

KNOWLEDGE AND PERCEPTION OF RISKS RELATED TO SEXUALLY TRANSMISSIBLE INFECTIONS AMONG YOUNG UNIVERSITY STUDENTS *

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Objective: To analyze knowledge about Sexually Transmitted Infections and its influence on the perception of risk among university students. **Method:** Cross-sectional study, conducted in a private university in Rio de Janeiro, with 768 students aged 18-29 years. A questionnaire was used for data collection. Data analysis was performed with the aid of SPSS software, and Pearson's chi-square test and e analysis of variance were applied. **Results:** The young university students had below-average knowledge of sexually transmitted infections. Regarding risk perception, the participants said they believed it was impossible or somewhat possible only that they were infected by STDs. **Conclusion:** The knowledge of university students about the transmission of sexually transmitted infections was lower than expected and could therefore reflect their low perception of the risk of infections.

KEYWORDS: Sexually transmitted diseases; Knowledge; Sexual behavior; Young adult; Nursing.

CONHECIMENTO E PERCEPÇÃO DE RISCO EM RELAÇÃO ÀS INFECÇÕES SEXUALMENTE TRANSMISSÍVEIS ENTRE JOVENS UNIVERSITÁRIOS

Objetivo: analisar o conhecimento acerca das Infecções Sexualmente Transmissíveis e sua influência na percepção de risco entre jovens universitários. **Método:** estudo transversal, realizado em uma universidade privada no Rio de Janeiro, com 768 estudantes na faixa etária de 18 a 29 anos. O instrumento de coleta de dados utilizado foi um questionário. Os dados foram analisados com auxílio do *Software Statistical Package for the Social Sciences*, sendo aplicados os testes qui-quadrado de Pearson e a análise de variância. **Resultados:** os jovens universitários possuíam conhecimento abaixo da média em relação às infecções sexualmente transmissíveis. No que diz respeito à percepção de risco, os jovens acreditam que é impossível ou pouco possível a chance de serem infectados. **Conclusão:** o conhecimento dos estudantes universitários acerca das formas de transmissão das infecções sexualmente transmissíveis ficou abaixo do esperado, podendo, dessa forma, refletir na baixa percepção de risco acerca das infecções.

DESCRITORES: Doenças sexualmente transmissíveis; Conhecimento; Comportamento sexual; Adulto jovem; Enfermagem.

CONOCIMIENTO Y PERCEPCIÓN DE RIESGO ACERCA DE INFECCIONES DE TRANSMISIÓN SEXUAL ENTRE JÓVENES UNIVERSITARIOS

Objetivo: analizar el conocimiento acerca de las Infecciones de Transmisión Sexual y su influencia en la percepción de riesgo entre jóvenes universitarios. **Método:** estudio transversal, realizado en una universidad particular en Rio de Janeiro, con 768 estudiantes de la franja etaria de 18 a 29 años. La herramienta utilizada para obtener los datos fue un cuestionario. Se analizaron los datos con la ayuda del *Software Statistical Package for the Social Sciences*, siendo aplicados los test chi cuadrado de Pearson y el análisis de variancia. **Resultados:** los jóvenes universitarios poseen conocimiento por debajo de la media en relación a las infecciones de transmisión sexual. Respeto a la percepción de riesgo, los jóvenes creen que es imposible o poco probable que sean infectados. **Conclusión:** el conocimiento de los estudiantes universitarios acerca de las formas de transmisión de las infecciones sexualmente transmisibles se quedó inferior al esperado, siendo posible, de ese modo, reflejarse en la baja percepción de riesgo acerca de las infecciones.

DESCRIPTORES: Enfermedades de transmisión sexual; Conocimiento; Comportamiento sexual; Adulto joven; Enfermería.

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● INTRODUCTION

Sexually Transmitted Infections (STIs) are caused by more than 30 etiological, bacterial, viral and parasitic agents, mainly transmitted by vaginal, anal and oral sexual contact. Of the more than 30 existing pathogens, eight are responsible for most demands in the health sector; four are caused by incurable, but controlled infections that can be treated with the use of medicines and health monitoring: human immunodeficiency virus (HIV), hepatitis B, herpes and human papilloma virus (HPV); while the other four are considered curable: syphilis, chlamydia, trichomoniasis and gonorrhea. ⁽¹⁻²⁾

The epidemiological dynamics of STIs in modern society comprises various factors that favor the vulnerability of individuals or population groups that have similar characteristics to such infections. Because of several characteristics such as early sexual intercourse, multiple partners/friends, sex under the influence of alcohol or drugs, and inadequate condom use, young individuals are considered a vulnerable group. Currently, more than half of new HIV infections occur in young individuals in the age range of 15 to 24. . ⁽³⁻⁴⁾

Young adults are generally aware of the importance of condom use to prevent STIs. However, studies have identified gaps in knowledge about STIs, and the modes of prevention of infections are prevented are not clearly understood by them. ⁽⁵⁻⁶⁾ Condom use is not constant among young individuals. Information about this resource is often incorrectly conveyed, and condom use is more the result of a socially stimulated attitude than a conscious choice.

Studies indicate that the population of young university students is at high risk for STIs, since these individuals are initiating their sexual life and often change their sexual partners. University life favors the onset and consolidation of certain behaviors, especially those related to the use of alcohol and other drugs and unprotected sexual practice. Data indicate that the use of psychoactive substances among university students is more frequent than among the general population, and that this increases their probability of experiencing risky situations, including unprotected sex. . ^(5, 7-9)

Young adults entering university usually move away from their families to live in other urban centers. Along with their new responsibilities, they have greater autonomy and expectations regarding their decisions. Facing many pressures, academic demands and commitments in their new routine, these individuals seek new friends, fun and new ways to relieve their tension, such as drinking alcohol. They get used to alcohol because this helps them feel more relaxed and sociable in parties, for example. These new constructions only reinforce the concept of invulnerability in youth. . ^(3, 10-11)

The need for STI prevention among young people, especially university students, is the object of studies that attempt to gain greater insight on the phenomenon that pervades the fields of knowledge / behavior. According to the literature, the population of university students, despite their high educational level, is still exposed to situations of vulnerability. Risk perception is necessary to trigger a behavioral change and the use of preventive measures. However, risk perception, as well as knowledge, is influenced by social, environmental and cultural factors. Therefore, new studies are needed on this subject to stimulate the discussion of strategies for coping with this reality. ^(2, 4-6, 9-10, 12)

Based on the aforementioned, following problem was selected for investigation: Does the knowledge of university students about Sexually Transmitted Infections have any influence on their perceptions of risk? Thus, the objective of this study was to analyze knowledge about Sexually Transmitted Infections (STIs) and its influence on the perception of risk among university students.

● METHOD

Cross-sectional study with a quantitative approach. The study site was a university campus of a private institution in Rio de Janeiro that offers more than twenty-five undergraduate courses, and had more than fifteen thousand undergraduate students enrolled until the first half of 2016.

The population was composed of university students who were regularly enrolled in undergraduate courses. According to the Youth Statute, a population aged 15-29 years is considered young. However, this study did not include individuals under the age of 18 due to legal issues that require the consent of those responsible for participation in research involving human beings. .⁽¹³⁾

The inclusion criteria of the study were individuals aged 18-29 years, regularly enrolled in courses offered by the referred educational institution. The exclusion criterion was no return of the questionnaire or return of incomplete questionnaires.

Uniform sampling stratified by gender was used for the selection of the participants, since there was no information available about the institution regarding the total number of students by age and gender, and thus proportional stratified sampling could not be used. Thus, we used a conservative size for infinite populations to calculate the sample, with a 95% confidence interval and a sampling error of 5% percentage points (pp), and obtained a sample of 384 male and 384 female university students.

The data collection instrument (ICD) used was a questionnaire with 60 questions, elaborated and adapted for the population group investigated, based on the study "Research of Behaviors, Attitudes and Practices of the Brazilian Population".⁽¹⁴⁾ It was a population survey involving 8,000 individuals aged 15-64 years, whose main purpose was the creation of indicators for monitoring the STI/AIDS epidemic.

The dependent variables used were related to the evaluation of knowledge about STIs. The indicator of knowledge was based on four blocks of yes or no questions about infections caused by HIV, syphilis, hepatitis, gonorrhea, herpes, HPV and chlamydia. The blocks were transmission through non-sexual contact, blood transmission and sharing of piercing objects, sexual transmission and possibility of cure. Thus, a 0-4 score (zero for no knowledge and 4 for full knowledge) was established.

Knowledge was assessed by the cut-off point of the median. So, knowledge was considered adequate when the participant obtained at least half of the maximum score, that is, greater than or equal to two, and those who obtained a score lower than two had a below average knowledge. The higher the score obtained, the greater the knowledge. The independent variables used in this study are related to the self-assessments regarding the possibility of acquiring STIs and sexual behaviors.

Data was collected in June and July of 2016 at the facilities of the selected university, through the administration of a questionnaire to the students in the morning, afternoon and evening shifts. The participants were contacted in common or living areas (leisure areas, food court, sports court and corridors) and in classrooms after the classes and with prior authorization from the professors of the disciplines.

The questionnaires were completed in an average time of 10 minutes. The students who agreed to participate were supposed to complete and deliver the questionnaire during the interview.

Data from the questionnaires was entered into an Excel 2003 spreadsheet. Subsequently, statistical analyzes were performed with SPSS software, and data was presented in absolute and relative frequencies. To verify the association between the variables, Pearson's chi-square test was used for dichotomous variables, with a significance level of 95%, and analysis of variance (ANOVA) was used for comparison of the knowledge average with the other independent variables.

The study was approved by the Research Ethics Committee of the University in 2016, under statement no 1,577,311.

● RESULTS

A total of 768 students participated in the study, as follows: 384 were men and 384 women. Most respondents were enrolled in the engineering course, 170 (22.1%); followed by nursing, 153 (19.9%); and law, 75 (9.8%); respectively. The other participants, 370 (48.2%), attended other undergraduate courses offered by the institution. Regarding the field of knowledge, 253 (32.9%), university students attending courses in the health area and 515 (67.1%) students attending courses in other fields were available to participate in the study.

Regarding sociodemographic characteristics, most participants were aged 18-21 years old: 532 (69.26%); the mean age was 20.9 years and the standard deviation was 2.59. Regarding marital status, more than half of the participants were single: 451 (58.72%); without children: 740 (96.35%); and declared themselves white when asked about their skin color: 432 (56.25%). Regarding the perception of risk of being infected by an STI, the young students said it was impossible or somewhat possible that they were infected by STIs, as shown in Figure 1.

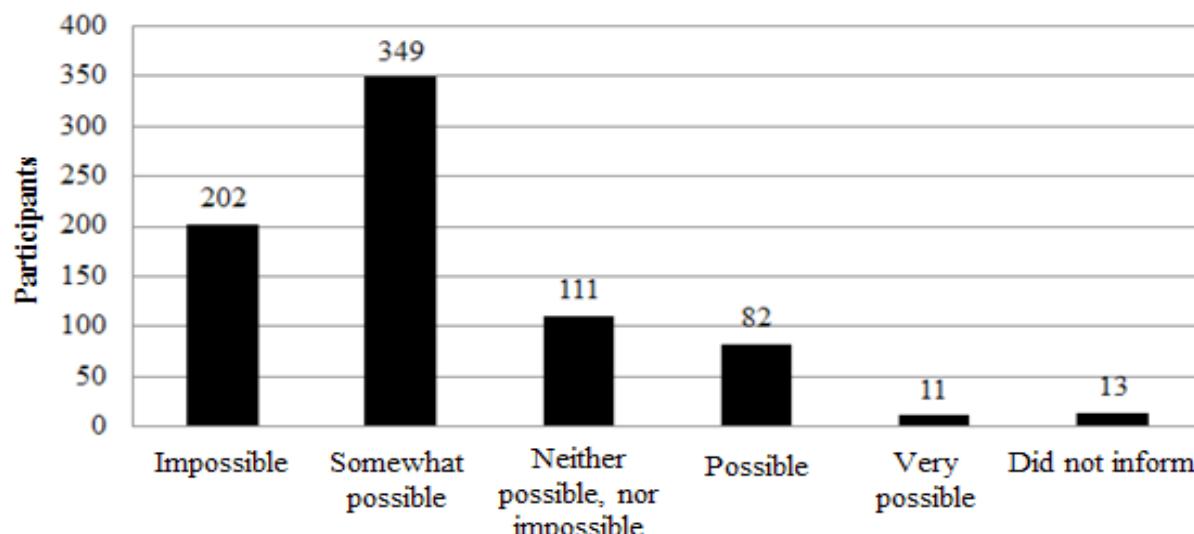


Figure 1 - Self-assessment of university students about their possibility of acquiring a Sexually Transmitted Infection. Rio de Janeiro, RJ, Brazil, 2016. Source: The author, 2016.

Regarding the level of knowledge of university students about STIs, most had below average knowledge, and none of the participants obtained a maximum score of knowledge about IST, as shown in Table 1.

Table 1 - Level of knowledge of university students about modes of transmission of ISTs. Rio de Janeiro, RJ, Brazil, 2016

Level of knowledge	f	%
0	7	0.91
0.5	13	1.69
1	144	18.76
1.5	291	37.89
2	218	28.39
2.5	65	8.46
3	23	2.99
3.5	7	0.91
4	0	0
Total	768	100

Legend: IST – Sexually Transmissible Infections. Source: the author, 2016.

Table 2 demonstrates that the difference in self-assessment regarding the possibility of acquiring an STI, regarding the level of knowledge of the participants about the modes of transmission of STIs, is not significant. That is, the degree of knowledge is equal in the groups who assessed themselves at risk or not at risk of infection by an STI.

Table 2 – Level of knowledge of university students about the modes of transmission of STIs and self-assessment regarding the possibility of being infected. Rio de Janeiro, RJ, Brazil, 2016

Variables	f [†]	Average Level of Knowledge	p [‡]
1. Possibility of being infected by an STI			
Impossible	199	1.618	
Somewhat possible	347	1.718	
Neither possible nor impossible	111	1.689	0.197
Possible	81	1.716	
Very possible	11	1.455	
2. To have full knowledge about the modes of transmission of STIs			
No	579	1.676	
Yes	169	1.692	0.732

Legend: STI – Sexually Transmitted Infections. † - The results do not add up to 768, as some participants did not answer all the questions. ‡ Pearson's chi-square test. Source: the author, 2016.

As shown in Table 2, there is no statistically significant difference between the individuals who affirm or do not affirm having full knowledge about STIs regarding information about the modes of transmission, that is, the two groups have the same level of knowledge about this topic. Thus, the university students who reported having full knowledge about STIs actually have a mistaken perception of it, as they have the same level of knowledge of individuals who reported not having full knowledge of STIs. It should be noted that their knowledge is below-the average.

Table 3 shows the association between the sexual behaviors of the 654 (85.2%) sexually active university students and their self-assessment where they informed having full knowledge about STIs. The results show that the only statistically significant variable was negotiating condom use with the partner. That is, the students who reported having full knowledge about STIs are those who tend to negotiate condom use with their partners.

Table 3 - Sexual behaviors of sexually active college students and self-assessment in order to have all the knowledge about STIs. Rio de Janeiro, RJ, Brazil, 2016 (n = 654). (continues)

Sexual behaviors	To have full knowledge about the modes of transmission of STIs				p [‡]
	No [†]	Yes [†]			
1. Condom use in the first sexual relation					
No	134	27.24	37	24.34	
Yes	358	72.76	115	75.66	0.480
2. Use of condoms in all sexual relations					
No	316	64.23	89	58.94	
Yes	176	3577	62	41.06	0.239
3. Condom Use with a Stable /Fixed Partner in the Last 12 Months					
No	212	55.94	62	52.99	
Yes	167	44.06	55	47.01	0.575

4. Condom use with casual partners in the last 12 months						
No	81	35.06	25	35.71		
Yes	150	64.94	45	64.29	0.921	
5. More than 5 casual partners in the last 12 months						
No	156	67.53	51	68.92		
Yes	75	32.47	23	31.08	0.824	
6. Sex with same sex partner.						
No	414	84.32	117	79.05		
Yes	77	15.68	31	20.95	0.134	
7. Use of condoms in paid sex						
No	0	0	1	8.33		
Yes	11	100	15	91.67	0.255	
8. Negotiated condom use with partner						
No	221	45.85	54	36.73		
Yes	107	22.2	55	37.41	0.001	
Partly	154	31.95	38	25.85		
9. Use of alcohol and / or other drugs during last sexual intercourse						
No	345	70.26	102	67.11		
Yes	146	29.74	50	32.89	0.460	

Legend: STI – Sexually Transmissible Infections. † - The results do not add up to 654, as some participants did not answer all the questions. ‡ Pearson's chi-square test. Source: The author, 2016.

● DISCUSSION

Another study with a similar population corroborated the findings of the present study, by concluding that young university students lack knowledge about STIs, do not adopt safe sexual behaviors and have low perception of the risk of their sexual practices. .^(5-6, 10, 12, 15)

University students have low perceived risk of being infected with STIs, as found in this study and corroborated by other studies. Brazilian researchers evaluated the self-perception of university students about the possibility of being infected. For this, they used a scale between one and five, where one indicated a very large possibility of infection and five indicated no possibility. The average found in this investigation was 4.01. That is, the students perceived themselves as low risk for STIs. However, when asked about the risk for other people of the same age group, the mean was 1.95. That is, university students perceive the "others" as being more susceptible to STIs, but perceive the risk as low in their self-assessments..⁽⁶⁾

Low perception of risk was also found in a study carried out with Colombian students, which found that only 29.3% considered themselves at risk for infection by some STI. .⁽⁹⁾ In Fortaleza (Brazil), 60.9% of the students in the health area were classified as low risk of HIV infection and 25.5% believed that they had no risk. .⁽⁵⁾ In Ethiopia, a study with high school students found that the perception of risk for acquiring HIV infection and the use of testing and counseling services were low, even though some students had at risk sexual behaviors such as: multiplicity of partners, sex under the influence of alcohol or other drugs, and inadequate condom use. .⁽⁴⁾ A study with 641 Thai university students found that 118 participants had moderate or high risk of HIV infection. However, 111 (94%) of the 118 participants with moderate or high risk were considered as having low or no risk.⁽¹⁶⁾

Despite the similar results related to low perception of risk among university students, other studies corroborate our results regarding scarce knowledge about STIs. In a study conducted in Rio de Janeiro, 58.5% of the university students enrolled in health care courses were unaware of all the modes of transmission of STIs, although 48.5% said they had full knowledge about STIs...⁽¹⁷⁾ A study with university students from a university in São Paulo found that 81% had doubts about the symptomatology of STIs..⁽¹⁷⁾ A study with university students from a São Paulo institution found that 81% had doubts about the symptomatology of STIs...⁽¹⁷⁾ A study with female students of a nursing undergraduate course in Ribeirão Preto, Brazil, found that, although 69% of them were aware of the modes of transmission of HPV, only 20.7% reported knowing some signs and symptoms⁽¹⁸⁾. The same phenomenon was observed in another study that reported limited knowledge about HPV in a group of university students from São Paulo, who were more informed about transmission than prevention. .⁽¹⁹⁾ A study with Ghanaian university students found an insufficient level of knowledge about HIV/AIDS. Although students could identify modes of transmission and the preventive measure, they had little knowledge about the causative agent of AIDS.⁽²⁰⁾ Although students could identify modes of transmission and the preventive measure, they had little knowledge about the causative agent of AIDS.⁽²⁰⁾

In contrast with the low levels of knowledge found in this study and other aforementioned studies, a study with 1,250 undergraduate students from a private university in Nigeria found very high knowledge about HIV and the places where testing can be done, as well as a high willingness to perform the HIV test. However, testing was not frequent. University students aged 21 years and older who had a good level of knowledge about HIV were more likely to be tested for HIV.⁽²¹⁾ A study with Thai participants also found a high level of knowledge about the risks of HIV transmission. Nevertheless, the rates of consistent condom use in oral, vaginal and anal sex were low, being the main factor associated with false perception of low risk. The main factors associated with such perception, described by the authors, were male gender ($p <0.001$); live with a fixed partner ($p = 0.004$); homosexuals / bisexuals ($p = 0.02$); and students enrolled in courses in fields other than health care ($p = 0.04$).⁽¹⁶⁾

According to a study that aimed to analyze the knowledge, attitudes and practices of prevention of HIV/AIDS among university students of a Colombian institution, older students in the final years of a course had higher scores in good prevention attitudes and practices.⁽²²⁾ Another study with Colombian university students found that the students enrolled in courses in the health care area were those with the most consistent condom use, possibly because of the knowledge acquired in academic training about the transmission and prevention of STIs...⁽²³⁾

A study conducted in São Paulo, Brazil, that compared the knowledge of high school young students about HIV/AIDS, found that their level of knowledge decreased and their levels of uncertainty about the infection increased over a 10-year period. Also, the number of educational activities and the students' perception of knowledge has decreased over the years. That is, young people enter university life with little knowledge about STIs. .⁽²⁴⁾

The population group investigated in the present study has poor knowledge about STIs, low risk perception, does not use condoms regularly, has multiple sexual partners, and uses alcohol and/or other drugs. In short, the results and findings and investigations presented here suggest efforts to ensure health education, access to condom use, testing for HIV and other STIs and post-exposure prophylaxis (PEP) for this population group. .^(3-6, 9-10, 16, 20-23)

● CONCLUSION

The present study found that university students have insufficient knowledge about the transmission of STIs and a low perception of risk. Since the knowledge of the students is lower than expected, it is hard to know for sure whether such lack of information has impact on the sexual behavior of these young individuals, which may be one limitation of the study. Thus, replication studies are suggested to evaluate previous knowledge and knowledge acquired through formal education (implemented through educational measures for the population investigated).

The fact that the study involves only students from one university may be another limitation. Thus, the data obtained cannot be generalized to the university population as a whole, although the results corroborate those from other national and international studies.

It is known that the first sexual experiences usually occur in adolescence, that is, before young people enter the universities. However, our data demonstrated that young students had a low level of knowledge and low risk perception about STIs. Thus, the present study stresses that the theme of sexuality and sexual and reproductive rights should be addressed at the various educational stages from basic to higher education.

At first, it was believed that young university students had adequate knowledge about STIs, since this subject should have been addressed in high school. However, the participants had a below average knowledge about STIs and the university environment was found to be highly vulnerable, since it provides autonomy and freedom for young people to socialize with future sexual partners, as well as to participate in many parties where they use alcohol or other drugs.

Universities should implement healthcare actions targeted to the young population, particularly care related to issues that are very important for this age group, such as STIs. Therefore, the present study reinforces the need for the implementation of educational activities targeted to the young population, inclusion of disciplines related to sexuality and prevention of STIs in the curriculum; and that the university, in its teaching, research and extension activities, contributes to improving the knowledge of the students and that health services deliver care for a specific and vulnerable population, i.e. young college students.

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