harassed about treatment, are ashamed to seek help, and feel inferior because they are sick.²⁶ These findings corroborate this research by finding low adherence to the condom by male students. Young men did not use the condom continuously, and although they had insufficient knowledge about STIs, they believed that it was not possible to acquire an infection transmitted by unprotected sex.

A study of 15 to 24-year-olds showed that younger people used the condom more when compared to older people.²⁷ The use of the device in the last relationship was associated with being single, having used a condom in the first sexual relationship having had a casual partnership in the last year, having had sex with a person of the same sex, and having obtained a condom free of charge. Young people's non-use of condoms is supported by reasons such as trust in their partner or the unpredictability of some sexual relationships. Health-related educational activities by nurses are timely, but in order to be successful, they must be aligned with the socio-cultural context of the group.²⁷

It is important to signal that information alone is not capable of changing reality. It is necessary that these activities

be attractive and provide information so that young people can be sensitized and stimulated by encouraging reflection. In this context, it is believed that knowledge will reflect on the practices adopted by young people, being fundamental for the formation of their autonomy about the theme.^{6,28}

CONCLUSION

This study aimed to analyze the knowledge and beliefs about sexually transmitted infections among university students in the engineering course. The findings showed that there was a predominance of young males, aged between 18 and 23, who presented insufficient knowledge about STIs and believed that it was not possible to acquire an infection. Although they recognized the importance of condom use for STI prevention, they did not use this resource on a continuous basis. The beliefs and knowledge of university students about STIs put their sexual health at risk.

Considering that the participants were engineering students, and most of them were males, it would be appropriate that other studies related to the topic and gender stereotype be carried out. In addition, the importance of health education actions of the young group, developed by nurses, with encouragement to adopt safe sexual practices, to prevent STIs and reduce the occurrence of diseases in this population contingent.

The research had the limitation of having been carried out in only one university, and it was opportune to replicate it in other institutions with students from other areas. The findings of this study, however, are consistent with other research showing that the most widespread STIs are the most recognized by young people.

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Corresponding author

Rômulo Frutuoso Antunes

Address: Boulevard September 28, 157 -

Vila Isabel, Rio de Janeiro - RJ, Brazil

Zip code: 20.551-030

Email address: romulofantunes@gmail.com

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