

HIV Prevalence and HIV-Related Sexual Practices among Men Who Have Sex with Men in Portuguese Bathhouses

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Abstract

Background: To determine the perceived prevalence (the response of known HIV diagnosis) and trends of HIV infection among men who have sex with men (MSM) frequenting gay bathhouses; and (2) to identify the risk factors associated sexual practices.

Methods: A total of 424 MSM (Mean age 35.64, SD=10.05) recruited through informal social networks and the Internet participated in this study. Most participants were single and self-identified as gay (66.7%). Participants were asked to recall their sexual experiences while visiting a bathhouse for sexual purposes.

Results: 9.4% (n=40) of participants reported being HIV positive and approximately 14.5% (n=62) reported not knowing their status. MSM visited the bathhouses 1.76 times per month (SD=2.12) and involved themselves with 3 men (on average) per each visit. Statistically significant differences between having sex with or without a condom were found ($p < 0.001$) reflect that risky behavior occurs (95% CI). Risk practices involving fluid exchange (condomless practices) were also reported. Ejaculation in the mouth was reported by 29.3% to 48.9% of all participants, and ejaculation in the anus was reported by 15.8% to 17.4% of all participants. Linear regression indicated that sex role, substance use, sexual orientation and number of monthly visits were predictors of sexual practices involving fluid exchange.

Conclusion: Results from this study show that HIV prevalence and HIV-related practices is high among MSM who use bathhouses to engage in sexual activity, and this can serve as a reference for researchers interested in these behavioral patterns and for local authorities aiming to promote health education among MSM.

Keywords: Gay bathhouse; HIV prevalence; HIV risk behavior; Men who have Sex with Men (MSM)

Introduction

Gay bathhouses are businesses that provide an environment where gay men and other men who have sex with men (MSM) can meet to connect sexually and socially [1]. The physical structure, architecture, and atmosphere of bathhouses vary from one space to the next, but each is constructed to meet the primary need of a safe place to meet other men for sex [2] or as a safe place for some men to just socialize with other men.

Men who most frequently engage in high-risk sexual behavior go to a wide variety of places where men meet for sex (e.g., bars or public parks), as well as the bathhouses, that in Portugal concentrate in Lisbon, and Oporto, the largest cities. Although there are some men who will engage in high-risk behavior in any venue they frequent, recent data found that the majority of men who go to the baths do not engage in high-risk behavior in that setting [3]. Also, men who do frequent gay bathhouses share other concerns beyond HIV transmission as a salient component of bathhouse culture, such as moral conceptions of self and others at a bathhouse; identity management at a bathhouse; psychosocial functions of gay bathhouses, and bathhouses as critical environments for the promotion of safer sex activities among gay and bisexual men [4].

Since the global outbreak of HIV/AIDS, HIV has been transmitted among different vulnerable populations. In Portugal there are an estimated 41,035 HIV-infected individuals [5], and a prevalence rate of 0.82 (ages 15-49), being this one of the highest rates in Western Europe [6]. In addition, 81.7% of the people diagnosed with HIV were men, and although the highest rate of HIV infection is through heterosexual

unprotected sex (38%) and intravenous drug users who share unclean needles (44.7%), approximately 12.4% of all infections were transmitted via homosexual and/or bisexual unprotected sex (these data refer to the cumulative percentage of HIV transmissions from 1983 to 2011) [%]. This is particularly important to mention given that this rate has doubled since 2001 among men who have sex with men (MSM) in Portugal, and these estimates only regard the notified cases, not considering the unreported cases. Therefore, MSM remain one of the most at risk groups for HIV transmission [7].

The use of highly active antiretroviral therapy (HAART) has significantly decreased HIV/AIDS-related mortality [8]. It has been reported that unprotected sex has increased among MSM after the introduction of HAART, which has resulted in dramatic decreases in the morbidity and mortality from HIV infection [9]. Portugal provides free HAART to all HIV/AIDS patients, but although successful HAART can reduce the contagiousness of HIV, the fact that HIV transmission still occurs in the ART-era indicates that transmission occurs from undiagnosed, untreated, or unsuccessfully treated patients [8].

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Risks factors for HIV infection in MSM include unprotected anal intercourse [10-12], multiple sexual partners [12], a history of drug use [13-15], a history of commercial sexual transactions [16], and a history of other sexually transmitted diseases (STDs) [17]. Like in many other countries, in Portugal MSM seek gay saunas because these environments provide the opportunity for sexual intercourse. Recent research shows that individuals who frequent saunas are at a high risk of contracting HIV, and the prevalence varies from 7.4% [18] to 16.7%.

Therefore, the aims of this study were (1) to determine the perceived prevalence (defined as the response of known HIV diagnosis) and trends of HIV infection among MSM frequenting gay bathhouses; and (2) to identify the risk factors associated sexual practices.

Methods

Participants

The inclusion criteria for participation in the study were: (1) being MSM, (2) being over 18 years of age, (3) being Portuguese and living in Portugal, (4) attending gay bathhouses for sexual purposes, and (5) willingness to participate in the study after knowing its objectives. Participants were recruited through two sampling methods: (1) Informal social networks. The eligible MSM who agreed to participate were asked to refer their friends to participate in the study; and (2) The Internet. The local researcher distributed announcements via local gay websites to reach potential participants.

Demographic data (Table 1) show that the sample is highly differentiated and educated, the majority of men are single and self-identify as gay, live in urban areas, and are employed. Mean age was 35.64 years.

Measures

Demographic characteristics: The structured questionnaire covered age, education, marital status, and HIV status. Participants indicated whether they considered themselves (1) gay/homosexual, (2) bisexual, (3) other. The study was not designed to include transgender persons. For the purpose of data analysis, education and marital status were grouped into several categories. Variables such as employment status or place of residence were also included.

Sexual practices: Participants were asked to recall their sexual experiences and their sexual behaviors when visiting bathhouses. Information was collected regarding: (1) receptive anal sex (frequency of times he was penetrated by a man with and without a condom, and how many men penetrated him with and without a condom); (2) insertive anal sex (frequency of times he penetrated a man with and without a condom, and how many men he penetrated with and without a condom); (3) receptive and insertive oral sex (frequency of times and how many men he had oral sex with, with and without a condom, being receptive or insertive); and the number of times an ejaculation occurred, whether receptive or insertive, oral or anal.

Procedures

All instruments were made available on the internet, from January to October, 2014. A web site was built for this study. All aspects of research were preserved, namely confidentiality and informed consent. Also the ethical procedures were supervised by the Scientific Committee of ISPA (The Institute of Applied Psychology). For the purpose of data gathering, the researchers sent e-mails to potential participants (using mailing lists), and joined Internet-based communities of gay bathhouses users.

Analyses

Analysis was carried out using SPSS version 21 (IBM, USA). Variables were analyzed using simple frequency and percentage. Logistic regression was carried out, significant at $p < 0.05$. The t-test was used to compare differences in groups. All tests were two-tailed.

Ethics statement

The Institutional Review Boards of the Research Unit of Health and Psychology from the Institute of Applied Psychology in Lisbon, Portugal, approved this study.

Results

Perceived prevalence and trends of HIV infection among MSM frequenting gay bathhouses. Table 2 describes the perceived prevalence of HIV infection, indicating that the 9.4% of all participants state that

	N	%
Self-identification		
Gay	283	66.7
Bisexual	138	32.6
Heterosexual	3	0.7
Marital status		
Single	264	62.3
Married to a man	6	1.4
Married to a woman	15	3.6
Civil Union to a man	22	5.1
Civil union to a woman	18	4.3
Dating a man	65	15.2
Dating a woman	6	1.5
Divorced from a woman	28	6.6
Place of residence		
Big urban area	271	63.8
Small urban area	108	25.4
Big rural area	24	5.8
Small rural area	21	5.0
Education		
Up to 9 years of school	58	13.7
Up to 12 years of school	74	17.4
University/college attendance	96	22.6
Pre-graduate degree	104	24.6
Post-graduate degree	92	21.7
Employment		
Student	43	10.2
Unemployed	50	11.7
Employed	229	54.0
Self-employed	74	17.5
Retired	6	1.5
Temporary worker	13	2.9
Other	9	2.2

Mean age 35.64, SD=10.05, median=35

Table 1: Demographic characteristics (n=424).

	n	%
HIV status		
Negative	307	72.5
Positive	40	9.4
Doesn't know	62	14.5
Rather not say	15	3.6

Table 2: Perceived prevalence HIV infection among MSM frequenting gay bathhouses (n=424).

they are HIV positive. 14.5% say that they don't know their status, and 3.6% rather not say.

As it can be seen from table 3, participants visited the bathhouses 1.76 times per month (SD=2.12) and involved themselves with 3 men (on average) per each visit. The majority of them report feeling very satisfied (6.48 on a scale from 1 to 10). The vast majority of men report no having paid sex inside the bathhouse (93.3%) and 12.9% said that they used toxic substances in the premises.

Sexual practices

Table 4 shows the results for the sexual practices within the bathhouse premises, using or not using a condom. Significant differences were found between having sex with or without a condom for all types of sex ($p < 0.001$). Mean scores reflect the frequency of sexual practices (1=never; 5=always).

Table 5 shows the results of sexual practices that involve lower risk with fluids exchange, namely, ejaculation in the mouth and higher risk with fluid exchange, namely ejaculation in the anus. Results are shown in total and in comparison between HIV negative and positive men. "Ejaculation in your mouth" was a behavior reported by 29.3% of MSM, and HIV negative men say that they do this practice more often than HIV positive men, even though these differences are not statistically significant. "Ejaculation in his mouth" was a behavior reported by nearly half of the participants (48.9%), and HIV negative men also report performing this behavior more often than HIV positive men, although these differences were not significant. "Ejaculation in your anus" was a behavior reported by 17.4% of men, and HIV positive men report performing this practice more often than HIV negative men, although these differences were not significant. Finally, "Ejaculation in his anus" was a practice reported by 15.8% of men, and significant differences were found between HIV positive and negative men, indicating that positive men do this practice more often ($p = 0.026$).

For the number of times a man "ejaculated in your anus", logistic

	N	%	Mean	SD
Monthly visits			1.76	2.12
Number of men (involvement per each visit)			3.05	2.41
Time spent in each visit (hours)			3.38	1.82
Level of satisfaction with the visits			6.48	2.13
Paid sex in the bathhouse				
Yes	29	6.7		
No	395	93.3		
Substance use in the bathhouse				
Yes	55	12.9		
No	369	87.1		

Table 3: Circumstances of gay bathhouses visits (n=424).

Sexual practices in the bathhouse	With or Without a condom	Mean	Std. Deviation	t	p
Receptive Anal sex	With a condom	3.37	1.58	24.52	<0.001
	Without a condom	1.52	0.96	18.12	<0.001
Insertive Anal sex	With a condom	3.58	1.60	25.47	<0.001
	Without a condom	1.55	1.09	16.16	<0.001
Insertive Oral sex	With a condom	3.91	1.28	34.57	<0.001
	Without a condom	1.87	1.20	17.71	<0.001
Receptive Oral sex	With a condom	1.95	1.26	17.938	<0.001
	Without a condom	3.24	1.63	23.16	<0.001

Table 4: Results for "sexual practices", using or not using a condom (n=424).

Risk practices	Total (N=424) M (SD)	HIV Negative (number of times) (n=307) M (SD)	HIV Positive (number of times) (n=40) M (SD)	t	p
Ejaculate in your mouth	2.89 (12.73)	3.21 (14.55)	1.54 (2.93)	0.410	0.682
Yes	29.3%				
No	70.7%				
Ejaculate in his mouth	3.04 (9.48)	3.07(10.51)	2.31(5.48)	0.257	0.797
Yes	48.9%				
No	51.1%				
Ejaculate in your anus	1.70(9.84)	1.58(10.25)	4.77(13.86)	-1.009	0.315
Yes	17.4%				
No	82.6%				
Ejaculate in his anus	0.74(3.12)	0.43(1.36)	2.46(8.29)	-2.029	0.026*
Yes	15.8%				
No	84.2%				

*<0.05

Table 5: Lower and higher risk practices involving fluid exchange (condom-less practices).

	Number of times a man ejaculated in your anus β (OR/95% CI)	Number of times you ejaculated in a man's anus β(OR/95% CI)
Age	0.039 (0.91/0.71-1.11)	-0.256 (3.41/0.16-29.41)
Sexual orientation	-0.156 (0.99/0.69-1.45)	0.168* (0.02/0.00-1.32)
Coming out	0.108 (0.72/0.39-1.34)	-0.129 (0.82/0.74-16.67)
Sex role	0.136* (0.81/0.64-1.01)	-0.198 (2.21/0.74-5.36)
Monthly visits	0.051 (3.49/0.65-12.44)	-0.079* (1.47/0.95-1.54)
Number men	-0.079 (2.60/0.19-21.33)	0.110 (0.96/0.86-1.28)
Time spent	0.081 (1.01/0.88-6.21)	-0.084 (1.00/1.22-1.36)
Paid sex	0.202 (1.09/1.25-2.07)	-0.015 (2.31-0.84-6.26)
Substance use	-0.298* (1.43/0.94-2.16)	0.098 (1.02/0.79-1.16)
HIV status	-0.043 (0.62/0.49-1.58)	0.068 (2.03/0.17-29.24)

*p<0.05

Table 6: Demographic variables and differences based on high risk sexual behavior without a condom (number of times a man ejaculated in your anus and ejaculated in his anus).

regression indicated that scoring higher regarding sex role (identifying more with insertive positions) and using toxic substances are predictors of the number of times a man ejaculated in your anus. For the number of times "you ejaculated in a man's anus", logistic regression indicated that scoring higher regarding sexual orientation (identifying more as bisexual) and visiting the bathhouse more often are predictors of the number of times a man ejaculated in your anus (Table 6).

Discussion

Gay bathhouses have long been subject to community and public health pressures owing to the perceived link between the behaviors associated with these settings and various sexually transmitted infections. This study examined the prevalence of perceived HIV infection of MSM in gay bathhouses since this venue is the most at risk venue for sexual risk exposure [19]. The results obtained (9.4%) are higher than the results obtained in other Portuguese studies [20,21] where bathhouses weren't scrutinized. It was also found in this study that the percentage of unprotected sex was higher than the percentage found in other studies [22-24] and very worrisome data produced

indicate that HIV positive men practice high risk behavior such as ejaculating in another man's anus.

This was pioneer cross-sectional study, and although data were collected at a single point in time via the internet, they are useful as a baseline measure since the men surveyed in this study were invited to report their sexual practices in an anonymous environment. An important reason why we chose to use the internet was because of the anticipated reluctance to be open about the fact that they go to a bathhouse.

The majority of the sexual activity that occurred in the setting would not contribute to HIV transmission, even though a relevant percentage of men at the bathhouse persist in risk behavior. The fact that men who engaged in risky behaviors tended to do so wherever they had sex suggests that the bathhouse is a point of access to reach these men with appropriate intervention.

The implication for prevention suggests, once again, that risk behavior is a complicated phenomenon. Reducing transmission among MSM is not about controlling individual behavior at the bathhouse or eliminating the venue altogether; many men who otherwise engage in high-risk behavior already report safer sex at the bathhouse. Instead, successful public health measures need to take advantage of the opportunity to promote direct, concrete, frank connections with the highest risk men in the population when they come through the bathhouse. More importantly, public health has the opportunity to design innovative prevention interventions that men can take with them and that target reducing their risk behavior not only at the bathhouse but wherever they have sex.

This was a cross-sectional study, and although data were collected at a single point in time, they are useful as a baseline measure against which other assessments at other times and at other venues can be compared. Nevertheless, limitations to this study include the fact that self-reported data provide an opportunity for response bias. The men surveyed in this study could have downplayed or overstated their actual behavior. Also, since this was a convenience sample, hence results cannot be generalized.

Conclusions

Of MSM participating in this study, 9.4% said that they were infected with HIV. The role played during anal intercourse, substance abuse, sexual orientation and the number of visits was the four main risk factors for high risk sexual practices. This study accessed gay bathhouses to obtain a deeper understanding of the sexual behavior of MSM in Portugal. Results from this study can serve as a reference for researchers interested in these behavioral patterns and for local authorities promoting health education among MSM.

References

1. Binson D, Blea L, Cotton PD, Kant J, Woods WJ (2005) Building an HIV/STI prevention Program in a gay bathhouse: A case study. *AIDS Educ Prev* 17: 386-399.
2. Woods WJ, Binson D (2003) Public health policy and gay bathhouses. *J Homosex* 44: 1-21.
3. Woods WJ, Binson D, Mayne TJ, Gore R, Rebchook G (2001) Facilitators and HIV prevention in bathhouse and sex club environments. *Journal of Sex Research* 38: 68-74.
4. Haubrich DJ, Myers T, Calzavara L, Ryder K, Medved W (2004) Gay and bisexual men's experiences of bathhouse culture and sex: 'looking for love in all the wrong places. *Cult Health Sex* 6: 19-29.
5. Departamento de Doenças Infecciosas (DDI) (2012) Infeção VIH/SIDA: a situação em Portugal a 31 de dezembro de 2011. Lisboa: INSA.
6. UNAIDS (2013) UNAIDS Report on the global AIDS epidemic. WHO Library Cataloguing in Publication Data.
7. Lorimer K, Kidd L, Lawrence M, McPherson K, Cayless S, et al. (2013) Systematic review of reviews of behavioural HIV prevention interventions among men who have sex with men. *AIDS Care* 25: 133-150.
8. Cohen MS, Gay CL (2010) Treatment to prevent transmission of HIV-1. *Clin Infect Dis* 50: S85-95.
9. Law MG, Prestage G, Grulich A, Van de Ven P, Kippax S (2001) Modelling the effect of combination antiretroviral treatments on HIV incidence. *AIDS* 15:1287-1294.
10. Ekstrand ML, Stall RD, Paul JP, Osmond DH, Coates TJ (1999) Gay men report high rates of unprotected anal sex with partners of unknown or discordant HIV status. *AIDS* 13:1525-1533.
11. Elford J, Bolding G, Maguire M, Sherr L (1999) Sexual risk behaviour among gay men in a relationship. *AIDS* 13:1407-1411.
12. Piaseczna MA, Craib KJ, Li K, Chan K, Weber AE, et al. (2001) Longitudinal patterns of sexual behavior and condom use in a cohort of HIV-negative gay and bisexual men in Vancouver, British Columbia, Canada, 1995-2000. *J Acquir Immune Defic Syndr* 28: 187-193.
13. Rhodes F, Corby NH, Wolitski RJ, Tashima N, Crain C, et al. (1990) Risk behaviors and perceptions of AIDS among street injection drug users. *J Drug Educ* 20: 271-288.
14. Rietmeijer CA, Wolitski RJ, Fishbein M, Corby NH, Cohn DL (1998) Sex hustling, injection drug use, and non-gay identification by men who have sex with men. Associations with high-risk sexual behaviors and condom use. *Sex Transm Dis* 25: 353-360.
15. Wolitski RJ, Fishbein M, Johnson WD, Schnell DJ, Esacove A (1996) Sources of HIV information among injecting drug users: association with gender, ethnicity, and risk behaviour. *AIDS Community Demonstration Projects. AIDS Care* 8: 541-555.
16. Weber AE, Craib KJ, Chan K, Martindale S, Miller MLet al. (2001) Sex trade involvement and rates of human immunodeficiency virus positivity among young gay and bisexual men. *Int J Epidemiol* 30: 1449-1454.
17. Van Griensven F, de Lind van Wijngaarden JW, Baral S, Grulich A (2009) The global epidemic of HIV infection among men who have sex with men. *Curr Opin HIV AIDS* 4: 300-307.
18. Chen U-J, Lin Y-T, Chen M, Huang S-W, Lai S-F, et al. (2011) Risk Factors for HIV-1 seroconversion among Taiwanese men visiting gay saunas who have sex with men. *BMC Infectious Diseases* 11: 334
19. Lau JTF, Zhao JK, Wu XB, Gu J, Hao C (2013) Gay Saunas and the Risks of HIV and Syphilis Transmissions in China—Results of a Meta-Analysis. *J Sex Med* 10: 642-652.
20. Pereira H (2015) Condom Use and HIV-Related Behaviors in Portuguese Men who have Sex with Men: A Study of Sexual Behavior and Sexual Pleasure. *J AIDS Clin Res* 5: 294.
21. Pereira H, Gonçalves I, Borges I, Filho J, Cerqueira N, et al. (2015) Male Sex Workers in Lisbon, Portugal: A Pilot Study of Demographics, Sexual Behavior, and HIV Prevalence. *J AIDS Clin Res* 5: 342.
22. Binson D, Pollack LM (2010) HIV Transmission Risk at a Gay Bathhouse *J Sex Res* 47: 580-588.
23. Reidy WJ, Spielberg F, Wood R, Binson D, Woods WJ, et al. (2010) HIV Risk Associated With Gay Bathhouses and Sex Clubs: Findings From 2 Seattle Surveys of Factors Related to HIV and Sexually Transmitted Infections. *Am J Public Health* 99: 165-172.
24. Woods WJ, Binson D, Blair J, Han L, Spielberg F, et al. (2007) Probability Sample Estimates of Bathhouse Sexual Risk Behavior. *J Acquir Immune Defic Syndr* 45: 231-238.