

Prevalence of signs and symptoms and knowledge about sexually transmitted diseases

Prevalência de sinais e sintomas e conhecimento sobre doenças sexualmente transmissíveis

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Keywords

Signs and symptoms; Sexually transmitted diseases/epidemiology; Prevalence; Community health nursing; Vulnerable groups

Descritores

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Abstract

Objective: To estimate the prevalence of signs and symptoms of sexually transmitted diseases and to verify the knowledge of adolescents and young people of an urban settlement about these infections.

Methods: This was a cross-sectional study conducted among 105 settlers aged 12-24 years old. Data were collected through interviews and analyzed using the Statistical Package for the Social Sciences, version 17.0.

Results: Of the participants who responded regarding sexually transmitted diseases, 20.6% reported signs and/or symptoms, with a higher proportion in females, those who had a piercing and/or tattoo, and who consumed alcohol before or during sexual intercourse ($p < 0.05$). Also, many participants showed ignorance about the signs and symptoms of sexually transmitted diseases.

Conclusion: The presence of signs and/or symptoms of sexually transmitted diseases were associated with factors related to individual vulnerability of adolescents and young people of the settlement.

Resumo

Objetivo: Estimar a prevalência de sinais e sintomas de doenças sexualmente transmissíveis e verificar o conhecimento para essas infecções em adolescentes e jovens de um assentamento urbano.

Métodos: Estudo de corte transversal realizado em 105 assentados de 12 a 24 anos. Os dados foram coletados por meio de entrevista e analisados pelo *Statistical Package for the Social Sciences*, versão 17.0.

Resultados: Do total de participantes que responderam sobre Doenças Sexualmente Transmissíveis, 20,6% relataram algum sinal e/ou sintoma, com maior proporção em indivíduos do sexo feminino, que possuíam *piercing* e/ou tatuagem e consumiam álcool antes ou durante a relação sexual ($p < 0,05$). Também, muitos participantes apresentaram desconhecimento quanto os sinais e sintomas de Doenças Sexualmente Transmissíveis.

Conclusão: A presença de sinais e/ou sintomas de doenças sexualmente transmissíveis foi associado a fatores relacionados à vulnerabilidade individual dos adolescentes e jovens do assentamento.

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Introduction

Sexually transmitted diseases (STDs) are an important public health problem. It is estimated that each year, 340 million people acquire some treatable STDs, such as chlamydia, gonorrhea, syphilis, and trichomoniasis, amounting to 10 - 12 million in Brazil.⁽¹⁾

These infections can remain asymptomatic or manifest mainly as signs and symptoms such as urethral and/or vaginal discharge, genital ulcers, inguinal lymphadenopathy and abdominal pain,⁽²⁾ and are associated with infertility, disability, gestational complications, and death.⁽³⁾ Additionally, they potentiate the risk of acquisition and transmission of the human immunodeficiency virus (HIV).^(1,4)

Adolescents and young people are considered vulnerable groups to STDs. Many exhibit risky behaviors, such as early initiation of sexual activity,⁽⁵⁾ inconsistent condom use, multiple sexual partners,⁽⁶⁾ alcohol and other drugs, among others.⁽⁷⁾ Yet, the adolescent phase consists of anatomical, cognitive, emotional, social, economic and behavioral changes,⁽⁸⁾ which may contribute to increased risk behaviors for STDs.

These changes are intensified when these individuals are exposed to vulnerable situations, such as adolescents and young people living in urban settlements. Although these sites guarantee the right to housing and land, settlers still have poor living conditions and especially are devoid of the enjoyment of social rights, especially related to health care, which may contribute to the increase in social, institutional and individual determinants of vulnerability for STDs.

In this context, the objectives of this study were to estimate the prevalence of signs and symptoms of STDs and to verify the knowledge about these infections in adolescents and young adults of an urban settlement of a large city in central Brazil.

Methods

This was a transversal study, conducted between August of 2012 and July of 2013, in adolescents

and young adults living in an urban settlement of the midwest region of Brazil. Eligible subjects were those between the ages of 12-24 years, living in the settlement for at least 12 months, and who provided the signed Statement of Consent, or that of their guardian if they were younger than 18 years of age.

Data collection was performed in private locations on the sites of the local school institution and basic health unit of the settlement. All eligible candidates were invited to participate in the study and were informed about the nature, objectives, methodology, risks and benefits.

After consent of individuals older than 18 years of age, or of the guardians of settlers under 18 years, all were interviewed face-to-face, using a structured questionnaire for sociodemographic characteristics (gender, age, education, family income, marital status, religion, and time as a settler), report and knowledge about signs and symptoms of STDs, and risk factors for these infections (alcohol and other drug abuse, piercing and/or tattoo, condom use during sexual intercourse, history of condom breakage, sex under the influence of alcohol, and number of sexual partners). The outcome variable was defined as the presence of signs and symptoms of STDs (urethral or vaginal discharge and/or genital ulcer) in the last 12 months, as reported.

Data were analyzed using the Statistical Package for the Social Sciences, version 17.0. For continuous variables, means and standard deviations were calculated. Prevalence for signs and symptoms of STDs was calculated with a confidence interval of 95% (95% CI). The chi-square (χ^2) and Fisher exact tests were used to evaluate the significance of differences between proportions, and values of $p < 0.05$ were considered statistically significant.

The performance of the study met national and international standards of ethics in research involving human subjects.

Results

Participating in the study were 105 adolescents and youth of the settlement. A predominance of individuals between 12-18 years (73.3%), who had a fami-

ly income of up to three minimum wages (81.0%), with up to eight years of education (64.8%), and who were living in the settlement for more than two years (66.7%) was observed. Regarding gender, 58.1% of respondents were male and 41.9% were female. With regard to religion, more than half (56.2%) declared themselves to be Evangelical, and 21.0% were Catholics (Table 1).

Table 1. Social demographic characteristics of 105 adolescents and young adults in an urban settlement

| Variable | Mean+SD | n(%) |
|------------------------------|------------|----------|
| Gender | | |
| Male | | 61(58.1) |
| Female | | 44(41.9) |
| Age group (years) | 16.2;+3.32 | |
| 12-18 | | 77(73.3) |
| 19-24 | | 28(26.7) |
| Education (years of study) | 7.76+1.75 | |
| < 6 | | 28(26.7) |
| 7-8 | | 40(38.1) |
| > 8 | | 37(35.2) |
| Family income (minimum wage) | | |
| < 1 | | 43(41.0) |
| 2-3 | | 42(40.0) |
| > 3 | | 20(19.0) |
| Religion | | |
| Evangelical | | 59(56.2) |
| Catholic | | 22(21.0) |
| Other | | 4(3.8) |
| No religion | | 20(19.0) |
| Time as settler (years) | 2.73+0.94 | |
| < 2 | | 35(33.3) |
| > 2 | | 70(66.7) |

SD - standard deviation

Of all of the participants, 102 (97.1%) responded to some signs and symptoms of STDs. Of these, 19.6% (95% CI: 13.1-28.4) and 4.9% (95% CI: 2.1-11.0) reported urethral/vaginal discharge and genital ulcers, respectively. Considering the presence of at least one of these conditions, the overall prevalence of signs and symptoms of STDs in settlers was 20.6% (95% CI: 13.9-29.4). However, seven subjects reported signs and/or symptoms of STDs, but they had not initiated a sexual life.

Table 2 shows the factors associated with the presence of signs/symptoms of STDs in settlers. There was a greater proportion of signs and symptoms of STDs in females ($p < 0.01$), those who had

a piercing and/or tattoo ($p < 0.01$), and those who consumed alcohol before or during sex ($p = 0.02$).

Table 2. Factors associated with signs and symptoms of sexually transmitted diseases in 102 adolescents and young people from an urban settlement

| Variables | n | Signs and/or Symptoms of STD* | | p-value† |
|---|----|-------------------------------|----------|----------|
| | | Sim (%) | Não (%) | |
| Gender | | | | |
| Female | 42 | 14(33.3) | 28(66.7) | < 0.01 |
| Male | 60 | 7(11.7) | 53(88.3) | |
| Age (years) | | | | |
| 12-18 | 74 | 16(21.6) | 58(78.4) | 0.67 |
| 19-24 | 28 | 5(17.9) | 23(82.1) | |
| Family income (minimum wage) | | | | |
| < 1 | 42 | 7(16.7) | 35(83.3) | 0.44 |
| 2-3 | 41 | 11(26.8) | 30(73.2) | |
| > 3 | 19 | 3(15.8) | 16(84.2) | |
| Time as settler (years) | | | | |
| < 2 | 34 | 5(14.7) | 29(85.3) | 0.30 |
| > 2 | 68 | 16(23.5) | 52(76.5) | |
| Use of alcohol | | | | |
| Never | 46 | 8(17.4) | 38(82.6) | 0.47 |
| Sometimes/always | 56 | 13(23.2) | 43(76.8) | |
| Illegal drug abuse | | | | |
| Yes | 28 | 9(32.1) | 19(67.9) | 0.08 |
| No | 74 | 12(16.2) | 62(83.8) | |
| Use of piercing and/or tattoo | | | | |
| Yes | 51 | 17(33.3) | 34(66.7) | < 0.01 |
| No | 51 | 4(7.8) | 47(92.2) | |
| Condom use during sexual intercourse (n=61) | | | | |
| Always | 37 | 7(18.9) | 30(81.1) | 0.40 |
| Eventually/never | 24 | 7(29.2) | 17(70.8) | |
| History of condom breakage (n=57) | | | | |
| Yes | 16 | 6(37.5) | 10(62.5) | 0.06 |
| No | 41 | 6(14.6) | 35(85.4) | |
| Consumed alcohol before or during sexual intercourse (n=61) | | | | |
| Yes | 23 | 9(39.1) | 14(60.9) | 0.02 |
| No | 38 | 5(13.2) | 33(86.8) | |
| Number of sexual partners (n=61) | | | | |
| < 3 | 26 | 8(30.8) | 18(69.2) | 0.21 |
| > 3 | 35 | 6(17.1) | 29(82.9) | |

*STD - sexually transmitted disease; † Chi-square or Fisher exact test

Knowledge about signs and symptoms of STDs of the settlers is shown in table 3. It was observed that 27.6%, 22.8%, 31.4%, 34.3%, 37.1%, 57.1% of respondents did not recognize genital ulcer, genital discharge, inguinal lymphadenopathy, pain/burning on urination, genital itching and abdominal pain as a sign or symptom of STDs, respectively.

Table 3. Knowledge about signs and symptoms of sexually transmitted diseases in 105 adolescents and young adults from an urban settlement

| Variables | n(%) | CI 95%* |
|---------------------------|----------|-----------|
| Genital ulcer | | |
| Yes | 74(70.5) | 61.2-78.4 |
| No | 28(27.6) | 19.1-35.9 |
| Unknown | 2(1.9) | 0.5-6.7 |
| Genital discharge | | |
| Yes | 78(74.3) | 65.2-81.7 |
| No | 24(22.8) | 15.9-31.8 |
| Unknown | 3(2.9) | 0.1-8.1 |
| Inguinal lymphadenopathy | | |
| Yes | 68(64.8) | 55.3-73.2 |
| No | 33(31.4) | 23.3-40.8 |
| Unknown | 4(3.8) | 1.5-9.4 |
| Pain/burning on urination | | |
| Yes | 67(63.8) | 54.3-72.4 |
| No | 36(34.3) | 25.9-43.8 |
| Unknown | 2(1.9) | 0.5-6.7 |
| Genital itching | | |
| Yes | 64(61.0) | 51.4-69.7 |
| No | 39(37.1) | 28.5-46.7 |
| Unknown | 2(1.9) | 0.5-6.7 |
| Abdominal pain | | |
| Yes | 38(36.2) | 27.6-45.7 |
| No | 60(57.1) | 47.6-66.2 |
| Unknown | 7(6.7) | 3.3-13.1 |

* 95% CI - confidence interval of 95%

Discussion

Limitations of this study include the nature of data collection, since it was based on verbal reports of signs/symptoms of STDs, and may have under- or over-estimated the prevalence. Also, there is the limitation of a cross-sectional study, since it does not allow the establishment of cause and effect.

There are only a few studies that describe the health of individuals residing in areas of urban settlements and the majority were conducted in informal settlements.⁽⁹⁻¹¹⁾ In Brazil, no study was identified with this emerging social group. Identifying factors related to the vulnerability of this population for STDs can assist health professionals in the development of interventions to prevent and control these infections among this segment of the population that is, because of its condition of dispersion and urban segregation, is at the margins of public health services.

The presence of signs and/or symptoms of STDs is associated with HIV infection⁽¹²⁾ The overall prevalence of signs and symptoms of STDs of the participants was 20.6% (95% CI: 13.9-29.4). This index was seven times above the level found in a study in Southeast Asia among adolescents 14-19 years (3.0%; 95% CI: 1.7- 4.8).⁽¹³⁾ Urethral/vaginal discharge or genital ulcer were reported by 19.6% (95% CI: 13.1-28.4) and 4.9% (95% CI: 2.1-11.0) of the settlers, respectively. In Africa, an investigation with young adults of 15- 24 years of age estimated a prevalence of genital discharge of 9.2% (95% CI: 8.3- 10.2) and 19.1% (95% CI: 18.0-20.5) in men and women, respectively.⁽¹²⁾ The same study found a prevalence of 5.9% (95% CI: 5.2-6.7) and 6.9% (95% CI: 6.1-7.7) for ulcers/wounds on genitals of individual males and females, respectively.⁽¹²⁾ Differences between the prevalence in these studies may reflect variations in risk behaviors of adolescents and youth in different contexts.

Identifying signs and symptoms of STDs through the Syndromic Approach, is a highly recommended method for vulnerable populations and those with difficult access to healthcare services, such as adolescents living in settlement areas. This methodology enables rapid detection of syndromes, early treatment, low cost therapy, and it does not require large laboratory investments.⁽²⁾

For this population, we observed a higher proportion of reported signs and symptoms of STDs with female subjects, who consumed alcohol before or during sexual intercourse and who had a piercing and/or tattoo.

Women, especially adolescents and young adults, are more vulnerable to STDs than males due to biological, social and gender factors.⁽¹⁴⁻¹⁷⁾ Differences between the sexual behavior of men and women should be considered in planning prevention policies and control of STDs.

In the present study, alcohol consumption before or during sexual intercourse was associated with reported signs/symptoms of STDs. Also, illegal drug abuse showed a marginal role ($p = 0.08$). Alcohol use and multiple risk behaviors that enhance the acquisition of such infections are associated with STDs.^(6,18-20)

The piercing and/or tattoo can be configured as an indicator of risk behaviors for acquiring STDs, such as early initiation of sexual activity, inconsistent condom use, use of alcohol and illegal drugs, among others,^(21,22) and can serve as a predictive variable for the presence of STDs. This variable should be considered in epidemiological studies, since it allows for the measurement of risk behaviors for STDs in the most vulnerable population groups.

A history of condom breakage was found to be associated with the prevalence of signs/symptoms of STDs. Although this variable is not explored in epidemiological studies, this finding suggests the urgent need for furthering this discussion in studies with this clientele, as well as to expand prevention programs of sexual education, addressing the issue of proper placement of condoms by adolescents and young adults.

Even with countless ways of dissemination, an insufficient or unsatisfactory knowledge about the signs and symptoms of STDs by a large part of the settlers was verified. This finding points to the need for investments in educational interventions aiming at empowering the population of settlers regarding identification of signs and symptoms of STDs, thus contributing to early diagnosis, better prognosis and interruption in the chain of transmission.

In this context, it is essential that health professionals, especially nurses, along with the social network of these individuals, such as educational institutions, work in an interdisciplinary way, promoting discussions aiming to guide them about the vulnerability to which they are exposed and providing information that seeks integrated, equitable and humane care for the young settler population.

Conclusion

The overall prevalence of signs and symptoms of STDs was high. It was observed that individual factors of vulnerability (female consumption of alcohol before or during sexual intercourse and piercing

and/or tattoo) were associated with signs and symptoms of STDs. Also, an inadequate or unsatisfactory knowledge about signs and symptoms of STDs was identified in a large part of the settlers.

Collaborations

Carvalho PMRS; Guimarães RA; Moraes PA; Teles SA and Matos MA contributed to drafting the article and critical revision of the intellectual content. Guimarães RA was responsible for analyzing and interpreting data. Matos MA contributed to conception and design, and approved the final version to be published.

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