CSP CADERNOS DE SAÚDE PÚBLICA
REPORTS IN PUBLIC HEALTH

ARTIGO
ARTICLE

Knowledge and risk practices related to HIV infection in the general population, young men, and MSM in three Brazilian cities in 2019

Conhecimento e práticas de risco à infecção pelo HIV na população geral, homens jovens e HSH em três municípios brasileiros em 2019

Conocimiento y prácticas de riesgo para la infección por VIH en la población general, hombres jóvenes y HSH de tres municipios brasileños en 2019

Giseli Nogueira Damacena [1]
Marly Marques da Cruz [2]
Vanda Lúcia Cota [2]
Paulo Roberto Borges de Souza Júnior [1]
Celia Landmann Szwarcwald [1]

doi: 10.1590/0102-311XEN155821

Abstract

The study aimed to describe knowledge and risk practices related to HIV infection in three Brazilian cities in the general population, men 15 to 24 years of age living without a partner, and men that reported sex with other men (MSM) at least once in life. This was a cross-sectional household-based study with three-stage cluster sampling (census tracts, households, individuals) stratified by sex, age group (15-24; 25-34; 35-44; 45-59), and conjugal status in the individual selection. We estimated the proportions and 95% confidence intervals (95%CI) of indicators of knowledge, HIV testing, sexual behavior, and self-rated risk. We analyzed 5,764 individuals in Campo Grande, 3,745 in Curitiba, and 3,900 in Florianópolis. Low levels of knowledge were found for preventive methods, especially PrEP. Unprotected sex practices were frequent in the three municipalities. Lifetime HIV test rates were 57.2% (95%CI: 55.1-59.2) in Curitiba, 64.3% (95%CI: 62.7-66.0) in Campo Grande, and 65.9% (95%CI: 64.0-67.7) in Florianópolis. Among men 15-24 years of age, the proportions of stimulant drug use and unprotected sexual practices were higher than in the other age groups. Lifetime HIV test rates exceeded 80% in MSM. More than 30% of MSM were receptive partners in anal sex without condoms, and fewer than 5% assessed their risk as high. More effective communication strategies are needed on prevention of HIV infection, including increased knowledge that could motivate safer sexual practices.

HIV; Health Surveys; Knowledge; Disease Prevention; Sexual Behavior

Correspondence
G. N. Damacena
Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz.
Av. Brasil 4635, Pavilhão Haity Moussatché, Rio de Janeiro, RJ 21045-360, Brasil.
damacenagn@gmail.com

[1] Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz, Rio de Janeiro, Brasil.
[2] Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz, Rio de Janeiro, Brasil.

Introduction

Forty years since the first AIDS case in Brazil, the HIV epidemic is still growing, although it is concentrated in some population subgroups [1]. According to the results of a recent study in Brazil with data on HIV surveillance and AIDS cases, there were approximately 42,000 new HIV infections in 2019, 70% of which in males, with 51.6% of cases resulting from homosexual or bisexual exposure and 31.3% from heterosexual exposure [1].

As one of the measures to control the HIV epidemic in Brazil, since 2014 the Ministry of Health has adopted a policy of offering antiretroviral therapy (ART) to all individuals diagnosed with HIV, and new challenges have emerged, such as the expansion of HIV testing [2] and agility in linking detected HIV cases to health services for immediate treatment [3]. More recently, combined prevention interventions, including preexposure prophylaxis (PrEP) have been implemented in the Brazilian Unified National Health System (SUS) since 2017 [4].

Considering that the major challenges from the spread of HIV infection appear in the prevention of new infections and in the first stages of continuous care, studies have shown that the combination of preventive methods can maximize the control of the HIIV epidemic [4,5,6,7]. It is thus important to monitor knowledge on preventive methods and periodic HIV testing as well as attitudes and risk practices related to sexually transmissible infections (STIs) in the Brazilian population.

Population-based surveys involving knowledge on forms of HIV transmission, unprotected sexual practices, and HIV testing have been acknowledged as important tools for backing public policies to control the HIV epidemic [8,9], increasing the effectiveness of public health interventions [10].

In 2004, 2008, and 2013, the Department of Diseases from Chronic Conditions and Sexually Transmissible Infections (DCCI), under the Health Surveillance Secretariat of the Brazilian Ministry of Health, conducted a nationwide survey on knowledge, practices, and risk behaviors related to HIV infection and other sexually transmissible infections. Called the *Survey on Knowledge, Attitudes, and Practices in the Brazilian Population* (PCAP) [11,12,13,14,15]. In 2016, the survey was adapted for application in the city of Curitiba (Paraná State) to assess interventions aimed at encouraging HIV testing in the general population of males and specifically among men who have sex with men (MSM) [16].

Considering the new approaches to control the HIIV epidemic in Brazil, the PCAP questionnaire was adapted, and the survey was conducted in the population 15 to 59 years of age in the municipalities of Campo Grande (Mato Grosso do Sul State), Curitiba, and Florianópolis (Santa Catarina State), in 2019. Curitiba was chosen for the survey to assess the initiatives introduced in the municipality since 2015 to encourage HIV testing and to link HIV-positive individuals to the health services [16]. The PCAP survey was conducted in the municipalities of Campo Grande and Florianópolis to establish a baseline of knowledge, attitudes, and practices in the population and to allow assessment of intervention strategies to be developed in the two municipalities, part of a Cooperative Agreement between the Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation (ENSP/Fiocruz), the U.S. Centers for Disease Control and Prevention (CDC), and the Brazilian Ministry of Health.

Epidemiological data have pointed to the expansion of HIV in Brazil among young men, with increments in the HIV detection rate in the 15-19 and 20-24-year age groups, namely 64.9% and 74.8% from 2009 to 2019 [1], and a concentration of the HIV epidemic among MSM, with an increase in HIV prevalence from 12.1% (95% confidence interval – 95%CI: 10.0-14.5) in 2009 to 18.4% (95%CI: 15.4-21.7) in 2016 [17]. The current article thus aims to describe knowledge and risk practices related to HIV infection in the total sample in each municipality among single men 15 to 24 years of age living without a partner and men that reported sex with other men (MSM) at least once in life, based on information from the PCAP survey.

Methods

Study design

This was a cross-sectional household-based study of individuals 15 to 59 years of age living in private households in the municipalities of Campo Grande, Curitiba, and Florianópolis, conducted from August to December 2019.

Ethics

The research project was approved by the Institutional Review Board of ENSP/Fiocruz on June 25, 2019 (review n. 3,410,930), and by the Brazilian National Commission on Research Ethics (CONEP) on August 19, 2019 (review n. 3,515,242).

Sampling plan

The study sample was selected in 3-stage clusters: in the first stage, a sample was selected from the primary sampling units corresponding to census tracts with 100 or more permanent private households based on the registry of tracts from the 2010 Population Census. In the second stage, 77 households in each tract were selected that had at least one resident 15 to 59 years of age. In the third stage, in each household, only one resident 15 to 59 years of age was selected for the interview, following stratification by sex, age group (15-24; 25-34; 35-44; 45-59 years), and conjugal status. Stratification was done in the third stage to allow analysis by groups with the greatest risk of HIV, such as single young men and MSM. At the end of the fieldwork, the total samples in the cities were 5,764 in Campo Grande, 3,745 in Curitiba, and 3,900 in Florianópolis.

Study instrument

The information was collected with a questionnaire adapted from the one used in the previous PCAP surveys by the Brazilian Ministry of Health, adding questions to address the new technologies for dealing with the epidemic. The questionnaire was tested and validated in the three municipalities in a pretest phase of the study. Data were collected from August to December 2019 in the three municipalities simultaneously. The questionnaire was developed with the REDCap tool (https://www.project-redcap.org/) and applied with tablets. The collected data were confidential, with no possibility of participants´ identification, and the respondent's privacy was guaranteed during the interview, which was conducted with the interviewee only, without any other household members present.

The questionnaire was divided into two parts. The first part was applied by interviewers and contained questions on sociodemographic characteristics; knowledge on forms of prevention of HIV infection and other STIs; history of HIV, syphilis, and hepatitis B and C tests; and discrimination in the health service. The second part was answered by interviewees themselves, because it contained more private questions about sexual behavior and drugs, so the idea was to minimize embarrassment, inhibition, or refusal to answer. Illiterate persons or those with little schooling had the option to have the second part of the questionnaire applied by the interviewer.

Interviewers were trained for the survey in centralized training sites and were supervised by the study coordinators throughout the fieldwork.

Study variables

Sociodemographic characterization used the following information: sex, age group, conjugal status (living with vs. without a partner), schooling, race/color, and internet access. Knowledge on HIV infection was measured with questions on condom use, antiretroviral drugs, post-exposure prophylaxis (PEP), PrEP, and free testing sites.

History of HIV testing was investigated according to time and place of the last test, reasons for the most recent test or for never having been tested, result of the last test, and use of antiretroviral drugs in case the last test result was positive.

Risk practices for HIV infection were investigated in the total sample, single men 15 to 24 years of age, and MSM. The following information was used: already had sexual relations; age at sexual initiation; and self-rated HIV risk (none, low, average, high). Interviewees were asked about the following practices in the six months prior to the interview: use of stimulant drugs (cocaine, crack, ecstasy, etc.); sexual relations with fixed and casual partners and condom use, through the questions: "In the last 6 months, have you had sexual relations with a fixed partner, that is, boyfriend/girlfriend, fiancé/fiancée, spouse, companion, etc.?"; "Were condoms used in all the sexual relations you had with the fixed partner?"; "In the last 6 months, have you had sexual relations with casual partners, that is, flirts, hookups, one-nighters, etc.?"; "In the last 6 months, with how many casual sexual partners, that is, flirts, hookups, one-nighters, etc., have you had sexual relations?". There were also questions on receiving payment for sex, paying for sex, and sexual relations with HIV-infected partners. MSM were also asked about the type of sexual partnership (receptive) and condom use.

Data analysis

The sample from each city was calibrated with data from the 2013 *Brazilian National Health Survey* (PNS) [18] to obtain the same population distribution by sex, age group, and conjugal status as in the Brazilian population. We calculated the proportions (prevalence rates) for each category of the target indicators, and the 95%CI for each proportion were estimated, considering the sampling plan effects, including cluster effects, unequal probabilities of selection, and data calibration. The analyses were performed in the *Complex Sample* module of the SPSS, version 21.0 (https://www.ibm.com).

Results

The study included 5,764 individuals 15 to 59 years of age in Campo Grande, 3,745 in Curitiba, and 3,900 in Florianópolis. Table 1 shows the participants' sociodemographic characteristics by municipality. Distributions were similar for sex and age group. Some 57% of the individuals reported living with a partner in the cities of Campo Grande and Curitiba, compared to 51.1% in Florianópolis. For schooling, the majority reported having at least complete secondary school or more, with the highest percentage in Florianópolis (76.9%) and the lowest in Campo Grande (63.3%). As for race/skin color, more than half of the interviewees in Campo Grande self-reported brown skin color (mixed race) (51.7%), while in Curitiba and Florianópolis, the highest proportions reported white skin color, with 64.8% and 70.3%, respectively. Interviewees in all three cities reported ample internet access at home and on their cellphones (Table 1).

Table 2 shows the proportions of persons by municipality with knowledge of preventive methods. More than 90% of interviewees felt that condoms protect from HIV. On knowledge of the existence of PEP, the highest percentage was in Florianópolis (38.9%), followed by Campo Grande (22.1%) and Curitiba (20.6%), while less than 2% had used PEP in the three cities. Knowledge of PrEP was even lower, or 17.9% in Florianópolis, 10.4% in Curitiba, and 9.4% in Campo Grande. As for knowledge about reduced risk of transmission when the infected person is in antiretroviral therapy, slightly more than 40% of interviewees responded that the risk decreases. More than 80% of interviewees in the three cities knew of free public HIV testing sites.

Table 3 shows the results for HIV testing. The lowest proportion of at least one lifetime HIV test was in Curitiba with 57.2% (95%CI: 55.1-59.2), followed by Campo Grande, with 64.3% (95%CI: 62.7-66.0) and Florianópolis, with 65.9% (95%CI: 64.0-67.7). In the three cities, approximately 60% of those who had never tested claimed that they did not feel at risk, and more than 20% did not see a reason for testing. Only one-fourth or fewer had done an HIV test in the last year. In the three cities, the majority had done the test in a public healthcare service. The highest percentage of testing in the private sector was in Florianópolis (35.3%), while the highest percentage in blood banks was in Campo Grande

Table 1

Sociodemographic characteristics in the general population in the cities of Campo Grande (Mato Grosso do Sul State), Curitiba (Paraná State), and Florianópolis (Santa Catarina State), Brazil, 2019.

Variables	Campo Grande (n = 5,764)		Curitiba (n = 3,745)		Florianópolis (n = 3,900)	
	%	95%CI	%	95%CI	%	95%CI
Sex						
Male	47.7	46.0-49.4	49.0	47.0-51.1	46.8	44.8-48.7
Female	52.3	50.6-54.0	51.0	48.9-53.0	53.2	51.3-55.2
Age group (years)						
15-24	26.0	24.6-27.5	23.4	21.8-25.1	25.6	24.0-27.3
25-34	25.6	24.1-27.1	25.3	23.5-27.1	23.9	22.3-25.6
35-44	22.9	21.4-24.4	23.5	21.8-25.3	23.3	21.6-25.1
45-59	25.6	24.0-27.2	27.7	25.7-29.8	27.2	25.4-29.2
Lives with partner						
Yes	56.9	55.2-58.5	56.5	54.4-58.5	51.1	49.1-53.1
No	43.1	41.0-44.3	43.5	41.5-45.6	48.9	46.9-50.9
Schooling						
Illiterate/Incomplete primary	15.8	14.6-17.1	7.5	6.5-8.7	7.2	6.3-8.4
Complete primary/Incomplete secondary	20.8	19.5-22.3	19.3	17.8-21.0	15.9	14.5-17.4
Complete secondary/Incomplete university	43.2	41.5-44.9	55.3	53.2-57.4	44.4	42.4-46.4
Complete university or more	20.1	18.7-21.6	17.8	16.2-19.6	32.5	30.6-34.4
Race/Skin color						
White	36.6	35.0-38.4	64.8	62.8-66.8	70.3	68.5-72.1
Brown	51.7	50.0-53.5	26.7	24.9-28.6	17.9	16.5-19.5
Black	8.7	7.8-9.7	6.5	5.5-7.5	9.6	8.5-10.8
Other	2.9	2.3-3.6	2.0	1.5-2.7	2.2	1.6-2.9
Internet access						
Home	79.1	77.7-80.5	81.9	80.2-83.5	90.5	89.3-91.7
Work	34.7	33.1-36.4	41.0	38.9-43.0	50.0	48.0-52.0
Cellphone	79.4	78.0-80.8	78.5	76.7-80.2	88.4	87.0-89.6
Elsewhere	13.1	12.0-14.3	20.6	19.0-22.4	27.9	26.1-29.7
No access	6.0	5.2-6.8	4.2	3.4-5.1	2.4	1.9-3.1

95%CI: 95% confidence interval.

(14.2%). As for the reason for testing, more than 30% said they tested periodically. Other frequently reported reasons were prenatal control, blood donation, and medical indication.

The results of the last HIV test were used to estimate HIV prevalence rates. The estimates were 1.3% (95%CI: 0.8-2.0), in Florianópolis, 1.0% (95%CI: 0.6-1.6) in Curitiba, and 0.6% in Campo Grande (95%CI: 0.3-1.0). Among the individuals with HIV infection, 88.1% (95%CI: 74.2-95.0) reported that they were taking ART in Curitiba, 85% (95%CI: 51.2-96.8) in Campo Grande, and 66.6% (95%CI: 42.8-84.2) in Florianópolis (Table 3).

Table 4 shows the findings for risk practices. About 95% of interviewees had already had sexual relations, and mean age at sexual initiation ranged from 16.4 to 17 years. Use of stimulant drugs was reported by 7.3% in Florianópolis, 6.3% in Curitiba, and 5.3% in Campo Grande.

In relation to sexual partnerships, about 80% reported sexual relations with fixed partners in the previous 6 months, except in Curitiba, where the proportion was slightly lower (76.6%). Condom use in all sexual relations with the fixed partner was 25.8% in Florianópolis and about 20% in the other two cities. The proportion of persons that reported sexual relations with casual partners was much lower, or 22.6% in Florianópolis, 19.3% in Curitiba, and 18.7% in Campo Grande, but condom use

Table 2

Knowledge of HIV prevention methods in the general population in cities of Campo Grande (Mato Grosso do Sul State), Curitiba (Paraná State), and Florianópolis (Santa Catarina State), Brazil, 2019.

Variables	Campo Grande (n = 5,764)		Curitiba (n = 3,745)		Florianópolis (n = 3,900)	
	%	95%CI	%	95%CI	%	95%CI
Do condoms/rubbers protect you from HIV/AIDS?						
Yes	93.7	92.8-94.5	94.6	93.5-95.5	96.8	96.0-97.4
No	6.3	5.5-7.2	5.4	4.5-6.5	3.2	2.6-4.0
Have you heard of PEP?						
Yes	22.1	20.7-23.7	20.6	18.9-22.4	38.9	37.0-40.9
No	77.9	76.3-79.3	79.4	77.6-81.1	61.1	59.1-63.0
Have you ever used PEP?						
Yes	1.2	0.8-1.7	1.1	0.7-1.6	1.6	1.1-2.2
No	98.8	98.3-99.2	98.9	98.4-99.3	98.4	97.8-98.9
Have you heard of PrEP?						
Yes	9.4	8.4-10.4	10.4	9.1-11.7	17.9	16.4-19.5
No	90.6	89.6-91.6	89.6	88.3-90.9	82.1	80.5-83.6
If a person is taking medication to treat HIV/AIDS, do they run less risk of transmitting the virus to someone else?						
Yes	41.1	39.4-42.8	43.2	41.1-45.3	45.2	43.2-47.2
No	58.9	57.2-60.6	56.8	54.7-58.9	54.8	52.8-56.8
Do you know or have you heard of free testing sites?						
ATS	17.8	16.5-19.2	9.6	8.4-10.9	17.7	16.2-19.3
Public hospital, health unit, or emergency department (except ATS)	82.6	81.2-83.8	83.1	81.6-84.6	81.2	79.6-82.7
Blood bank	47.3	45.6-49.1	31.9	30.0-33.9	46.6	44.6-48.7
Trailer	6.9	6.1-7.9	7.1	6.1-8.3	18.9	17.4-20.6
NGO	6.6	5.8-7.6	8.8	7.7-10.1	16.7	15.2-18.3
Self-test ordered via Internet	3.2	2.6-3.9	4.0	3.3-4.9	7.4	6.4-8.6
Never heard of any of these places	11.1	10.1-12.2	10.8	9.6-12.1	13.9	12.6-15.2

95%CI: 95% confidence interval; ATS: Anonymous Testing Service; NGO: non-governmental organization; PEP: post-exposure prophylaxis; PrEP: preexposure prophylaxis.

with casual partners was more common, exceeding 50% in the three cities. As for perception of risk for HIV infection, more than 90% did not feel at risk or that they were at low risk, in the three cities (Table 4).

The proportions (relative shares) of female sex workers (received money in exchange for sex) were 1.6%, 2.7%, and 0.8%, and those of male sex workers were 1.9%, 3%, and 1.4%, in Campo Grande, Curitiba, and Florianópolis, respectively, while the relative shares of female clients of sex workers (paid to have sex) were 2.5%, 0.8%, and 1.6%, and of male clients of sex workers were 7.1%, 7.6%, and 8.7%, respectively. Although the sample is not large enough to estimate the proportion of sex workers or their clients that used condoms in all their sexual relations, the findings show that the proportions were far below 100%. (Table 4).

Among single men 15 to 24 years of age, the use of stimulant drugs was much higher than in the general population (14.9% in Curitiba, 14.1% in Campo Grande, and 15.8% in Florianópolis). As for sexual initiation, some 80% of young people had already engaged in sexual relations. Comparing this segment to the total sample, the proportions of sexual relations with fixed partners were lower, ranging from 52.2% in Curitiba to 66.2% in Florianópolis, while condom use with fixed partners was higher, or approximately 44%. More than 55% reported having had sexual relations with casual partners, but condom use in all sexual relations with casual partners was less than 70% in the three

Table 3

Coverage of HIV testing (lifetime and previous year) and self-reported HIV prevalence rates in the general population in Campo Grande (Mato Grosso do Sul State), Curitiba (Paraná State), and Florianópolis (Santa Catarina State), Brazil, 2019.

Variables	Campo Grande (n = 5,764)		Curitiba (n = 3,745)		Florianópolis (n = 3,900)	
	%	95%CI	%	95%CI	%	95%CI
Have you ever had an HIV/AIDS test?						
Yes	64.3	62.7-66.0	57.2	55.1-59.2	65.9	64.0-67.7
Yes, less than a year ago	25.7	24.2-27.3	20.8	19.1-22.5	24.9	23.3-26.7
Yes, more than a year ago	38.6	36.9-40.4	36.4	34.3-38.5	40.9	38.9-43.0
Never	35.7	34.1-37.3	42.9	40.8-44.9	34.1	32.3-36.0
What was the main reason for never having an HIV/AIDS test?						
Don't feel at risk	59.6	56.9-62.3	60.7	57.7-63.6	58.0	54.8-61.2
Don't see any reason	31.3	28.8-33.9	27.1	24.5-29.9	26.5	23.8-29.5
Don't know where	1.8	1.2-2.6	2.9	2.1-4.0	2.9	2.0-4.0
Afraid	1.0	0.6-1.7	0.8	0.4-1.5	2.1	1.4-3.1
Ashamed	1.1	0.7-1.8	1.1	0.7-2.0	1.0	0.6-1.9
Other reason	5.2	4.1-6.5	7.4	5.9-9.1	9.4	7.7-11.5
Where did you have your last HIV/AIDS test?						
ATS	3.8	3.0-4.7	2.2	1.6-3.0	3.1	2.4-4.1
Public hospital, health unit, or emergency department (except ATS)	49.5	47.3-51.8	49.2	46.3-52.1	44.5	42.0-47.1
Blood bank	14.2	12.8-15.7	12.4	10.6-14.4	10.1	8.8-11.7
Workplace	3.1	2.5-3.8	2.6	1.8-3.6	2.1	1.5-3.0
Private laboratory, clinic, or hospital	25.4	23.5-27.4	29.2	26.6-31.9	35.3	32.8-37.8
Trailer	0.1	0.0-0.5	0.2	0.1-0.6	0.6	0.3-1.1
Street campaign	1.9	1.4-2.6	1.6	1.1-2.4	1.1	0.7-1.7
NGO	0.2	0.1-0.5	0.4	0.2-0.8	0.3	0.1-0.6
Elsewhere	1.8	1.3-2.7	2.3	1.5-3.8	2.9	2.2-4.1
Main reason for having last HIV/AIDS test						
Prenatal care/Delivery	19.4	16.5-22.8	11.6	8.7-15.3	14.1	11.1-17.7
Test periodically	30.1	27.0-33.4	35.1	30.8-39.6	33.9	30.3-37.7
Exposure to risk	4.5	3.4-5.9	5.5	3.8-7.8	10.1	8.2-12.4
At employer's request	5.6	4.3-7.3	2.7	1.6-4.4	2.7	1.8-4.0
Blood donation	16.1	13.8-18.6	13.5	10.7-17.0	9.6	7.6-12.1
Curiosity	6.3	4.9-8.1	6.4	4.5-9.1	6.9	5.2-9.0
Partner asked (HIV-infected or suspects being infected)	1.2	0.6-2.2	1.1	0.5-2.7	2.5	1.6-3.7
Medical indication	11.8	9.6-14.4	16.4	13.1-20.2	14.1	11.4-17.3
Other reason	5.1	3.8-6.7	7.7	5.6-10.7	6.2	4.6-8.2
Result of last HIV/AIDS test						
Positive	0.6	0.3-1.0	1.0	0.6-1.6	1.3	0.8-2.0
Negative	98.8	98.2-99.2	98.1	97.2-98.7	97.7	96.9-98.3
Declined to answer	0.7	0.4-1.1	0.9	0.5-1.7	1.0	0.6-1.5
Now receive or have ever received antiretroviral therapy?						
Yes	85.0	51.2-96.8	88.1	74.2-95.0	66.6	42.8-84.2
Yes, but stopped	-	-	-	-	3.4	1.0-10.7
No	15.0	2.7-56.9	10.9	4.3-24.7	30.0	13.1-54.9

95%CI: 95% confidence interval; ATS: Anonymous Testing Service; NGO: non-governmental organization.

Table 4

Risk practices for HIV infection and self-rated risk in the general population among men 15 to 24 years of age living without a partner, in Campo Grande (Mato Grosso do Sul State), Curitiba (Paraná State), and Florianópolis (Santa Catarina State), Brazil, 2019.

Variables	%	95%CI	%	95%CI	%	95%CI
Risk practices for HIV infection in the general population	**Campo Grande (n = 5,764)**		**Curitiba (n = 3,745)**		**Florianópolis (n = 3,900)**	
In the last 6 months, have you used stimulant drugs (cocaine, crack, ecstasy, etc.)	5.3	4.7-6.0	6.3	5.5-7.1	7.3	6.4-8.1
Ever had sexual relations	95.5	94.7-96.1	93.9	92.9-94.8	94.6	93.6-95.4
Mean age at sexual initiation	16.4	16.3-16.5	16.9	16.7-17.0	17.0	16.6-17.3
Sexual relations with fixed partner in the last 6 months	80.2	78.8-81.5	76.6	74.7-78.3	80.9	79.3-82.4
Condom use in all sexual relations with fixed partner	19.6	18.1-21.3	20.3	18.4-22.3	25.8	23.8-27.8
Sexual relations with casual partner(s) in the last 6 months	18.7	17.5-19.9	19.3	17.9-20.9	22.6	21.1-24.1
Condom use in all sexual relations with casual partner(s)	60.8	57.3-64.2	51.3	47.1-55.4	55.3	51.6-58.9
In the last 6 months, with how many HIV-infected partners or with AIDS have you had sexual relations?						
None	94.8	94.0-95.5	94.1	93.1-94.9	89.8	88.7-90.9
One or more	1.7	1.3-2.2	2.5	1.9-3.3	2.7	2.1-3.4
Don't know	3.5	2.9-4.1	3.5	2.9-4.1	7.5	6.6-8.5
How do you rate your risk of becoming infected with the AIDS virus in the next 12 months?						
None	62.1	60.4-63.8	70.1	68.2-72.0	60.6	58.6-62.6
Low	28.4	26.9-30.0	23.4	21.6-25.2	32.0	30.2-34.0
Average	6.9	6.1-7.9	4.8	4.1-5.8	5.7	4.9-6.7
High	2.5	2.0-3.2	1.7	1.2-2.3	1.6	1.2-2.1
In the last 6 months, received money in exchange for sex (women)	1.6	0.5-5.0	2.7	0.9-8.1	0.8	0.1-5.5
In the last 6 months, received money in exchange for sex (men)	1.9	1.2-3.0	3.0	1.8-4.9	1.4	0.9-2.4
In the last 6 months, paid money in exchange for sex (women)	2.5	0.9-6.5	0.8	0.1-5.6	1.6	0.4-6.1
In the last 6 months, paid money in exchange for sex (men)	7.1	5.6-9.0	7.6	5.8-9.9	8.7	7.1-10.6
Risk practices for HIV infection in single men 15 -24 years of age	**Campo Grande (n = 635)**		**Curitiba (n = 376)**		**Florianópolis (n = 434)**	
In the last 6 months, have you used stimulant drugs (cocaine, crack, ecstasy, etc.)	14.1	11.9-16.5	14.9	12.3-17.9	15.8	13.2-18.7
Ever had sexual relations	82.9	80.3-85.3	78.5	75.2-81.6	81.3	78.3-84.1
Sexual relations with fixed partner in the last 6 months	54.6	51.0-58.2	52.2	47.8-56.6	66.2	62.1-69.9
Condom use in all sexual relations with fixed partner	43.9	39.1-48.8	43.8	37.9-49.9	43.2	38.2-48.3
Sexual relations with casual partner(s) in the last 6 months	55.5	51.8-59.0	58.1	53.7-62.4	56.4	52.3-60.5
Condom use in all sexual relations with casual partner(s)	66.9	62.2-71.3	53.4	47.6-59.1	58.5	53.0-63.8
How do you rate your risk of becoming infected with the AIDS virus in the next 12 months?						
None	44.1	40.7-47.5	52.0	48.0-55.9	44.6	40.8-48.5
Low	43.1	39.7-46.5	37.3	33.6-41.3	43.9	40.1-47.7
Average	10.6	8.7-12.9	9.9	7.8-12.5	10.3	8.2-12.8
High	2.3	1.4-3.5	0.8	0.3-2.0	1.2	0.6-2.4

95%CI: 95% confidence interval.

cities. As for HIV risk perception, more than 85% of single young men felt little or no such risk in the three cities (Table 4).

Table 5 shows the results for MSM. The relative sizes of the MSM group in the male population were 4.9% in Campo Grande, 4.1% in Curitiba, and 10% in Florianópolis. More than 80% of the MSM had undergone an HIV test some time in life, and more than 50% in the year prior to the interview. Drug use was common in MSM, reaching 28.7% in Curitiba. Mean age at sexual initiation ranged from 15.7 years in Campo Grande to 16.6 years in Florianópolis. More than 70% of MSM reported sexual relations with a fixed partner in the last 6 months in the three cities, but condom use in all sexual relations with fixed partners was infrequent, with the highest proportion in Curitiba (44.3%). The proportions of sexual relations among MSM and casual partners varied from 40% to 50%, and the proportion of condom use in all sexual relations with casual partners was approximately 56% in Curitiba and Florianópolis and slightly higher in Campo Grande (62.1%). In the three cities, some 70% of MSM had ever been receptive partners (passive) in anal sex. The proportions of MSM that reported having been receptive partners without the partner using a condom were 58.9% in Campo Grande, 47.7% in Florianópolis, and 46.5% in Curitiba. Compared to the general population, risk perception was somewhat higher among MSM, with 19.3%, 11.7%, and 15.8% considering themselves at average to high risk in Campo Grande, Curitiba, and Florianópolis, respectively, although fewer than 5% of MSM reported high self-rated risk in the three municipalities.

Discussion

According to the *HIV/AIDS Epidemiological Bulletin* published by the Brazilian Ministry of Health [1], Florianópolis had the highest AIDS case detection rate of the three cities as notified to the information systems in 2019 (48.1%), followed by Campo Grande (32.5%) and Curitiba (23.4%). Florianópolis is unique among the three, located on the country's coastline in a summer vacation area with seasonal occupation, unlike the other two cities.

The current study provides similar results to those of the national PCAP study in 2013 [15] in terms of knowledge concerning condom use. Unsafe sexual practices are frequent in the three cities, with low rates of condom use in sexual relations with casual partners and even lower with fixed partners. Paradoxically, more than 90% reported feeling little or no risk of HIV infection, and more than 30% had never tested for HIV, mainly because they did not feel at risk or that they had a reason to be tested.

Additionally, knowledge on new alternatives for prevention proved to be incipient. Residents of Florianópolis were more likely to show knowledge of PEP (38.9%) than in the other two cities (about 20%). Knowledge of PrEP was even less common, corroborating findings from a study in Ribeirão Preto (São Paulo State), among people living with HIV/AIDS (PLWHA) [19]. These results indicate the need to disseminate combined prevention techniques so that individuals have the possibility of risk management according to their sexual practices.

As for unsafe sex practices, the results indicate that condom use varies according to the type of sexual partnership. The rate of use is lower with fixed partners and increases with casual partners, as indicated by previous national PCAP surveys [13,15]. Since the concept of fixed partner was not defined in the questionnaire and was left up to the interviewee's to define, unprotected sex with stable partners needs to be investigated better in future PCAP surveys to obtain a better understanding of the sexually active Brazilian population's vulnerability. Leng & Keeling [20] have discussed the problems in the transmission of STIs related to the concurrence of long-term sexual partnerships and casual partnerships.

Among single adolescents and young adults, we found high rates of stimulant drug use and unprotected sexual practices with fixed and casual partners and low rates of risk perception. Previous studies in Brazil revealed the importance of practices adopted at the beginning of the individual's sexual activity, since the consequences of unsafe sex can persist throughout life [21,22,23]. Evidence thus indicates that acquisition of knowledge in secondary school or university is essential for safe sex practice among adolescents and young adults [24,25].

Table 5

Risk practices for HIV infection among men who have sex with men (MSM), coverage of HIV testing (lifetime and in the previous year), and self-rated risk in the cities of Campo Grande (Mato Grosso do Sul State), Curitiba (Paraná State), and Florianópolis (Santa Catarina State), Brazil, 2019.

Variables	%	95%CI	%	95%CI	%	95%CI
Only for men	**Campo Grande (n = 2,747)**		**Curitiba (n = 1,837)**		**Florianópolis (n = 1,824)**	
Ever had sexual relations with other men (MSM)	4.9	4.1-5.7	4.1	3.3-5.1	10.0	8.8-11.3
Only for MSM	**Campo Grande (n = 126)**		**Curitiba (n = 71)**		**Florianópolis (n = 172)**	
Ever been tested for HIV/AIDS?						
Yes	84.5	78.0-89.4	80.1	70.3-87.3	81.2	75.9-85.5
Yes, less than a year ago	58.9	50.4-67.0	56.0	45.1-66.5	52.4	45.9-58.8
Yes, more than a year ago	25.6	18.7-33.9	24.1	16.2-34.2	28.8	23.0-35.3
Never	15.5	10.6-22.0	19.9	12.7-29.7	18.8	14.5-24.1
In the last 6 months, have you used stimulant drugs (cocaine, crack, ecstasy, etc.)	15.4	10.1-22.7	28.7	20.1-39.2	22.8	18.0-28.4
Mean age at sexual initiation	15.7	15.3-16.1	16.4	15.6-17.2	16.6	16.3-17.0
Sexual relations with fixed partner in the last 6 months	72.4	65.3-78.4	73.2	63.8-81.0	73.8	68.4-78.6
Condom use in all sexual relations with fixed partner	28.8	20.4-39.0	44.3	31.3-58.0	37.5	30.2-45.4
Sexual relations with casual partner(s) in the last 6 months	45.6	37.4-54.1	40.0	30.4-50.4	50.2	43.7-56.6
Condom use in all sexual relations with casual partner(s)	62.1	50.3-72.6	55.8	42.1-68.7	57.0	48.5-65.2
Ever been receptive (passive) partner in anal sex	73.8	65.8-80.5	66.5	55.5-75.9	70.0	63.7-75.6
In the last 6 months, have you ever been receptive (passive) partner in anal sex without the partner using a condom?	58.9	49.0-68.1	46.5	33.6-59.8	47.7	40.2-55.4
In the last 6 months, with how many HIV-infected partners or with AIDS have you had sexual relations?						
None	86.5	78.8-91.7	75.9	64.1-84.9	60.3	52.9-67.2
One or more	2.3	0.7-8.2	8.8	2.7-27.9	9.6	5.2-19.6
Doesn't know	11.2	6.6-18.3	15.3	9.2-24.3	30.1	23.9-37.1
How do you rate your risk of becoming infected with the AIDS virus in the next 12 months?						
None	38.5	30.5-47.2	50.8	39.6-61.9	46.1	39.6-52.8
Low	42.2	33.9-50.9	37.5	27.3-48.9	38.1	32.0-44.5
Average	14.6	9.5-21.7	7.5	3.8-14.3	12.5	9.0-17.0
High	4.7	2.2-9.6	4.2	2.0-8.7	3.3	1.8-6.2

95%CI: 95% confidence interval.

Periodic HIV testing became a public health priority with the implementation of the treatment as prevention (TasP) policy and the commitment to achieve the 90-90-90 target established by the Joint United Nations Program on HIV/AIDS (UNAIDS) [26]. HIV testing thus became the portal of entry for HIV prevention and treatment, enabling immediate treatment of diagnosed cases and a decrease in new infections [5]. The current study's results reveal important strides in HIV test coverage in the three cities. According to the last nationwide PCAP survey 2013, 36.1% in Brazil and 43.4% in the South of Brazil had ever been tested [15]. Meanwhile, the test coverage rates in the three municipalities were on the order of 60% in 2019. In addition, the target of 90% treatment of PLWHA is close to being reached in the cities of Campo Grande and Curitiba. In Florianópolis, strategies for treatment adherence need to be expanded, since only two-thirds of HIV-positive interviewees said they were receiving ART.

As for HIV testing in the subgroup of MSM, the lifetime coverage rates exceeded 80% in the three cities and suggest that the target of 90% of infected individuals being diagnosed should be reached

within a few years. The findings in Curitiba also represent strides in relation to the baseline, elaborated in 2016 [16]. The proportion of HIV testing in the year prior to the interview increased from 47.4% in 2016 to 56% in 2019, showing the impact of measures to encourage testing. In addition to the various HIV diagnostic services, a program was implemented in Curitiba in 2015 called Now is the Time, offering an oral HIV self-fest and linkage of test-positive individuals to health services within 90 days after diagnosis [27].

The investigation of specific behaviors among MSM showed that more than 65% reported having been receptive (passive) partners in anal sex, and these included high proportions in which the partner had not used a condom, indicating a high-risk situation for HIV infection and other STIs. In addition, more than 7% of MSM reported sexual relations with at least one HIV-positive partner in Curitiba and Florianópolis, besides high rates of MSM who were unaware of their partners' serological status.

Despite the risks of unprotected sexual relations, none of the groups rated their risk of HIV infection as high. In the subgroup of single young men, the proportions that self-rated their risk as average or high were less than 12%, while fewer than 5% of MSM assessed their risk as high. The lack of HIV risk perception among MSM is worrisome, because it can hinder prevention and control efforts such as PrEP and periodic HIV testing. Therefore, there is an urgent need to address the vulnerability of the sexually active Brazilian population to HIV infection, particularly in the subgroups at greater risk such as MSM, and to identify interventions that may reformulate notions and perceptions of risk [28].

The study's limitations include the large percentage of refusals, especially in higher-income areas in large Brazilian cities. In addition, since many houses in Florianópolis are summer homes, there was a large proportion of vacant households in that city, increasing the sampling losses. Finally, self-completion of the questionnaire may have generated inconsistencies in the answers due to lack of understanding of the questions by the respondent, besides recall bias. However, the use of standardized and validated data collection instruments, the study size and design, and the subsequent data calibration helped to minimize the above-mentioned limitations.

The current study's results suggest that a key factor in the maintenance of a high burden of HIV infection is lack of awareness of serological status, which has negative implications for confronting the HIV/AIDS epidemic, in terms of both prevention and treatment. Given the low coverage of HIV tests in the 12 months prior to the interviews, it is necessary to expand communication and awareness-raising strategies concerning the importance of periodic testing, as well as on combined prevention. For expansion of testing, publicizing the available testing services needs to be improved, besides a more welcoming approach for the population not to feel stigmatized or discriminated, so that the approach to services can happen smoothly and testing and care become regular. The findings also indicate the need to adopt more effective communication strategies and the expansion of knowledge that could encourage safer sexual practices, especially among adolescents and young adults [25], who have high rates of unsafe sex and lack of risk perception [29], posing major challenges for public health policies to control the HIIV epidemic in Brazil.

Contributors

G. N. Damacena contributed to the study design and planning, statistical analysis, data interpretation, and writing the manuscript. M. M. Cruz, V. L. Cota, and P. R. B. Souza Júnior contributed to the data interpretation, discussion, and critical revision of the manuscript. C. L. Szwarcwald contributed to the study design, data interpretation, and writing of the manuscript. All the authors approved the final version of the manuscript.

Additional informations

ORCID: Giseli Nogueira Damacena (0000-0002-7059-3353); Marly Marques da Cruz (0000-0002-4061-474X); Vanda Lúcia Cota (0000-0002-6823-9304); Paulo Roberto Borges de Souza Júnior (0000-0002-8142-4790); Celia Landmann Szwarcwald (0000-0002-7798-2095).

Acknowledgments

We dedicate this article to Aristides Barbosa Júnior (in memoriam), a pioneer in the HIV/AIDS struggle in Brazil. Aristides was a great enthusiast of the The Time is Now communications activities, and we are hugely grateful for everything that he taught us. We also thank our partners Adriane Wollmann, Elina Sakurada, David Harrad, Juliane Santos, Roberto de Jesus, and Liza Rosso, who are all peer educators and teams, and especially Nena Lentine and Viviane Marini. Financing was received from PEPFAR (the U.S. President's Emergency Plan for AIDS Relief).

References

1. Departamento de Doenças de Condições Crônicas e Infecções Sexualmente Transmissíveis, Secretaria de Vigilância em Saúde, Ministério da Saúde. Boletim Epidemiológico de HIV/Aids 2020; número especial.
2. Pascom ARP, Barros CHD, Lobo TDM, Pasini EM, Comparini RA, Mesquita FC. Point-of-care HIV tests done by peers, Brazil. Bull World Health Organ 2016; 94:626-30.
3. Grinsztejn B, Hosseinipour MC, Ribaudo HJ, Swindells S, Eron J, Chen YQ, et al. Effects of early versus delayed initiation of antiretroviral treatment on clinical outcomes of HIV-1 infection: results from the phase 3 HPTN 052 randomised controlled trial. Lancet Infect Dis 2014; 14:281-90.
4. Marins LMS, Torres TS, Leite IC, Moreira RI, Luz PM, Hoagland B, et al. Performance of HIV pre-exposure prophylaxis indirect adherence measures among men who have sex with men and transgender women: results from the PrEP Brasil Study. PLoS One 2019; 14:e0221281.
5. Montaner JS, Lima VD, Harrigan PR, Lourenço L, Yip B, Nosyk B, et al. Expansion of HAART coverage is associated with sustained decreases in HIV/AIDS morbidity, mortality and HIV transmission: the "HIV Treatment as Prevention" experience in a Canadian setting. PLoS One 2014; 9:e87872.
6. Stover J, Bollinger L, Izazola JA, Loures L, DeLay P, Ghys PD, et al. What is required to end the AIDS epidemic as a public health threat by 2030? The cost and impact of the fast-track approach. PLoS One 2016; 11:e0154893.
7. Pascom ARP, Meireles MV, Benzaken AS. Sociodemographic determinants of attrition in the HIV continuum of care in Brazil, in 2016. Medicine (Baltimore) 2018; 97(1S Suppl 1):S69-74.
8. Johnson C, Neuman M, MacPherson P, Choko A, Quinn C, Wong VJ, et al. Use and awareness of and willingness to self-test for HIV: an analysis of cross-sectional population-based surveys in Malawi and Zimbabwe. BMC Public Health 2020; 20:779.
9. Barbosu CM, Radulescu A, Manciuc C, Muir E, Levandowski BA, Dye T. Attitudes, practices, and priority of HIV screening and testing among clinical providers in Transylvania and Moldavia, Romania. BMC Health Serv Res 2019; 19:970.
10. Sabin LL, Semrau K, DeSilva M, Le LTT, Beard JJ, Hamer DH, et al. Effectiveness of community outreach HIV prevention programs in Vietnam: a mixed methods evaluation. BMC Public Health 2019; 19:1130.
11. Programa Nacional de DST e Aids, Secretaria de Vigilância em Saúde, Ministério da Saúde. PCAP – Pesquisa de Conhecimento, Atitudes, e Práticas na população brasileira, 2004. Brasília: Ministério da Saúde; 2006.

12. Szwarcwald CL, Barbosa-Júnior A, Pascom AR, de Souza-Júnior PR. Knowledge, practices and behaviours related to HIV transmission among the Brazilian population in the 15-54 years age group, 2004. AIDS 2005; 19 Suppl 4:S51-8.
13. Departamento de DST, Aids e Hepatites Virais, Secretaria de Vigilância em Saúde, Ministério da Saúde. PCAP – Pesquisa de Conhecimento, Atitudes, e Práticas na população brasileira, 2008. Brasília: Ministério da Saúde; 2011.
14. Pascom ARP, Szwarcwald CL. Sex inequalities in HIV-related practices in the Brazilian population aged 15 to 64 years old, 2008. Cad Saúde Pública 2011; 27 Suppl 1:S27-35.
15. Departamento de DST, Aids e Hepatites Virais, Secretaria de Vigilância em Saúde, Ministério da Saúde. PCAP – Pesquisa de Conhecimento, Atitudes, e Práticas na população brasileira, 2013. Brasília: Ministério da Saúde; 2016.
16. Szwarcwald CL, Damacena GN, Miranda RL, Pascom ARP, Barbosa Júnior A. HIV testing among men in Curitiba, Brazil. AIDS Care 2018; 30:56-8.
17. Kerr L, Kendall C, Guimarães MDC, Mota RS, Veras MA, Dourado I, et al. HIV prevalence among men who have sex with men in Brazil: results of the second national survey using respondent-driven sampling. Medicine (Baltimore) 2018; 97(1S Suppl 1):S9-15.
18. Szwarcwald CL, Malta DC, Pereira CA, Vieira MLFP, Conde WL, Souza Júnior PRB, et al. National Health Survey in Brazil: design and methodology of application. Ciênc Saúde Colet 2014; 19:333-42.
19. Sousa LRM, Elias HC, Fernandes NM, Gir E, Reis RK. Knowledge of PEP and PrEP among people living with HIV/AIDS in Brazil. BMC Public Health 2021; 21:64.
20. Leng T, Keeling MJ. Concurrency of partnerships, consistency with data, and control of sexually transmitted infections. Epidemics 2018; 25:35-46.
21. Saffier IP, Kawa H, Harling G. A scoping review of prevalence, incidence and risk factors for HIV infection amongst young people in Brazil. BMC Infect Dis 2017; 17:675.
22. Hugo TDO, Maier VT, Jansen K, Rodrigues CEG, Cruzeiro ALS, Ores LC, et al. Fatores associados à idade da primeira relação sexual em jovens: estudo de base populacional. Cad Saúde Pública 2011; 27:2207-14.
23. Sperhacke RD, da Motta LR, Kato SK, Vanni AC, Paganella MP, Oliveira MCP, et al. HIV prevalence and sexual behavior among young male conscripts in the Brazilian army, 2016. Medicine (Baltimore) 2018; 97(1S Suppl 1):S25-31.
24. Zizza A, Guido M, Recchia V, Grima P, Banchelli F, Tinelli A. Knowledge, information needs and risk perception about HIV and sexually transmitted diseases after an education intervention on Italian high school and university students. Int J Environ Res Public Health 2021; 18:2069.
25. Guimarães MDC, Magno L, Ceccato MGB, Gomes RRFM, Leal AF, Knauth DR, et al. HIV/AIDS knowledge among MSM in Brazil: a challenge for public policies. Rev Bras Epidemiol 2019; 22 Suppl 1:e190005.
26. Joint United Nations Programme on HIV/AIDS. 90-90-90: an ambitious treatment to help end the AIDS epidemic. Geneva: Joint United Nations Programme on HIV/AIDS; 2014.
27. Cruz MM, Cota VL, Lentini N, Bingham T, Parent G, Kanso S, et al. Comprehensive approach to HIV/AIDS testing and linkage to treatment among men who have sex with men in Curitiba, Brazil. PLoS One 2021; 16:e0249877.
28. Luz PM, Torres TS, Almeida-Brasil CC, Marins LMS, Veloso VG, Grinsztejn B, et al. High-risk sexual behavior, binge drinking and use of stimulants are key experiences on the pathway to high perceived HIV risk among men who have sex with men in Brazil. AIDS Behav 2021; 25:748-57.
29. Felisbino-Mendes MS, Paula TF, Machado ÍE, Oliveira-Campos M, Malta DC. Analysis of sexual and reproductive health indicators of Brazilian adolescents, 2009, 2012 and 2015. Rev Bras Epidemiol 2018; 21 Suppl 1:e180013.

Resumo

O objetivo do estudo foi descrever o conhecimento e práticas de risco à infecção pelo HIV na amostra total de cada município, entre homens de 15 a 24 anos que vivem sem companheiro(a), e homens que fizeram sexo com homens (HSH) pelo menos uma vez na vida em três cidades brasileiras. Foi realizado estudo de corte transversal de base domiciliar com amostragem por conglomerados em três estágios (setores censitários, domicílios, indivíduos), com estratificação por sexo, faixa etária (15-24; 25-34; 35-44; 45-59) e vive com companheiro(a) na seleção do indivíduo. Estimaram-se proporções e intervalos de 95% de confiança (IC95%) de indicadores de conhecimento, testagem do HIV, comportamento sexual e autoavaliação do risco. Foram analisados 5.764 indivíduos em Campo Grande, 3.745 em Curitiba e 3.900 em Florianópolis. Baixo nível de conhecimento foi encontrado para os métodos de prevenção, sobretudo para profilaxia pré-exposição (PrEP). Práticas de sexo desprotegido foram frequentes nos três municípios. As proporções de teste de HIV na vida foram 57,2% (IC95%: 55,1-59,2) em Curitiba, 64,3% (IC95%: 62,7-66,0) em Campo Grande, e 65,9% (IC95%: 64,0-67,7) em Florianópolis. Entre homens de 15-24 anos, proporções de uso de drogas estimulantes e práticas sexuais desprotegidas foram mais altas que nos demais grupos etários. Entre os HSH, as proporções de teste de HIV na vida foram superiores a 80%. Mais de 30% foram parceiros receptivos no sexo anal sem uso de preservativo, e menos de 5% avaliam seu risco como alto. É preciso adotar estratégias de comunicação mais eficazes sobre a prevenção da infecção do HIV, incluindo a ampliação de conhecimentos que poderiam motivar práticas sexuais mais seguras.

HIV; Inquéritos Epidemiológicos; Conhecimento; Prevenção de Doenças; Comportamento Sexual

Resumen

El objetivo fue describir el conocimiento y prácticas de riesgo para la infección por el HIV en la muestra total de cada municipio, entre hombres de 15 a 24 años que viven sin compañero(a), y hombres que practicaron sexo con hombres (HSH) por lo menos una vez en la vida en tres ciudades brasileñas. Se trata de un estudio de corte transversal con base domiciliaria, con una muestra por conglomerados en tres fases (sectores censales, domicilios, individuos), con estratificación por sexo, franja de edad (15-24; 25-34; 35-44; 45-59) y vive con compañero(a) en la selección del individuo. Se estimaron las proporciones e intervalos de 95% de confianza (IC95%) de indicadores de conocimiento, testeo del VIH, comportamiento sexual y autoevaluación del riesgo. Se analizaron a 5.764 individuos en Campo Grande, 3.745 en Curitiba y 3.900 en Florianópolis. Se encontró un bajo nivel de conocimiento respecto a los métodos de prevención, sobre todo para PrEP. Fueron frecuentes las prácticas de sexo desprotegido en los tres municipios. Las proporciones de tests de VIH en la vida fueron 57,2% (IC95%: 55,1-59,2) en Curitiba, 64,3% (IC95%: 62,7-66,0) en Campo Grande, y 65,9% (IC95%: 64,0-67,7) en Florianópolis. Entre hombres de 15-24 años, las proporciones de uso de drogas estimulantes y prácticas sexuales desprotegidas fueron más altas que en los demás grupos de edad. Entre los HSH, las proporciones de test de VIH en la vida fueron superiores a 80%. Más de un 30% fueron parejas receptivas en el sexo anal, sin uso de preservativo, y menos de un 5% evalúan su riesgo como alto. Es necesario adoptar estrategias de comunicación más eficaces sobre la prevención de la infección contra el VIH, incluyendo la ampliación de conocimientos que podrían motivar prácticas sexuales más seguras.

VIH; Encuestas Epidemiológicas; Conocimiento; Prevención de Enfermedades; Conducta Sexual

Submitted on 23/Jun/2021
Final version resubmitted on 29/Oct/2021
Approved on 26/Nov/2021