Correlates of paid sex among men who have sex with men in Chennai, India

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ABSTRACT

Objectives: To assess correlates of paid sex among men who have sex with men (MSM) in Chennai, India.

Methods: A randomised survey was conducted among 200 MSM recruited from public sex environments using time–space sampling. The association of predictors with paid sex was assessed with χ^2 tests and multiple logistic regression.

Results: Participants' mean age was 28.5 years (SD 8.7). Most (71.5%) were *kothis*; 60% had less than high school education and two-thirds had a monthly income less than 2000 Indian rupees. More than one-third (35.0%) reported daily/weekly harassment; 40.5% reported forced sex in the past year. The prevalence of paid sex was 59.5% (95% CI 52.7% to 66.3%). Univariate analyses indicated that paid sex was associated with *kothi* identity ($\chi^2 = 14.46$; $p<0.01$), less than high school education ($\chi^2 = 4.79$; $p<0.05$), harassment ($\chi^2 = 11.75$; $p<0.01$) and forced sex ($\chi^2 = 3.98$; $p<0.05$). Adjusted analyses revealed that paid sex was associated with *kothi* identity (adjusted odds ratio (AOR) 2.62, 95% CI 1.34 to 5.10) and harassment (AOR 2.34, 95% CI 1.16 to 4.72). MSM who engaged in paid sex (versus no paid sex) had a mean of 31 partners in the past month (versus 4, $t = 6.17$, $p<0.001$) and 71.2% used condoms consistently (versus 46.4%, $\chi^2 = 18.34$; $p<0.01$). Overall, 32.5% were never tested for HIV.

Conclusions: Epidemic rates of harassment and sexual violence against MSM who engage in paid sex, predominantly *kothis*, suggest that interventions should target structural factors placing these men at increased risk of HIV/sexually transmitted infections and other health-compromising conditions. The effectiveness of individual-level, knowledge-based and condom-focused preventive interventions may be constrained in the context of poverty, low education, harassment and sexual violence.

Throughout developing countries in Asia, men who have sex with men (MSM) are at markedly greater risk of HIV infection than the general population; yet they remain understudied and underserved in terms of HIV prevention.[1] In India, limited government sentinel surveillance data estimate national HIV seroprevalence among MSM at 8.1%, more than 20 times the general population rate (0.36%).[2] The Indian national HIV/AIDS authority has recently acknowledged that the epidemic remains ''uncontrolled'' among MSM, requiring targeted prevention efforts.[2]

Although targeting HIV prevention programmes for MSM is an important public health goal, MSM are a varied subpopulation with divergent levels of risk for HIV infection. In Chennai, India, *kothis* are the most visible group of MSM due to their feminine gender expression; they are often of lower socioeconomic status and many engage in sex for money.[3] Limited investigations suggest that engaging in sex for money, or paid sex, a widely acknowledged HIV risk factor among women, is associated with an increased risk of HIV infection among MSM. Studies among MSM in low and middle income countries in Asia, including India,[4] Indonesia,[5] Nepal,[6] Thailand[7 8] and Vietnam,[9] indicate that sex for money is associated with a 50–800% higher risk of HIV infection. MSM (n = 6661) in Andhra Pradesh, India, who sell sex to men had 2.4 times the probability of acquiring and 2.8 times the probability of transmitting HIV compared with men who did not sell sex; furthermore, MSM who sell sex had an almost sevenfold higher risk of acquiring and a 2.5 times higher risk of transmitting HIV than women who sell sex.[4]

Despite mounting evidence of the elevated risk of HIV infection among MSM who engage in paid sex, scant research has assessed factors associated with paid sex among MSM in the developing world. We assessed the correlates of paid sex among MSM in Chennai, India.

METHODS

Participants

Chennai (population 6.6 million) is in Tamil Nadu, among the states with the highest HIV prevalence in India.[2] MSM were recruited using time–space sampling with probability-proportional-to-estimated-size from 10 randomly selected public sex environments (PSE) in Chennai. Time–space sampling has been utilised to recruit populations that are typically hard to reach and often location based, including MSM at highest risk of HIV infection in North America.[10 11]

Procedures

PSE (n = 50) in Chennai were mapped by outreach workers from three community-based organisations serving predominantly *kothi* MSM. Population flow in each site was assessed by dividing each day into 4-h blocks during times of site utilisation and monitoring the site over 2 weeks. Based on overall site population, five high-density and five low-density sites were randomly selected from among the 50 mapped locations. For each of the selected sites, time–day sampling units were randomly selected. Research outreach staff attended each site at the designated day/time. Every nth participant was approached based on the recruitment target for the particular site and the estimated size (probability-proportional-to-estimated-size).

Table 1 Frequency and prevalence of paid sex among MSM, by sociodemographic characteristics and violence

	No (%)	Percentage paid for sex (past 3 months)	χ^2
Sociodemographic characteristics			
Age, years			1.28
⩽25	94 (47)	55.3	
>25	106 (53)	63.2	
Sexual identification			14.46**
Kothi	143 (71.5)	67.8	
MSM/bisexual/other	57 (28.5)	38.6	
Education			4.79*
Less than high school	119 (60)	65.6	
High school or above	80 (40)	50.0	
Income (monthly), Indian rupees			1.00
⩽2000 (~US$45)	134 (67)	61.9	
>2000	66 (33)	54.6	
Violence			
Harassment (daily or weekly)			11.75**
Yes	70 (35)	75.7	
No	130 (65)	50.8	
Forced sex (past 12 months)			3.98*
Yes	81 (40.5)	67.9	
No	119 (59.5)	53.8	

*p<0.05; **p<0.01.
MSM, men who have sex with men.

Men who were selected and agreed to participate received a pre-printed card with locations and dates for interviews. At the end of the first week, a second random sample of time–day units was drawn and recruitment was conducted in the selected sites in the second week. Fifteen per cent of those approached declined to participate and 90% of men given cards were interviewed, for a total response rate of 76.5% (85% × 90%).

Trained interviewers administered a 30-minute, anonymous, face-to-face survey questionnaire in Tamil in one of two offices of a community-based organisation serving MSM in Chennai. To protect the safety of participants and research staff, no interviews were conducted on site at PSE.

The study received approval from the University of Toronto Research Ethics Board and the Community Advisory Board of Social Welfare Association for Men, a community-based organisation serving MSM in Chennai. All participants gave informed consent. Participants were paid 75 Indian rupees (~US$1.80).

Dependent variable

Paid sex

Two questions assessed paid sex. One item assessed receiving money for sex from a man in the past 3 months. A second item assessed self-identification as a sex worker as a primary occupation. All those who identified as sex workers but one (n = 39) indicated paid sex in the past 3 months; the latter was classified as "no" for paid sex. An additional 80 MSM who did not identify as sex workers reported paid sex (classified as "yes").

Independent variables

Sociodemographic characteristics

Variables included age, sexual identity, education and income (in Indian rupees). We dichotomised monthly income at 2000 Indian rupees, the median for the categorical variable.

Violence

One dichotomous item assessed forced sex in the past 12 months. A second item assessed the frequency of verbal or physical harassment, dichotomised as daily/weekly versus monthly or less. Harassment was described as "physical or verbal abuse due to your sexuality/sexual behaviour or gender expression."

HIV risk behaviour, knowledge and testing

Four items assessed anal sex with male partners (regular, casual/anonymous, paying and paid) in the past 3 months. Any anal sex with a male partner was coded as "yes". Four additional items assessed the frequency of condom use for anal sex in the past month (regular, casual/anonymous, paying and paid). Consistent condom use across all partner types was coded as "yes". One item measured condom use (yes/no) for last receptive anal sex. One item assessed the total number of sex partners in the past month.

We constructed a 10-item scale to assess knowledge of HIV transmission risks. Items included: risk of HIV infection from unsterilised needles, unprotected anal intercourse and sex with a regular (steady) partner. Each correct true–false item was scored as one point, with a maximum score of 10. We dichotomised the scale at 8 due to the overall high level of HIV/AIDS knowledge (mean 8.36).

One item assessed ever having been tested for HIV infection (yes/no). A second item elicited the source of HIV/sexually transmitted infection (STI) information (physician or counsellor versus friend or other non-professional).

Data analysis

We used χ^2 tests to assess univariate associations between sociodemographic predictors and violence with paid sex. Multiple logistic regression was then conducted to calculate odds ratios, 95% CI and the net predictive value of each variable (ie, adjusting for other variables in the model) for paid sex. We

Table 2 Adjusted odds ratios of sociodemographic characteristics and violence for paid sex among MSM in Chennai

	AOR (95% CI)
Sociodemographic characteristics	
Sexual identification: *kothi* versus other	2.62** (1.34 to 5.10)
Education: <high school versus ⩾ high school	1.63 (0.87 to 3.02)
Violence	
Harassment: daily or weekly versus less	2.34* (1.16 to 4.72)
Forced sex: yes versus no	1.27 (0.66 to 2.46)

*p<0.05; **p<0.01.
AOR, adjusted odds ratio; MSM, men who have sex with men.

included variables identified as significant (p<0.10) in univariate analyses in the multiple logistic regression. We conducted χ^2 subanalyses to explore the effects of possible interactions in the model on education and forced sex as they were significant in univariate but not in adjusted analysis. We also assessed univariate associations of paid sex and HIV risk-related outcomes.

RESULTS

A total of 200 MSM agreed to participate. Participants had a mean age of 28.5 years (SD 8.7). The majority (71.5%) self-identified as *kothi*; 13.5% as bisexual or "double-decker"; 9.5% as gay/homosexual and 5% as transgendered (*Aravani*)/other. Sixty per cent had less than high school degree education and two-thirds had a monthly income of 2000 Indian rupees or less (~US$1.67/day).

Over one-third (35.0%) reported daily/weekly harassment; 40.5% reported forced sex in the past year (table 1).

The prevalence of paid sex in the sample was estimated at 59.5% (95% CI 52.7% to 66.3%). MSM who engaged in paid sex were more likely to be *kothi* and to have less than high school degree education; no differences were found by age or income (table 1). Univariate analyses indicated that MSM who engaged in paid sex were more likely to experience harassment and forced sex (table 1).

The adjusted odds ratios shown in table 2 indicate that significant effects on paid sex were observed for sexual identity and harassment. *Kothi*-identified MSM were more than 2.5 times as likely to engage in paid sex.

Adjusted odds ratios indicate that harassment was associated with a more than twofold increase in the odds of engaging in paid sex. Education and forced sex were not associated with paid sex after adjustment for the other variables in the model. We found a significant association between education and sexual identity ($\chi^2 = 6.69$; $p = 0.01$). A subanalysis of education revealed a significant association with paid sex only among MSM who did not identify as *kothi* ($\chi^2 = 4.69$; $p = 0.03$); and no association between education and paid sex among *kothis* ($\chi^2 = 0.18$, NS). We selected sexual identity as the most predictive variable in the model and given its association with formal education.

The subanalysis of forced sex revealed a significant correlation with harassment ($\chi^2 = 22.34$; $p<0.001$), the other measure of violence in the model. Stratified analysis on paid sex indicated a highly significant association between forced sex and harassment among MSM who engaged in paid sex ($\chi^2 = 21.40$; $p<0.001$), but no association between forced sex and harassment among MSM who did not engage in paid sex ($\chi^2 = 0.81$; NS).

HIV risk behaviour, knowledge and testing

Table 3 shows that the majority (59.5%) of participants reported anal sex in the past month; of those, over one-third (35.6%) reported inconsistent condom use. HIV transmission knowledge was generally high; 79.5% scored 8 or higher on the knowledge scale. Almost one-third (32.5%) had never undergone HIV testing. Nearly half (47.0%) reported receiving HIV/STI information from friends or other non-professionals rather than physicians or health professionals/counsellors.

Univariate analyses indicated that MSM who engaged in paid sex were significantly more likely to report anal sex and 100% condom use (table 3). MSM who engaged in paid sex had a mean of 31 partners compared with four partners (past month)

Table 3 HIV risk behaviour, knowledge and service utilisation by paid sex among MSM in Chennai

	No (%)	Percentage paid for sex (past 3 months)	χ^2
Anal sex (past 3 months)			8.95**
Yes	119 (59.5)	68.1	
No	81 (40.5)	46.9	
Condom use for anal sex (past month)			18.34**
100% condom use	65 (32.5)	80.0	
<100% condom use	36 (18.0)	58.3	
No anal sex	99 (49.5)	46.5	
Condom use for receptive anal sex (last time)†			4.85*
Used condom	94 (67.1)	69.1	
No condom	46 (32.9)	50.0	
HIV knowledge score			6.96**
<8	41 (20.5)	41.5	
⩾8	159 (79.5)	64.2	
HIV tested			2.07
Yes	135 (67.5)	62.9	
No	65 (32.5)	52.3	
HIV/STI information source			0.0004
From a doctor or counsellor	106 (53.0)	59.4	
From a friend or other source	94 (47.0)	59.6	

*p<0.05; **p<0.01.
†Excluding those who never had receptive anal sex.
MSM, men who have sex with men; STI, sexually transmitted infection.

among MSM who did not engage in paid sex (t = 6.17, p<0.001). MSM who engaged in paid sex had significantly greater HIV transmission knowledge. No differences were found on paid sex for HIV testing or source of HIV/STI information.

DISCUSSION

MSM in India are at high risk of HIV infection,[2] with an even greater risk among those who engage in paid sex.[4 12] Understanding correlates of paid sex may provide a basis for evidence-informed interventions to address the gap in tailored HIV prevention for high-risk MSM in India.

We identified alarming rates of violence, including forced sex and harassment, among a representative sample of MSM attending PSE in Chennai, with even greater prevalence among men who engaged in paid sex. In addition to direct physical and indirect psychological risks, harassment and forced sex are likely to place MSM at greater risk of HIV infection. Forced sex precludes condom use and poses a direct risk of HIV infection. The subanalysis of forced sex suggests a high concurrence of verbal and physical harassment and forced sex, respectively, among MSM who engage in paid sex, predominantly *kothis*. MSM who experience multiple forms of victimisation may be particularly vulnerable to HIV/STI and other negative health outcomes. These data, supported by evidence of sexual violence and harassment perpetrated against MSM and peer outreach workers in PSE in Chennai by both "rowdies" and police,[13–15] highlight the importance of social and structural factors in vulnerability to HIV/AIDS among MSM.[13 16]

The association between low education and paid sex was significant only among non-*kothi* identified MSM. One possible explanation is discrimination in employment, as well as education;[17] even among *kothis* with higher education, selling sex may be one of few options for subsistence. Among other MSM, completing high school appears to reduce the likelihood of engaging in paid sex.

MSM in the present study who engaged in paid sex, as expected, had higher numbers of sexual partners and higher rates of anal sex; they also had greater levels of HIV/AIDS knowledge and reported more consistent condom use. Nevertheless, even as 71.2% of MSM who engaged in paid sex reported consistent condom use in the past month, the risks of any unprotected anal sex with a monthly average of 31 partners and over 8% HIV seroprevalence among MSM are considerable. Furthermore, HIV/AIDS knowledge becomes irrelevant in the case of forced sex, which was rampant.

HIV testing rates were the same across MSM regardless of paid sex. High rates of HIV testing among MSM in Chennai may be due to a Gates Foundation-funded initiative,[18] concurrent with data collection, which offered financial incentives to high-risk MSM for HIV testing. The one-third of high-risk MSM never tested may reflect barriers due to harassment and discrimination against MSM at (free) government HIV testing centres.[3 13] Similarly, the half of MSM who had not received HIV/STI information from qualified healthcare personnel corroborates evidence of barriers to sexual health services among *kothis* in Chennai.[3 13]

Based on emerging HIV seroprevalence data among MSM in India, investigators and policymakers have highlighted the need for targeted interventions to promote condom use, HIV/AIDS knowledge and HIV testing.[2 18–20] Increased attention to MSM is a crucial addition to HIV prevention strategies in India. However, interventions focused on knowledge, beliefs, condom skills and sexual negotiation, as stipulated in popular HIV prevention models in the developed world, and even more recent harm-reduction strategies predicated on individual risk assessment and negotiated safety,[21] may be expected to fall short in the context of poverty, low education, pervasive harassment and sexual violence experienced by MSM who engage in paid sex. These systemic risks may be abetted by federal criminalisation in India of sex between consenting same-sex adults,[15] part of a system of structural violence that creates extreme vulnerability among MSM.[3 13] In this context, well intentioned efforts to apply individual or even interpersonally focused HIV prevention models among MSM in PSE in Chennai, the majority of whom engage in paid sex, may not only be ineffective, they may distract attention from powerful structural determinants of vulnerability and thereby risk re-victimisation by unwittingly locating deficits in individual MSM.

Limitations to this study include the sampling of MSM from PSE in one metropolitan area; findings may not generalise to MSM outside of PSE or to other locales in India. In particular, MSM of higher socioeconomic status in India are less likely to be found in PSE and may be more likely to meet partners over the Internet, in malls and cafes. However, the sampling strategy enables considerable generalisability to the substantial number of MSM, predominantly *kothi*, who frequent PSE in Chennai. This subpopulation of MSM appears to be at high risk of HIV infection. The cross-sectional design limits our ability to establish causal relationships among independent and dependent variables; however, our aim was less to predict than to identify correlates of paid sex. We did not conduct HIV testing and therefore cannot compare HIV prevalence among MSM by paid sex. Nevertheless, paid sex has been associated with an increased risk of acquiring and transmitting HIV among MSM in Chennai[12] and Andhra Pradesh,[4] India, where MSM are already at vastly greater risk of HIV infection than the general population.[2] Data from 777 men recruited in Chennai slums, for example, estimated HIV prevalence at 1.2%,[22] far lower than national[2] and Tamil Nadu state-level[13] estimates among MSM. Further investigations to advance understanding of the mechanisms of HIV risk among MSM in India might employ larger sample sizes to provide sufficient power to detect possible differences across partner types among MSM who engage in paid sex and examine the association between HIV prevalence and violence.

Key messages

- Men who have sex with men (MSM) who engage in paid sex are a key target for HIV prevention in low and middle income countries.
- Among MSM recruited from public sex environments in Chennai, India, more than one-third (35.0%) reported daily/weekly harassment and 40.5% reported forced sex in the past year.
- MSM who engaged in paid sex were more likely to be *kothi*, to have low education, and to be victimised by harassment and forced sex, but had higher levels of HIV knowledge and used condoms more consistently.
- Structural interventions should be implemented to address poverty, low education, pervasive harassment and sexual violence, and federal criminalisation in India of sex between consenting same-sex adults that may place MSM who engage in paid sex at increased risk for HIV/sexually transmitted infections and other health-compromising conditions.

Epidemic rates of harassment and sexual violence in Chennai against MSM, particularly *kothis*, who engage in paid sex suggest that interventions should target structural factors that may place these men at increased risk of HIV/STI and other health-compromising conditions. High levels of HIV transmission knowledge and HIV testing among MSM who engage in paid sex also suggest important strengths among this subpopulation, who may have benefitted from existing outreach conducted by grassroots organisations serving MSM in Chennai.[13 14] Further research and interventions—and support from international organisations and donors dedicated to HIV prevention—should focus on macrosocial factors that create a context of extreme vulnerability to HIV/STI and other negative health outcomes among MSM in Chennai.

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