Is Involvement in Sex Work Associated with Engagement in HIV-Related Medical Care in Latin American Men Who Have Sex with Men? Results of a Large, Multinational Internet Survey

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Abstract

Men who have sex with men (MSM) who engage in transactional sex are at increased HIV risk, and face complex barriers to care seeking. Among 2,035 men recruited through an MSM social/sexual networking website in Latin America and who reported being HIV-infected, 186 (9.1%) reported being paid for sex with another man in the past year. Engagement in transactional sex was associated with decreased odds of receiving medical care for HIV (AOR = 0.57, 95% CI = 0.37–0.85). No significant differences were seen in being on antiretroviral therapy (ART) or ART adherence once in care. Interventions in this population should focus on reducing barriers to engagement in care.

Key words: HIV, Latin America, medical care, medication adherence, men who have sex with men (MSM), transactional sex.

Introduction

THE HIV EPIDEMIC IN LATIN AMERICA is primarily driven by sexual transmission and is highly concentrated in men who have sex with men (MSM).^{1,2} Although men who engage in transactional sex (regardless of gender of clients) in Latin America have 35 times the risk of HIV compared to men in the general population³ and 2.3 times the odds of HIV compared to MSM who do not engage in transactional sex,⁴ little research has considered disparities in access to HIV treatment among this population. Research has shown that elevated risk of HIV among men who engage in transactional sex may be potentiated by complex social issues, including stigma and discrimination at multiple levels,^{5,6} power dynamics introduced with an economic transaction that may influence ability to negotiate condom use, as well as psychosocial problems (including depression and substance use).⁷

Despite this disproportionate burden and risk no studies, to our knowledge, have specifically considered differential engagement in HIV-related medical care among HIV-infected MSM sex workers compared to other HIV-infected MSM. HIV-infected MSM who engage in transactional sex may delay care seeking as a result of social and structural stigma, and economic and psychosocial factors which may limit access to healthcare.^{8–12} Recent evidence has demonstrated earlier initiation of antiretroviral treatment results in reduced sexual transmission of HIV.¹³ Given the potential for substantial disparities in access to HIV medical care in populations of MSM who engage in transactional sex, and the importance of engagement in HIV-related medical care to reduce HIV transmission, addressing gaps in the literature to understand how MSM who engage in transactional sex are engaged in HIV-related medical care is important. An understanding of differential treatment patterns among subgroups of MSM may allow for development of tailored treatment

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and secondary prevention interventions. To address this, we compared current engagement in HIV-related medical care and ART use between HIV-infected MSM in Latin America who engage in transactional sex and those who do not.

Methods

Participants and procedures

In 2012, an anonymous online survey was completed by over 36,000 members who were 18 years of age or older of the largest sexual/social networking site for MSM in Spanish- and Portuguese-speaking countries in Latin America and the Caribbean. Detailed study methods are provided elsewhere.¹⁴ In brief, an email with a link to the survey in either Spanish or Portuguese was sent over 30 days (from October to November of 2012) to nearly 643,000 members who had logged on in the past 90 days and whose site profile indicated that they lived in Spain, Portugal, or any Spanish/Portuguese-speaking country/territory in Latin America or the Caribbean. The present analysis was limited to respondents who currently live in one of 17 countries in Latin America ($n=29,787$), reported being cis male ($n=29,073$; 97.6%), reported being HIV-infected ($n=2,381$; 8.2%), and had complete responses to questions about engagement in transactional sex ($n=2,035$; 85.5%). The study was approved by the Institutional Review Board at the Fenway Institute, at Fenway Health, Boston, Massachusetts.

Measures

Transactional sex. The primary exposure of interest, engagement in transactional sex, was assessed by asking participants if any man had paid them in exchange for engaging in oral or anal sex in the previous 12 months.

HIV-related outcomes. Respondents who reported being diagnosed with HIV ("Have you ever been told by a health-care provider that you have HIV infection?") were asked to report whether they were currently (at the time of the survey) receiving medical care for HIV and whether they were currently (at the time of the survey) taking ART to treat HIV. For those currently taking ART, after receiving instructions normalizing the difficulties of adherence, respondents were asked approximately how much of their prescribed ART they have taken in the last month. Instructions indicated that 0% means having taken no medication, 50% means having taken half of the prescribed medication, and 100% means having taken every single dose of the medication. Adherence was modeled as a dichotomized (100% versus less than 100%) and continuous (with one a unit change indicating a 10% increase in adherence) variable.

Covariates. A series of covariates hypothesized to be associated with both transactional sex and HIV-related medical care outcomes were assessed. Sociodemographic variables included age, sexual orientation (heterosexual/straight, bisexual, homosexual/gay, unsure/questioning/other), education (less than university vs. university/post-graduate), income/class (no income, low income/lower class, middle income/middle class, high income/upper class), and type of living environment (urban vs. rural). Additionally, psychosocial factors included the following measures which have

been described in detail elsewhere and shown to be associated with transactional sex:¹⁵ current depressive symptoms, current alcohol dependence, any recent hard drug use in the context of sex, any experience of intimate partner violence in past 5 years, and history of childhood sexual abuse (CSA). Finally, respondents were asked to report if they had any condomless anal sex in the past 3 months with any male or transgender partner.

Statistical analysis

We calculated frequencies and proportions of HIV-care related variables by engagement in transactional sex, and conducted a series of bivariate and multivariable (controlling for above-described covariates) two-level random-intercept logistic regression models (accounting for clustering by country) with the following dependent variables regressed on engagement in transactional sex: engagement in HIV-related medical care, currently taking ART, and 100% adherence to ART. In addition to assessing adherence to ART as dichotomized by 100% adherence versus less than 100% adherence, a two-level random-intercept linear regression model (with a Gaussian distribution) was fit to examine adherence continuously (per 10-point increase in proportion of pills taken). All analyses were conducted in Stata 12.1 (StataCorp, College Station, TX).

Results

In this sample ($n=2,035$), 186 (9.1%) of HIV-infected respondents reported having been paid for sex with another man in the past 12 months. Men who reported engaging in transactional sex were significantly less likely to report being engaged in HIV care (67.9% vs. 82.4%, respectively, $P<.001$). While men who reported engaging in transactional sex were less likely to report being on ART once in care (82.4% vs. 88.3%, respectively, $P<.06$) and being fully adherent to ART if prescribed (55.3% vs. 63.7%, respectively, $P<.11$), these differences were not statistically significant (Table 1).

In models (Table 2) adjusting for demographics and psychosocial measures, respondents who were paid for sex with another man in the past 12 months were less likely to be currently receiving medical care for HIV, compared to those who were not (AOR=0.57, 95% CI 0.37 to 0.85, $P=.007$). However, no significant differences were seen by engagement in transactional sex with regard to being on

TABLE 1. PROPORTION OF PARTICIPANTS REPORTING ACCESS TO CARE BY TRANSACTIONAL SEX STATUS

	Transactional Sex		No Transactional Sex	
	<i>n</i> (%)	Total <i>n</i>	<i>n</i> (%)	Total <i>n</i>
Engaged in HIV-Related Medical Care	125 (67.9%)	184	1,512 (82.4%)	1,836
Currently on ART	103 (82.4%)	125	1,335 (88.3%)	1,512
100% Adherent	57 (55.3%)	103	847 (63.7%)	1,330

ART, antiretroviral therapy.

TABLE 2. BIVARIATE AND MULTIVARIABLE ASSOCIATION FOR THE RELATIONSHIP BETWEEN TRANSACTIONAL SEX AND HIV CARE-RELATED ITEMS

	Engaged in HIV-Related Medical Care ² (n = 2,020)			Currently on ART ² (n = 1,637)			100% Adherent ² (n = 1,449)					
	Bivariate Models			Multivariable Model ¹			Bivariate Models			Multivariable Model ¹		
	OR (95% CI)	P	AOR (95% CI)	P	OR (95% CI)	P	AOR (95% CI)	P	OR (95% CI)	P	AOR (95% CI)	P
Transactional Sex	0.44 (0.32 to 0.63)	<.001	0.57 (0.37 to 0.85)	.007	0.59 (0.36 to 0.98)	.04	0.91 (0.47 to 1.76)	.79	0.69 (0.46 to 1.03)	.07	1.02 (0.63 to 1.65)	.95
Age			1.08 (1.06 to 1.10)	<.001			1.08 (1.05 to 1.10)	<.001			1.02 (1.00 to 1.03)	.04
Urban Dwelling			1.55 (0.69 to 3.51)	.29			2.56 (0.91 to 7.23)	.08			0.61 (0.25 to 1.49)	.28
Sexual Orientation												
Gay/homosexual			1.00				1.00				1.00	
Bisexual			0.78 (0.48 to 1.26)	.31			0.70 (0.38 to 1.32)	.27			1.36 (0.81 to 2.30)	.24
Heterosexual			0.55 (0.09 to 3.34)	.52			0.64 (0.04 to 11.7)	.77			1.49 (0.13 to 16.9)	.75
Unsure			0.68 (0.19 to 2.44)	.56			0.33 (0.06 to 1.86)	.21			0.79 (0.15 to 4.20)	.78
University Education			1.07 (0.74 to 1.54)	.73			0.92 (0.56 to 1.51)	.74			1.23 (0.86 to 1.75)	.26
Income												
No income			1.00				1.00				1.00	
Low income			0.92 (0.43 to 1.98)	.84			0.92 (0.31 to 2.68)	.88			1.05 (0.45 to 2.44)	.92
Middle income			0.81 (0.42 to 1.57)	.53			0.98 (0.38 to 2.51)	.97			1.01 (0.47 to 2.17)	.97
High income			0.98 (0.44 to 2.21)	.97			0.85 (0.29 to 2.50)	.77			1.42 (0.60 to 3.34)	.42
Alcohol Dependency			0.99 (0.69 to 1.40)	.94			0.70 (0.45 to 1.11)	.13			0.90 (0.64 to 1.28)	.57
Depression			1.19 (0.89 to 1.59)	.25			0.64 (0.44 to 0.92)	.02			0.99 (0.75 to 1.29)	.91
Childhood Sexual Abuse			1.19 (0.89 to 1.59)	.24			1.21 (0.82 to 1.79)	.34			0.90 (0.68 to 1.19)	.46
Hard Drug Use During Sex			1.06 (0.77 to 1.45)	.73			1.17 (0.74 to 1.86)	.51			0.72 (0.53 to 0.96)	.03
Intimate Partner Violence			0.92 (0.69 to 1.21)	.54			1.46 (0.99 to 2.17)	.06			0.78 (0.60 to 1.02)	.07

¹Each model was adjusted for age, urban/rural dwelling, sexual orientation, education, income, alcohol dependency, depression, hard drug use during sex, intimate partner violence, and a history of childhood sexual abuse.

²Two-level random-intercept multivariable logistic regression model clustered on country.

AOR, adjusted odds ratio; OR, odds ratio.

ART (AOR = 0.91, 95% CI 0.47 to 1.76, $P = .79$) or ART adherence (AOR = 1.02, 95% CI 0.63 to 1.65, $P = .95$). Treating ART adherence as continuous indicated that engagement in transactional sex was associated with a 21.2% decrease in ART adherence level; however, this was not statistically significant (95% CI -48.6% to 6.3%, $P = .13$). Additionally adjusting for reported condomless anal sex in the past 30 days with a male or transgender partner did not meaningfully change the reported associations.

Discussion

Results of this analysis suggest that there are disparities in receipt of HIV medical care associated with recent engagement in transactional sex among HIV-infected MSM in Latin America. The ability to access HIV-related medical care is related not only to availability of care facilities, but also barriers and facilitators to engagement and retention in care, and these factors may be compounded for MSM who engage in transactional sex. For example, stigma and discrimination may limit care seeking to a greater extent among men who engage in transactional sex, given multiple sources of stigma. Previous research suggests that MSM may face sexual stigma from multiple dimensions. Stigma from healthcare providers may limit disclosure of sexual orientation or sexual behaviors among MSM, if they anticipate discrimination following disclosure.¹⁶ Among people living with HIV, HIV and healthcare stigma has been associated with decreased care-seeking behavior.^{9,12} MSM who engage in transactional sex may experience additional stigma due to being involved in sex work, which is illegal and/or socially unacceptable across most of Latin America, and which has been described as a barrier to care seeking among female sex workers.^{17,18} Although experienced and/or perceived stigma could act as a mechanism through which MSM who engage in transactional sex in Latin America have decreased engagement in HIV care, we were unable to quantify experiences of stigma in this study. Future work should consider the role of experienced and/or perceived stigma specifically as a barrier to engaging in care in this population.

Decreased engagement in care among MSM in transactional sex may also be mediated through psychosocial factors. Prior research in this population showed that individuals who engaged in transactional sex had a higher burden of depressive symptoms and substance use than those who did not.¹⁵ Depressive symptoms and substance use have both been shown to increase risk of HIV transmission independently, and may have even greater effects in combination.¹⁹ In addition, these factors may be associated with decreased uptake of and retention in medical care and adverse HIV outcomes even independent of treatment adherence.²⁰ Addressing depression and substance use disorders in this population may improve linkage and retention in HIV-related medical care among MSM who engage in transactional sex.

Interestingly, although participants who engaged in transactional sex were less likely to be engaged in HIV-related medical care, prior research by this team¹⁵ and by others in other regions²¹ indicates that MSM who engage in transactional sex are more likely to have a history of HIV testing and of HIV diagnosis.^{22,23} This may indicate that men who engage in transactional sex are aware of their increased risk and thus are more likely to test for HIV, but that there

are structural, interpersonal, and individual factors—including differential power dynamics due to social or economic position, physical or sexual violence, substance use, and/or psychological distress⁷—which are major barriers to linkage and continued engagement in care if diagnosed. Programs should explore ways to engage these individuals in care at the time of testing, particularly by providing culturally competent case management and supportive services.^{24,25}

Results of this study must be considered in the context of several limitations. This study represents a convenience sample of members of a social/sexual networking website for MSM, and all measures were self-reported. HIV serostatus was self-reported, and known HIV infection is a function of both having been tested and testing positive. It is unknown whether individuals with undiagnosed HIV infection would have been engaged in care had they known about their HIV infection and how this could influence results. However, these results demonstrate that among people who know their HIV serostatus, those who engage in transactional sex have greater disparities in engaging in HIV-related medical care. Additionally, we were unable to classify the frequency with which participants engaged in transactional sex, whether or not they identified as a sex worker, and if they exchanged sex for money, drugs, or other goods. Similarly, we did not assess how frequently HIV-related medical care was received and by whom it was provided. There may be important differences between these groups that are not detected here. Further work is needed to characterize how these differences affect receipt of HIV-related medical care. Despite these limitations, this analysis is the first to assess whether engagement in transactional sex is associated with HIV-related medical care among a large sample of HIV-infected MSM in Latin America, and identifies important gaps in HIV treatment in this population.

Conclusion

While further research is needed to support these findings and to examine barriers for care-seeking among men who engage in transactional sex in Latin America, the results of the current study suggest that HIV prevention and treatment interventions in this population may be most effective by focusing on linking individuals to care and reducing real or perceived barriers to continued engagement in care, including ensuring the existence of culturally competent and sensitive providers and providing individuals with services to support them to overcome personal, interpersonal and contextual challenges to HIV care.

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