

Unprotected receptive anal sex among men who have sex with men, Belo Horizonte, MG

Sexo anal receptivo desprotegido entre homens que fazem sexo com homens, Belo Horizonte, MG

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ABSTRACT

Introduction: The Brazilian HIV epidemic is considered concentrated among vulnerable populations, particularly men who have sex with men (MSM). **Objective:** This paper analyzes the characteristics of sexual behavior and its associated factors among MSM in the city of Belo Horizonte, MG. **Methods:** Cross-sectional study conducted in 2008-2009, among 274 MSM recruited by Respondent Driven Sampling (RDS). Odds Ratios were estimated by logistic regression. **Results:** Among 274 subjects, 35.7% reported inconsistent condom use in receptive anal intercourse in the 6 months preceding the interview, with a high proportion of multiple sexual partnerships (average of 4.3 partners). Final logistic regression model showed that being married or living in a stable relationship, self-reported sexual identity as 'gay', feeling tense or worried some or many times in the past 12 months, history of sexual intercourse under influence of alcohol in the last six months, low knowledge about HIV transmission and history of previous testing for syphilis were factors independently associated with inconsistent use of condoms during receptive anal intercourse in the sample. **Conclusions:** The proportion of inconsistent condom use in this MSM population was high. Specific intervention strategies for should be developed with special attention to the use of alcohol and drugs, fighting stigma and prejudice, as well as expanding testing and comprehensive health assistance. The indicator inconsistent condom use in receptive anal sex should be incorporated in the monitoring and evaluation of the Aids epidemic at the municipal level in this key population of MSM.

Key words: HIV; Acquired Immunodeficiency Syndrome; Sexual Behavior; Health Vulnerability; Brazil.

RESUMO

Introdução: a epidemia do HIV no Brasil é considerada concentrada em populações vulneráveis, principalmente em homens que fazem sexo com outros homens (HSH). **Objetivo:** este trabalho objetiva descrever as características do comportamento sexual de risco e analisar as características associadas ao uso inconsistente de preservativos nas relações sexuais anais receptivas entre homens que fazem sexo com homens (HSH) em Belo Horizonte, MG. **Métodos:** estudo de corte transversal, conduzido em 2008-2009, com 274 HSH recrutados pela técnica amostral do Respondent Driven Sampling (RDS). Odds Ratios foram estimadas por regressão logística. **Resultados:** entre 274 indivíduos, 35,7% informaram uso inconsistente de preservativo nas relações anais receptivas nos seis meses anteriores à entrevista, com elevada proporção de parcerias sexuais múltiplas (média de 4,3 parceiros). Ser casado ou estar em união estável, identidade sexual autorreferida como gay, sentir-se tenso ou preocupado algumas ou muitas vezes nos últimos 12 meses, história de relação sexual sob efeito de álcool nos últimos seis meses, baixo conhecimento sobre transmissão do HIV e história de testagem prévia para sífilis foram fatores independentemente associados ao uso incon-

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sistente de preservativos nas relações anais receptivas na amostra analisada. Conclusões: foi alta a proporção de uso inconsistente de preservativos nessa população de HSH. Estratégias de intervenções específicas devem ser desenvolvidas, com atenção especial para o uso de álcool e drogas, combate ao estigma e preconceito, além de ampliação à testagem e assistência integral à saúde. O indicador de uso inconsistente de preservativos nas relações anais receptivas deve ser incorporado no monitoramento e avaliação da epidemia de Aids no município.

Palavras-chave: HIV; Síndrome de Imunodeficiência Adquirida; Comportamento Sexual; Vulnerabilidade em Saúde; Brasil.

INTRODUCTION

According to the 2013 Joint United Nations Programme on HIV/AIDS (UNAIDS) report,¹ the prevalence of HIV infection in Brazil is estimated to be between 0.4 % and 0.5 % in the general adult population. However, the Brazilian epidemic is considered to be concentrated in key populations (with a prevalence estimate of more than 5%), including injecting drug users, sex workers and especially men who have sex with men (MSM).² The main HIV transmission exposure category in Brazil is through sexual contact, being unprotected receptive anal intercourse the practice with highest risk for acquiring the virus.³ Thus, MSM are at high risk of HIV exposure, influenced by the characteristics of sexual practices and sexual behavior.

There is current evidence that condom use by MSM is declining in both developed and developing countries,³ suggesting that prevention strategies are not working satisfactorily. Some reasons for this are the optimism regarding antiretroviral treatment, emergence of the internet as a risk environment and structural deficiencies in providing specific services for MSM.⁴ Several studies point to worrying rates of irregular condom use in this population. In Brazil, a study that compared the results of four surveys (with different methodologies and at different periods) involving MSM in Fortaleza, Ceará, the proportion of risky sexual behavior ranged from 31.4% to 54.6%.⁵ Analysis of sexual behavior in a sample of 3449 MSM in ten municipalities showed that 36.5% of individuals reported unprotected receptive anal intercourse in the past six months.⁶ In a national survey on sexual behavior in the general population in 2008,⁷ 7.6% reported sexual intercourse with someone of the same sex throughout life, and only 20.6% reported consistent condom use in all sexual relationships in the twelve months preceding the interview .

Unprotected anal sex is a high-risk practice for HIV transmission. Due to the fragility of the epithelium of the anal mucosa, there is an increased risk of rupture of the epithelial barrier during sexual intercourse.⁸ This, associated with the absence of a protective barrier of antibodies in the rectal mucosa, facilitates entry of the virus into the host.⁸ In a meta-analysis of studies that evaluated the risk of transmission in serodiscordant couples,⁹ most of them with MSM couples, the probability of transmission through unprotected receptive anal intercourse was found to be 1.4% (95% CI 0.2 to 2.5) and 40.4% (95% CI 6.0 to 74.9) per act and per partner, respectively. This suggests that few sexual contacts would be needed to occur HIV transmission, although there may be differences in transmissibility according to certain characteristics of sexual practices (duration of partnership, number of partners and frequency of sexual intercourse) and of the positive partner, e.g., plasma viral load and the presence of genital lesions.^{8,9}

Regarding the determinants of sexual behavior, Fisher & Fisher¹⁰ proposed a comprehensive theoretical model, theorizing that the reduction of HIV risk is a function of informing individuals about the transmission and prevention of HIV, of the motivation of them to reduce those risks, and of their behavioral skills for making specific decisions regarding risk reduction. This model proved to be applicable to the population of men who have sex with men. Additionally, other sociocultural characteristics appear to be associated with sexual risk behavior in this population. MSM have a higher risk of discrimination and violence because of their sexual orientation, which in turn increases the risk of mental illnesses, alcohol and drugs abuse and engaging in risky sexual practices.¹¹

The objective of this paper is to describe the characteristics of sexual risk behavior in a sample of MSM in the city of Belo Horizonte, Minas Gerais, and analyze characteristics associated with inconsistent condom use in receptive anal intercourse in this sample, especially those related to the sociocultural and behavioral context, such as alcohol and drug use, sexual visibility, discrimination and homophobic violence.

METHODS

This study is part of a national multicenter study carried out among MSM in ten Brazilian cities.¹² The national study included 3859 participants age 18 years old or over, and who were residents of Manaus,

Recife, Salvador, Belo Horizonte, Rio de Janeiro, Santos, Curitiba, Itajaí, Brasília and Campo Grande. For this analysis, we selected only those individuals participating in the city of Belo Horizonte, Minas Gerais State (N=274). Participants were recruited by Respondent Driven Sampling (RDS).¹³ Data collection was conducted through face-to-face interviews with a previously standardized structured questionnaire. Methodological details of the study are available in Kerr *et al.*, 2013,¹² and Guimarães *et al.*, 2014.¹⁴

For this analysis, the event was defined as inconsistent condom use, i.e., not to use condoms at all times during receptive anal intercourse in the six months prior to the interview. The explanatory variables were assessed in four main groups:

- sociodemographic (age, schooling, social class, skin color, marital status, individual income);
- behavioral (age of first sexual intercourse, current alcohol use and drug use in the past six months, binge drinking, history of sexual intercourse under the influence of alcohol and/or drugs);
- related to the social context (sexual identity, sexual attraction and family support, discrimination, sexual and verbal aggression, sexual intercourse against one's will, support from friends for HIV prevention, participation in Non-Governmental Organizations);
- mental health (symptoms of anxiety and depression, suicidal ideation); and,
- health service characteristics (chance of getting infected with HIV, knowledge about HIV/AIDS, previous HIV and Syphilis testing, previous diagnosis of STD).

Binge drinking was defined as consuming five or more drinks of alcohol in a single day at least once a week. Sexual identity was reported by the patient, and it was classified as 'gay', homosexual, and others. Chance of getting infected with HIV was assessed using a direct question with four options, and subsequently classified into two categories (no or little chance and moderate or high chance). Knowledge about HIV transmission was measured by ten questions about HIV transmission and prevention, and subsequently calculated a score by means of Item Response Theory.^{15,16}

Descriptive analysis of categorical variables and central tendency measures of continuous variables was performed with subsequent categorization. Differences in proportions were evaluated using the chi-squared test with significance level of 0.05. Odds Ratios (OR) were calculated for estimate the magnitude

of associations with 95% confidence levels. Binomial logistic regression was used to assess the independent effect of potential explanatory variables. To fit the model, variables with p-value less than 0.20 in the univariate analysis were selected, remaining in the final model only those significantly ($p < 0.05$) associated with the event. Estimates were weighted by the inverse of the harmonic mean of social network size reported by the respondent.¹³ SAS™ software (SAS Inst. Cary, USA) was used for analysis.

RESULTS

The sample size of MSM residents in Belo Horizonte (n=274) was composed of participants with a mean age of 29.8 years, most of MSM were non-white (56.3%), with 12 or more years of education (65.4%), belonging to A or B social classes (61.7%), single (86.5%) and with 'gay' (30.5%) or homosexual (54.3%) identity.

Inconsistent condom use during receptive anal intercourse was reported by 35.7% of the interviewees, and it was more frequent with stable partners. Almost two thirds of the respondents (66.4%) reported sexual intercourse with more than one partner in the last six months (average of 4.3 partners), and the vast majority (92.3%) had sexual intercourse only with male partners. Most MSM reported having at least one stable sexual partner (60.9%), 49.2 % reported having had two or more casual partners and 9.2% had at least one commercial partner in the last six months.

Univariate analysis showed that factors associated with unprotected receptive anal intercourse were (Table 1): being married or living in a stable relationship (OR = 3.23, 95% CI = 1.55 - 6.71), 'gay' sexual identity (OR = 2.50, 95% CI = 0.98 - 6.36), having talked with their mothers about their sexual attraction (OR = 1.75, 95% CI = 1.04 - 2.94), feeling any discrimination in the last 12 months (OR = 1.74, 95% CI = 1.04 - 2.90), feeling tense or worried sometimes or many times over the last 12 months (OR = 3.51, 95% CI = 1.62 - 7.59), feeling sad or depressed sometimes or many times over the last 12 months (OR = 2.53, CI = 1.49 - 4.28), history of sexual intercourse against their will (OR = 2.24, 95% CI = 1.08 - 4.64), binge drinking (OR = 2.61, 95% CI = 1.35 - 5.07), history of sexual intercourse under the influence of alcohol in the past six months (OR = 2.76, 95% CI = 1.58 - 4.79), prior syphilis testing (OR = 2.26, 95% CI = 1.34 - 3.81), and history of STD in the last 12 months (OR = 3.06, 95% CI = 1.71 - 5.48).

Table 1 - Associations among selected characteristics and unprotected receptive anal intercourse in the last six months among men who have sex with men, Belo Horizonte, 2008-2009. (N=274)

Characteristics ¹	Total N	N (%) ²	OR (95% CI)	p
<i>Age:</i>				
≤ 24 years old	112	34 (29.9)	1.00	
> 24 years old	157	62 (40.0)	1.56 (0.93-2.61)	0.089
<i>Schooling:</i>				
12+ years	195	63 (36.3)	1.00	
≤ 11 years	74	33 (34.7)	0.93 (0.55-1.58)	0.800
<i>Social class (Brazilian Criterion)</i>				
A-B	169	57 (34.6)	1.00	
C-D-E	100	39 (37.7)	1.14 (0.69-1.91)	0.607
<i>Individual monthly income:</i>				
R\$ 750,00+	182	59 (33.6)	1.00	
< R\$ 750,00	87	37 (39.8)	1.30 (0.78-2.19)	0.318
<i>Skin color:</i>				
White	117	38 (33.1)	1.00	
Non white	152	58 (37.9)	1.23 (0.74-2.05)	0.414
<i>Marital status:</i>				
Single	234	75 (32.2)	1.00	
Married / Stable union	34	21 (60.6)	3.23 (1.55-6.71)	0.001
<i>Live with:</i>				
Alone	45	10 (22.3)	1.00	0.054
With parents	120	43 (38.3)	2.16 (0.98-4.79)	0.052
With partners or friends	104	42 (38.6)	2.18 (0.98-4.85)	0.13
<i>Sexual identity:</i>				
Other	28	8 (18.8)	1.00	
Gay	110	39 (47.7)	2.50 (0.98-6.36)	0.046
MSM / homosexual	131	49 (33.7)	1.97 (0.78-4.98)	0.144
<i>Sexual attraction to:</i>				
Both men and women	69	24 (29.3)	1.00	
Only men	200	73 (38.5)	1.50 (0.86-2.64)	0.154
<i>They told of attraction to men to mother:</i>				
No	101	31 (28.4)	1.00	
Yes	167	65 (40.9)	1.75 (1.04-2.94)	0.035
<i>They told of attraction to men to any person:</i>				
No	19	6 (28.3)	1.00	
Yes	249	90 (36.5)	1.45 (0.56-3.76)	0.434
<i>Family support about the attraction to men:</i>				
Support totally or partially	174	63 (35.6)	1.00	
Indifferent/not support	95	33 (36.0)	1.02 (0.60-1.72)	0.944
<i>Feeling of any type of discrimination:</i>				
No	142	51 (30.9)	1.00	
Yes	127	45 (43.7)	1.74 (1.04-2.90)	0.033
<i>Feeling of any type of discrimination:</i>				
No	159	57 (32.0)	1.00	
Yes	110	39 (43.1)	1.61 (0.96-2.71)	0.072

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Table 1 - Associations among selected characteristics and unprotected receptive anal intercourse in the last six months among men who have sex with men, Belo Horizonte, 2008-2009. (N=274)

Characteristics ¹	Total N	N (%) ²	OR (95% CI)	p
<i>Feeling tense or nervous in the last six months:</i>				
Never or little	43	9 (16.3)	1.00	
Some or a lot	226	87 (40.6)	3.51 (1.62-7.59)	<0.001
<i>Feeling sad or depressed in the last six months:</i>				
Never or little	125	30 (24.4)	1.00	
Some or a lot	144	67 (45.0)	2.53 (1.49-4.28)	<0.001
<i>Suicidal Ideation:</i>				
No	234	78 (34.7)	1.00	
Yes	35	18 (41.2)	1.32 (0.68-2.55)	0.407
<i>Verbal aggression due to sexual orientation:</i>				
No	103	41 (38.3)	1.00	
Yes	166	55 (34.1)	0.83 (0.50-1.38)	0.482
<i>Verbal aggression due to sexual orientation:</i>				
No	242	89 (35.5)	1.00	
Yes	27	7 (38.9)	1.16 (0.44-3.06)	0.771
<i>Sexual intercourse against their will:</i>				
No	234	78 (33.3)	1.00	
Yes	35	18 (52.8)	2.24 (1.08-4.64)	0.028
<i>Age of first sexual intercourse:</i>				
> 18 years old	61	22 (32.0)	1.00	
15-18 years old	129	44 (34.5)	1.12 (0.60-2.09)	0.723
≤ 14 years old	79	30 (41.5)	1.51 (0.76-3.00)	0.245
<i>Alcohol use:</i>				
Never / Eventual	101	37 (32.3)	1.00	
2+ times a week	168	60 (38.3)	1.30 (0.78-2.16)	0.315
<i>Binge drinking in the last six months:</i>				
No	214	72 (32.0)	1.00	
Yes	34	24 (55.2)	2.61 (1.35-5.07)	0.004
<i>Sexual intercourse under the influence of alcohol in the last six months:</i>				
No	83	23 (22.4)	1.00	
Yes	186	73 (44.2)	2.76 (1.58-4.79)	<0.001
<i>Illicit drug use in the last six months:</i>				
No	180	75 (36.2)	1.00	
Yes	88	21 (34.4)	0.93 (0.51-1.68)	0.801
<i>Sexual intercourse under the influence of drugs in the last six months:</i>				
No	214	83 (36.2)	1.00	
Yes	54	13 (33.4)	0.88 (0.44-1.80)	0.735
<i>Knowledge about HIV / AIDS:</i>				
High	202	69 (33.0)	1.00	
Low	67	27 (45.3)	1.68 (0.94-3.02)	0.078
<i>Chance to get infected with HIV:</i>				
None or low	143	51 (35.2)	1.00	
Moderate or high	82	24 (35.3)	1.00 (0.55-1.83)	0.996
Unknown	44	21 (37.6)	1.11 (0.58-2.11)	0.752

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Table 1 - Associations among selected characteristics and unprotected receptive anal intercourse in the last six months among men who have sex with men, Belo Horizonte, 2008-2009. (N=274)

Characteristics ¹	Total N	N (%) ²	OR (95% CI)	p
<i>How many friends talk about STD / Aids prevention?</i>				
Everybody or majority	97	27 (31.0)	1.00	
Some, few or none	172	69 (38.1)	1.37 (0.80-2.36)	0.249
<i>How many friends say they use condoms?</i>				
Everybody or majority	190	63 (34.8)	1.00	
Some, few or none	79	33 (37.8)	1.14 (0.67-1.94)	0.629
<i>How many friends encourage condom use?</i>				
Everybody or majority	155	49 (32.9)	1.00	
Some, few or none	114	47 (39.2)	1.31 (0.79-2.16)	0.288
<i>To know any NGO that works in HIV / AIDS field:</i>				
No	131	41 (32.1)	1.00	
Yes	138	55 (39.0)	1.35 (0.82-2.24)	0.237
<i>Participation in NGO:</i>				
No	222	78 (33.9)	1.00	
Yes	47	18 (46.1)	1.67 (0.85-3.29)	0.138
<i>Prior HIV testing:</i>				
No	69	21 (32.9)	1.00	
Yes	200	75 (36.6)	1.18 (0.65-2.13)	0.591
<i>Prior Syphilis testing:</i>				
No	166	48 (29.0)	1.00	
Yes	91	45 (47.9)	2.26 (1.34-3.81)	0.002
<i>STD diagnosis in the past 12 months:</i>				
No	203	61 (29.6)	1.00	
Yes	66	35 (56.2)	3.06 (1.71-5.48)	<0.001

¹ Ignored data excluded² Proportions weighted according to individual social network size

On the other hand, final logistic regression model (Table 2) showed that being married or living in a stable relationship (OR = 3.23, 95% CI = 1.55 - 6.71), 'gay' sexual identity (OR = 4.15, 95% CI = 1.59 - 10.8), feeling tense or worried sometime or many times over the last 12 months (OR = 3.40, 95% CI = 1.45 - 7.94), history of sexual intercourse under the influence of alcohol in the past six months (OR = 3.21, 95% CI = 1.72 - 6.00), low knowledge about HIV /AIDS (OR = 2.34, CI 95 % = 1.19 - 4.63) and previous syphilis testing (OR = 2.82, 95% CI = 1.54 - 5.17) were independent factors associated with unprotected receptive anal intercourse in the sample of MSM from the city of Belo Horizonte .

DISCUSSION

The results show a high proportion of risky sexual behavior in the sample studied, being 35.7% of

participants practicing unprotected receptive anal intercourse in the previous six months, which is similar to that found when the overall study sample was evaluated involving ten Brazilian cities.⁶ This result is consistent with other Brazilian studies.¹⁷ despite the great variability in risk behavior definitions, type of sexual practice analyzed and type of sexual partners involved. Like other studies involving MSM population, condom use in this sample was significantly lower in intercourse with stable partners. Another survey conducted in Brazil¹⁸ showed higher proportion of inconsistent condom use with regular partners (33.9% in receptive intercourse and 36.0% in insertive intercourse), compared with casual partners (13.7% and 15.3% in receptive and insertive intercourse, respectively). In the present study, inconsistent condom use was reported by 50.8% of participants who had only a steady partner, 45.4% of those with casual or commercial steady partner and 27.3 % of those who had no steady partner.

Table 2 - Final Regression Logistic Model of factors associated with unprotected receptive anal intercourse among men who have sex with men, Belo Horizonte, 2008-2009. (N=274)

Characteristics	OR ¹ (95% CI)	p
<i>Marital status:</i>		
Single	1.00	
Married / Stable union	3.71 (1.58-8.69)	0.003
<i>Sexual identity:</i>		
Other	1.00	
Gay	4.15 (1.59-10.8)	0.004
MSM / homosexual	2.11 (0.85-5.28)	0.109
<i>Feeling tense or nervous in the last six months:</i>		
Never or little	1.00	
Some or a lot	3.40 (1.45-7.94)	0.005
<i>Sexual intercourse under the influence of alcohol in the last six months:</i>		
No	1.00	
Yes	3.21 (1.72-6.00)	<0.001
<i>Knowledge about HIV / AIDS:</i>		
High	1.00	
Low	2.34 (1.19-4.63)	0.014
<i>Prior Syphilis testing:</i>		
No	1.00	
Yes	2.82 (1.54-5.17)	0.001

¹ Weighted Odds Ratio according to individual social network size.

Inconsistent condom use was higher among those who were self-identified as 'gays', when compared to those who were self-identified as bisexual. It is possible that men with bisexual relationships have risky sex less frequently to keep their homosexual relations hidden.¹⁹ Furthermore, information bias may have occurred, as individuals who have sex with men, but identify themselves as straight, may report the use of condoms more frequently because it is more socially acceptable.²⁰

Individuals who reported inconsistent condom use in receptive anal intercourse were more likely to have suffered discrimination and symptoms of anxiety and depression. The MSM population, due to socio-cultural factors, stigma, discrimination and homophobic violence are at a greater risk of developing mental illnesses,¹¹ which in turn may increase the risk of HIV infection. Alvy *et al.*,²¹ evaluating a sample of 1540 American MSM, found a positive association between the degree of depression and unprotected anal sex, a relationship mediated by self-efficacy for safer sex and cognitive escape, which in turn captures, specifically in this context, the use of sex and substances to escape. Reisner *et al.*,²² analyzed a sample of 189 MSM and found a significant associa-

tion between unprotected anal intercourse and post-traumatic stress, which in turn was associated with symptoms of depression and social anxiety.

Binge drinking and alcohol consumption before sex were two characteristics associated with inconsistent condom use in this sample, which was also found in other studies²³. Additionally, Deiss *et al.*²⁴, evaluating sample of 718 MSM in Peru, found that problematic drinkers were more likely to have unprotected sex, to report a history of sexual coercion and transactional sex.

Although the majority of this sample of MSM (77.9%) has demonstrated high knowledge of transmission and prevention of HIV/AIDS, low knowledge was still a factor independently associated with inconsistent condom use. This reinforces the need for maintenance and expansion of educational interventions, with direct messages to this group and to other key vulnerable populations.

Besides the high proportion of inconsistent condom use, other factors also help explain the high rates of sexually transmitted diseases among men who have sex with men in countries with concentrated epidemics, including a high number of sexual partners, concurrency (simultaneous sexual partnerships) and early sexual initiation. Li *et al.*²⁵, assessing the incidence of HIV among MSM by a meta-analysis of 12 studies in China have shown that syphilis infection (relative risk [RR] = 3.33), multiple sexual partners (RR = 2.81) and unprotected receptive anal sex in the last 6 months (RR = 3.88) were significant risk factors for HIV seroconversion. In another study²⁶, sexual behavior characteristics among MSM and heterosexual men were compared. The authors reported that MSM initiated sexual activity earlier (15.4 vs 17.4 years old), informed greater number of sexual partners (15 vs 4 partners), were more likely to have sexual partners at least five years older (52.0% vs 7.9%) and to have recent concurrent partnerships (31.3 % vs 9.7%).

The presented results should be analyzed with some caution. This is a cross-sectional study with limitations in establishing temporal relationship between variables. Also, the sampling technique used – Respondent Driven Sampling (RDS) – is subject to bias, and individuals with certain characteristics may tend to invite peers with similar characteristics (called homophily). Thus, this sample may not actually represent the MSM population in the city of Belo Horizonte. However, theoretically, estimates obtained by RDS are robust and tend to approach those obtained by probabilistic methods when the sample reaches an equilibrium after successive waves of recruitment.¹³

CONCLUSIONS

As demonstrated in this study, despite wide access to information and free condoms, the proportion of MSM engaged in unprotected sexual practices is very high in the city of Belo Horizonte. We should note that this high proportion of is within a context of good knowledge, high schooling, good socioeconomic status, in a predominant young population of 18 to 25 years old. Thus, contrary to the assumption of relative stability of the HIV epidemic, there is a great potential for spread of the virus and other sexually transmitted infections in Brazil, especially among young MSM. This situation is not compatible with advances in diagnosis and treatment of HIV infection, the availability of universal antiretroviral treatment²⁷ and the large network of HIV testing, in addition to the high public investment in awareness campaigns which are probably not reaching key populations. The MSM population has an HIV prevalence greater than the general population, with additional risk behavioral characteristics, including high consumption of alcohol and drugs. Thus, specific intervention strategies should be developed aimed at this group, focusing on the importance of anal sex in HIV transmission. Furthermore, it is essential to fight drug use and stigma, prejudice and homophobic violence experienced by the MSM population, expanding access to HIV testing and comprehensive health care for this population. Monitoring and evaluation indicators of the AIDS epidemic at the municipal level should include unprotected sexual practices and public policies should focus on key populations, with high priority for MSM.

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