

Sexual practices and risk behaviors for sexually transmitted infections among university students

Práticas sexuais e comportamentos de risco para infecções sexualmente transmissíveis entre jovens universitários

Prácticas sexuales y conductas de riesgo de infecciones de transmisión sexual en estudiantes universitarios

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ABSTRACT

Objective: to analyze sexual practices and risk behaviors for sexually transmitted infections among university students. **Method:** in this quantitative, cross-sectional study, 1536 university students, aged between 18 and 29 years, from one public and one private higher education institutions, answered a questionnaire between 2016 and 2018. The data were analyzed using descriptive and inferential statistics. Ethical aspects of research with human beings were respected. **Results:** university students in general are exposed to risk behaviors for sexually transmitted infections resulting from inconsistent condom use. When comparing the institutions, differences were found in social aspects and condom use. **Conclusion:** young university students are exposed to sexual risk behaviors for sexually transmitted infections. Understanding the cultural and social aspects of each university environment can be a prevention strategy.

Descriptors: Young Adult; Students; Education, Higher; Sexual Behavior; Condoms.

RESUMO

Objetivo: analisar as práticas sexuais e os comportamentos de risco para infecções sexualmente transmissíveis (IST) entre estudantes universitários. **Método:** estudo transversal de abordagem quantitativa. Participaram 1536 universitários, com idades entre 18 e 29 anos, de duas instituições de ensino superior, pública e privada, que responderam a um questionário entre 2016 e 2018. Os dados foram analisados com auxílio da estatística descritiva e inferencial. Os aspectos éticos envolvendo pesquisa com seres humanos foram respeitados. **Resultados:** os estudantes universitários, em geral, se expõem a comportamentos sexuais de risco para IST pela utilização inconsistente do preservativo. Quando realizada a comparação entre instituições, observa-se que existem diferenças no que tange a aspectos sociais e utilização do preservativo. **Conclusão:** os jovens universitários se expõem a comportamentos sexuais de risco para IST. Compreender os aspectos culturais e sociais de cada ambiente universitário pode ser uma estratégia de prevenção.

Descritores: Adulto Jovem; Estudantes; Educação Superior; Comportamento Sexual; Preservativos.

RESUMEN

Objetivo: analizar las prácticas sexuales y las conductas de riesgo de infecciones de transmisión sexual (ITS) en estudiantes universitarios. **Método:** estudio transversal con enfoque cuantitativo. Participaron del estudio 1536 estudiantes universitarios, con edades comprendidas entre 18 y 29 años, de dos instituciones de educación superior, pública y privada, que respondieron un cuestionario entre 2016 y 2018. Los datos se analizaron mediante estadística descriptiva e inferencial. Se respetaron los aspectos éticos relacionados con la investigación con seres humanos. **Resultados:** los estudiantes universitarios en general están expuestos a conductas sexuales de riesgo de contraer ITS a través del uso inconsistente del condón. Al comparar instituciones, se observa que existen diferencias en cuanto a aspectos sociales y uso del condón. **Conclusión:** los jóvenes universitarios están expuestos a conductas sexuales de riesgo de ITS. Comprender los aspectos culturales y sociales de cada entorno universitario puede ser una estrategia de prevención.

Descritores: Adulto Joven; Estudiantes; Educación Superior; Conducta Sexual; Condones.

INTRODUCTION

The object of this research is the university students' sexual practices and risk behaviors in the face of Sexually Transmitted Infections (STIs). STIs are a severe public health problem and their prevention is one of the Sustainable Development Goals proposed by the United Nations to ensure universal access to health and sexual/reproductive rights. It is estimated that 360 million cases of STIs are recorded every year in the world, with 10 to 12 million in Brazil alone. Nearly 25% of the cases occur in the young population aged up to 25 years old. The main form of prevention is the adoption of safe sexual practices, with correct and consistent use of condoms, and sex education¹.

A number of studies conducted in Brazil indicate that young university students have low knowledge about STIs and a low risk perception regarding the possibility of infection. Male condom use is inconsistent and the female condom

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is practically nonexistent. The data differ little from other international studies conducted in Ethiopia, Nigeria, India, Colombia, the United States of America and Spain. Young people are exposed to risk relationships and are unaware of their real vulnerability. Universities, in turn, do little to protect and raise awareness in this population²⁻¹⁰. It is therefore perceived that, in a global context, university students risk themselves by adopting unsafe sexual practices. In this sense, as educational institutions, universities should expand their expertise in the generation of knowledge, teaching, research and extension for a social and community bond that subsidizes the promotion of health, well-being and quality of life for their students¹¹.

Promoting health in universities is not a new proposal in the world, especially in Ibero-American countries, although it is little debated in Brazil. Since the healthy environments strategy, promoted by the World Health Organization in the 1980s, universities have emerged as a setting capable of positively or negatively influencing the academic community's health and living conditions. Promoting a healthy environment is considering health as a product of the relationship between subjects and their social environment. In this way, modifying behaviors that support a healthy culture does not depend exclusively on people, but on the physical, political, cultural, organizational and curricular structure, as well as on decisions taken by the Boards of Directors of universities that aim at building physical, psychological and social environments that influence improvements in quality of life and positive health behaviors in the university community¹².

Given the aforementioned, this study selected the following as its research problem: Which are the sexual practices and risk behaviors for STIs among university students? The objective is to analyze sexual practices and risk behaviors for Sexually Transmitted Infections among university students from two higher education institutions.

METHOD

A cross-sectional study with a quantitative approach, conducted based on the recommendations set forth in the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement, carried out with students from two higher education institutions located in the municipality of Rio de Janeiro, namely: a public university and a private university. The study integrates the actions of the extension project entitled "When it comes to prevention: Talking with young people about sexually transmitted infections" which, since 2013, has developed actions in the university environment to promote dialog and reflection on risk sexual behaviors and on coping with STIs among young individuals.

The study participants were university students aged between 18 and 29 years old. To delimit the age group, the Brazilian Youth statute, which considers the population aged between 15 and 29 years old as young, was adopted as a reference. However, students under the age of 18 were not included for legal reasons, as the guardians' consent is required. The inclusion criteria for the study were as follows: being regularly enrolled in the higher education institution, being present at the time of data collection and belonging to the age group delimited.

Students absent from the educational institution due to medical reasons or enrollment cancellation were not part of the sample set. As the educational institutions did not provide the number of students by gender and age, a uniformly stratified sample by gender was used. To define the sample size, a conservative sample size calculation for infinite populations was used, with a 95% confidence interval and 5% sampling error. In this sense, 768 questionnaires were applied in each educational institution, 384 in men and 384 in women, totaling 1,536 participants.

The data collection instrument used was a structured questionnaire with 60 questions adapted for the researched population group, that is to say, young university students. Elaboration of this instrument was based on the nationwide study entitled "Research on Behaviors, Attitudes and Practices of the Brazilian Population". This study was a population-based survey commissioned by the Brazilian Ministry of Health, being a reference in the elaboration of indicators for monitoring the STI/AIDS epidemic in the country¹³. For this research, variables related to social characteristics, sexual practices and STI prevention practices were selected, totaling 27.

Data collection took place in 2016 at the private educational institution, and in 2017/2018 at the public institution. The approaches were carried out in common areas, eating, leisure, sports and circulation areas and in classrooms, after classes and with the authorization of the professor responsible for the academic discipline. The mean time to answer the questionnaire was 10 minutes. The students who agreed to contribute to the study should answer and deliver the questionnaire at the same time as the researcher's approach, not being allowed to do so later.

The data collected in each institution were transcribed into a spreadsheet, using resources from *Excel 2016*, thus generating a database. In this research, the two databases were used and grouped to apply the Statistical Package Software for the Social Sciences (SPSS), aiming at performing inferential analysis, by applying the Pearson chi-square test with a 95% significance level.

This study was conducted based on the ethical precepts set forth in Resolution 466/2012 of the National Health Council, belonging to the Brazilian Ministry of Health. The project was approved by the respective Research Ethics Committees of the private and public teaching institutions. All the participants agreed to take part in the study and signed the Free and Informed Consent Form.

RESULTS

A total of 1,536 young university students participated in the research, 768 from the public educational institution and 768 from its private counterpart. In this study, only sexually active university students were included, totaling 1,268 (82.55%) participants, of which 614 (79.95%) were from the public institution and 654 (85.16%) from the private institution. Table 1 presents the participants' characterization.

TABLE 1: Social profile of university students from two educational institutions in the municipality of Rio de Janeiro (n = 1268). Rio de Janeiro, RJ, Brazil, 2018.

Variables	Total		Public institution		Private institution		p-value*
	n	%	n	%	n	%	
Gender							0.57
Female	607	47.87	289	47.07	318	48.62	
Male	661	52.13	325	52.93	336	51.38	
Age group							<0.0001
18-24 years old (young-young)	1,048	82.65	477	77.69	571	87.31	
25-29 years old (young-adults)	220	17.35	137	22.31	83	12.69	
Skin color							<0.0001
White	655	51.78	285	46.49	370	56.75	
Brown	325	25.69	155	25.29	170	26.07	
Black	216	17.08	142	23.16	74	11.35	
Asian	28	2.21	9	1.47	19	2.91	
Marital status							0.01
Does not have a steady partner	656	51.78	297	48.37	359	54.98	
Has a steady partner	611	48.22	317	51.63	294	45.02	
Has children							0.10
No	1,228	97.08	600	97.88	628	96.32	
Yes	37	2.92	13	2.12	24	3.68	
Religion							0.01
Catholic	340	43.81	159	44.92	181	42.89	
Evangelical	185	23.84	89	25.14	96	22.75	
Spiritist	149	19.20	52	14.69	97	22.99	
Other	49	6.32	30	8.47	19	4.5	
No religion	53	6.83	24	6.78	29	6.87	
Sexual orientation							0.39
Heterosexual	1,071	84.87	518	84.5	553	85.21	
Bisexual	99	7.84	54	8.81	45	6.93	
Homosexual	82	6.50	38	6.2	44	6.78	
Other	10	0.79	3	0.49	7	1.08	
Knowledge area of the course							<0.0001
Humanities and Technology	903	71.21	482	78.5	421	64.37	
Health Area	365	28.79	132	21.5	233	35.63	
Access to health services							<0.0001
No	616	49.36	246	40.66	370	57.54	
Yes	312	25.00	196	32.4	116	18.04	
Partially	320	25.64	163	26.94	157	24.42	
Total	1,268**		614**	100	654**	100	

Key: *Pearson's test applied in the comparison between the public and private institutions. **Some variables do not add up to the total number of participants because they have not been answered.

The results show that the participants from both educational institutions present statistical differences ($p < 0.05$) in their social characteristics, such as age group, skin color, marital status, religion, access to health services and knowledge area of the course in which they were enrolled. The sexually active university students, from both

institutions, are mostly young individuals aged from 18 to 24 years old, white-skinned, with no children, Catholics, heterosexuals, attending courses in the Humanities and Technology areas, and reported difficulties accessing the health services. With regard to marital status, the majority did not have steady partners, although there are differences between the institutions. Despite not presenting a significant difference, most of the participants were male (52.13%), showing that men are more sexually active than women in both institutions.

Table 2 presents data related to condom use.

TABLE 2: Condom use and history of sexually transmitted infections among university students from two higher education institutions in the municipality of Rio de Janeiro (n = 1268). Rio de Janeiro, RJ, Brazil, 2018.

Variables	Total		Public institution		Private institution		p-value*
	n	%	n	%	n	%	
Condom use in the first sexual relationship							0.86
Yes	930	73.46	449	73.25	481	73.66	
No	336	26.54	164	26.75	172	26.34	
Condom use with a steady partner							0.002
Yes	472	49.27	248	54.39	224	44.62	
No	486	50.73	208	45.61	278	55.38	
Condom use with casual partners							0.002
Yes	395	70.28	196	76.56	199	65.04	
No	167	29.72	60	23.44	107	34.96	
Condom use in all sexual relationships							0.05
Yes	504	39.81	261	42.5	243	37.27	
No	762	60.19	353	57.5	409	62.73	
Negotiation of condom use with sex partners							0.06
Yes	347	28.01	181	30.07	166	26.06	
No	549	44.31	272	45.18	277	43.48	
Partially	343	27.68	149	24.75	194	30.46	
Female condom use							0.44
Yes	29	4.57	16	5.23	13	3.96	
No	605	95.43	290	94.77	315	96.04	
Diagnosis of Sexually Transmitted Infection							0.007
Yes	87	6.92	52	8.54	35	5.4	
No	1,130	89.90	545	89.49	585	90.28	
Does not remember	40	3.18	12	1.97	28	4.32	
Total	1,268**		614**	100	654**	100	

Key: *Pearson's test applied in the comparison between the public and private institutions. **Some variables do not add up to the total number of participants because they have not been answered.

It is observed that young university students used condoms in their first sexual relationship, although their use tends to decrease throughout life. It is even observed that a percentage of the population of young university students has already received an STI diagnosis. In the comparison between the institutions, it is observed that the students from the private educational institution make lesser use of condoms in their relationships with steady and casual partners and in all sex encounters. Considering that in the private institution there was greater participation of students from the health area, a more adherent behavior was expected in facing STIs with the use of condoms; however, this was not observed. There was also a greater number of STI records among the university students from the public institution, despite the more frequent use of condoms.

In Table 3, it is possible to see that, despite the majority not having multiple sex partners, in the last 12 months, there is a considerable number of young individuals who exposed themselves to such practices. When comparing the institutions, the data show that there is a statistical difference regarding the frequency of alcohol consumption, in relationships with partners met via the Internet and in paid sex.

Although the university students have used condoms in their first sexual intercourse, they did not employ this resource in all sexual relationships. In relationships with steady partners, more than half reported not using condoms, although their use with casual partners is more frequent. Negotiating condom use with sex partners is not a recurrent practice among the students who are vulnerable to harms to sexual health, such as occurrence of infections transmitted due to unprotected sex.

Table 3: Sexual practices among university students from two higher education institutions in the municipality of Rio de Janeiro (n = 1,268). Rio de Janeiro, RJ, Brazil, 2018.

Variables	Total		Publicinstitution		Privateinstitution		p-value*
	n	%	n	%	n	%	
Consumption of alcoholic beverages							0.39
Yes	903	71.27	430	70.15	473	72.32	
No	364	28.73	183	29.85	181	27.68	
Consumption frequency of alcoholic beverages							0.0003
Sporadically	485	53.89	253	59.11	232	49.15	
Weekends and holidays	375	41.67	166	38.79	209	44.28	
Daily	40	4.44	9	2.1	31	6.57	
Alcohol and/or other drug use before the last sexual relationship							0.3
Yes	367	29.10	169	27.75	198	30.37	
No	894	70.90	440	72.25	454	69.63	
More than one sex partner throughout life							0.8
Yes	930	73.52	448	73.2	482	73.82	
No	335	26.48	164	26.8	171	26.18	
Having more than one sex partner in the same period							0.9
Yes	368	29.28	177	29.11	191	29.43	
No	889	70.72	431	70.89	458	70.57	
Sexual relationship with a person of the same sex							0.65
Yes	206	16.36	97	15.88	109	16.82	
No	1,053	83.64	514	84.12	539	83.18	
Sexual relationships with men and women in the same period							0.51
Yes	39	3.13	17	2.8	22	3.44	
No	1,208	96.87	590	97.2	618	96.56	
Sex in the last 12 months							0.72
Yes	1,158	91.61	558	91.33	600	91.88	
No	106	8.39	53	8.67	53	8.12	
More than 5 sex partners in the last 12 months							0.31
Yes	173	30.14	74	28.03	99	31.94	
No	401	69.86	190	71.97	211	68.06	
Paid sex							0.02
Yes	40	3.26	12	2.05	28	4.36	
No	1,188	96.74	574	97.95	614	95.64	
Sex with someone met via the Internet							0.03
Yes	394	31.60	174	28.76	220	34.27	
No	853	68.40	431	71.24	422	65.73	
Total	1,268**		614**	100	654**	100	

Key: *Pearson's test applied in the comparison between the public and private institutions. **Some variables do not add up to the total number of participants because they have not been answered.

DISCUSSION

Despite the specificities of university environments, the research participants reported sexual behaviors that expose them to the risk of the occurrence of STIs and/or unwanted pregnancies. The data in this research are similar to those found in other studies carried out with university students in Brazil. A survey involving 1,547 university students from a public institution, identified that 83.5% claimed to have already initiated their sex life, 45% did not use a condom in the last sexual relationship, 9% presented prevalence of risk sexual behavior and 9% had an STI history¹⁴. A study conducted with 1,350 university students verified that 79.2% were sexually active. In the practice of oral sex, 88.6% of the freshmen and 94.9% of the graduating students did not use condoms and, in vaginal intercourse, 42% of the freshmen and 56.7% of the graduating students did not use condoms, showing that, throughout the university path,

young people assume risk sexual behavior⁴. In the course of their sex life, young people have conducted several sexual experiments and have a low perception of the risk for STIs. Unwanted pregnancy is the main reason for their concern and, therefore, they use contraceptive methods, which may (or may not) be condoms. In most of the situations, when they use hormonal contraceptives, they stop resorting to condoms because they do not think about STIs¹⁵.

The university setting is also a research object in other countries. A meta-analysis carried out with university students from Ethiopia involved 18 studies with 10,218 participants and identified that the estimated prevalence of risk sexual behavior was 41.62%. Being male, drinking alcoholic beverages and watching pornography were positively associated with risk sexual behaviors¹⁶.

However, university students from the health area also present risk sexual behaviors. A Brazilian study conducted with 819 sexually active participants identified that 52% had risk sexual behaviors and insufficient knowledge about STIs. Consumption of alcoholic beverages and illicit drugs was reported by 50.2% and 7% of the interviewees, respectively. Condom use in all sexual relationships among women was 19.29%, and 3.9% among men. The female condom is still little used, being mentioned by only 3.05% of the participants⁵.

Low use of the female condom is not only a reality among Brazilian university students. A study conducted with 600 Nigerian university students found that, although 81.7% of the women interviewed had an active sex life, only 45.7% saw the female condom as protection and only 2.83% used it. The main reasons for not using this resource were unavailability, difficulty in insertion and discomfort. Among the students who reported the desire to use the female condom, the main predictor is being in a serious relationship. These findings evidence the women's difficulty to negotiate the use of condoms and their submission to the man's decision whether or not to use a male condom⁷.

With the advent of technology, new forms of sex encounters are present, as is the case with dating apps in *smartphones*. A cross-sectional study conducted with 666 university students in Hong Kong showed that users of dating apps were more likely to have unprotected sex with casual partners. Digital contact and the relationship of trust established in the online conversations favored the sensation of safety so that they would give up condom use¹⁷.

Regarding risk perception, a study conducted with 768 university students identified that knowledge about STIs and their forms of prevention is low but, even so, the students believe that it is impossible or hardly possible to contract an STI¹⁸. A survey with 1,819 university students from a public institution in São Paulo, Brazil, showed that 99% of the students had already used condoms; however, only 30.5% were using them continuously. When asked about STIs, nearly 47% knew someone who had an STI and 8.6% reported that they had knowledge about prevention but, even so, condom use was low¹⁹. A research study carried out in Spain evidences that university students have two ways of thinking about risk sexual practices. One of them is clearly linked to the experts' discourse, which refers to the use of condoms as a key factor. In this perspective, individuals distance themselves from risk because they do not even notice its existence. The second is practical application, whose sexual practices are linked to the unknown, as well as to the lack of control caused by the use of substances or by the spontaneity of sex encounters⁸.

Socioeconomic, environmental and cultural differences interfere in the fight against STIs in the university environment. Although the risk sexual practices of students from both institutions are similar and corroborate several national and international studies, the social characteristics diverge in the studied group. It is known that the expertise of intervention projects to promote safer sexual practices and access to STI prevention methods is strengthened when the vulnerabilities of the target population for the intervention are identified²⁰. It is to be noted that this study was not intended to study sexual relations, but several others find that there are significant differences in the perception of risk and of behaviors and in the adoption of preventive methods among men and women²¹.

Several prevention technologies have been designed and incorporated in Brazil and in the world for the prevention of STIs. However, no strategy is as effective as using condoms. The combination of methods is of paramount importance, but efforts to (re)introduce condom use into everyday life should not be underestimated. For such purpose, it is important to foster practices to demystify, guide and educate about the importance of using condoms and minimize actions or influences that interfere with their use, such as: unequal sexual relationships, access to male and female condoms and free lubricating gel, excessive consumption alcohol and other drugs, lack of sex education activities and abusive relationships²².

In this sense, the university setting can be an environment with vast possibilities for sexual health education strategies and for the promotion of healthy habits and behaviors. Educational and health institutions can and should work in partnership so that the university environment may become a place of connection with the young population, in order to ensure access to the health services, especially those related to promotion and prevention. Brazilian

universities must begin to take ownership of the strategy of the universities promoting health to foster a local culture of knowledge, practices and attitudes aimed at self-care and risk prevention. The adequacy of the academic community for the adoption of healthy habits can positively influence the defense of a stronger health system, as these students can develop, in the future, a relevant role in the elaboration and advocacy of health policies that go beyond the university walls¹¹.

Study Limitations

In this study, we only addressed the young population, in their young-young (18-24 years old) and young-adult (25-29 years old) classifications, as this is a population group that shows an increase in the number of STI cases in Brazil. However, social variations observed in different university settings, such as age group, marital status, skin color, religion, knowledge area of the studies and access to the health services, can characterize a study bias, as they imply social, cultural, psychocognitive and behavioral changes that can exert an influence on the sexual practices.

CONCLUSION

Condom use is not constant in the lives of young university students. A considerable percentage is exposed to STIs in their first sexual relationship. This is perpetuated throughout life, when condom use tends to decrease, especially in sexual relationships with steady partners.

When comparing the university institutions, it was verified that condom use in the private university is less common, and that alcohol consumption is more frequent. The social aspects diverge between the institutions and this can be a study bias.

The data reinforce the need to advance in health education activities in spaces intended for the socialization of young individuals. Prevention activities must be proactive in occupying spaces frequented by vulnerable groups, promoting the establishment of bonds and provision of health care. Educational institutions play a fundamental role in the articulation and creation of this care space with their academic communities, providing physical spaces and fostering activities that promote the physical and mental well-being of their population, as an ethical, citizen and sustainable commitment.

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