Published in final edited form as:
AIDS Care. 2010 January ; 22(1): 112–118. doi:10.1080/09540120903012551.

Male Sex Workers in Moscow, Russia: A Pilot Study of Demographics, Substance Use Patterns, and Prevalence of HIV-1 and Sexually Transmitted Infections

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Abstract

Background—To explore demographic characteristics, substance use patters, and estimate the prevalence of sexually transmitted infections (STI) and high-risk behaviors among male sex workers (MSW) in Moscow and to assess the feasibility of prospective cohort recruitment and retention among this population.

Methods—Longitudinal study of 50 men with 6 month follow up period. Participants were recruited through venue based and snowball sampling.

Results—HIV prevalence at baseline was 16% and 1 male seroconverted during the follow up period. 24 % were diagnosed with at least one STI: 12% had syphilis; 8% had HPV;, and 4% had HSV-2. Three (6%) of the study participants had evidence of previous HCV exposure at baseline.

Conclusions—This was the first study to evaluate baseline demographics, substance use patterns, and prevalence of infectious disease among MSW in Moscow. Identification, and recruitment of this population appears to be feasible, but retention rates were poor with higher retention significantly associated with older men. While the sample size in the current study was small, the results also suggested that this is a population at considerable high risk for HIV. Male sex workers in Moscow may be an important at risk population in the Russian HIV epidemic and further research is urgently required to address their needs and explore prevention strategies.

Keywords

Male sex worker; Moscow; Russia; MSM; HIV; STI

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INTRODUCTION

The Russian federation has been undergoing a concentrated epidemic of HIV-1 with high rates of infection in injecting drug users (IDU) and variable rates reported among female sex workers (FSW), and men who have sex with men (MSM) [1]. Since 1996, the year the first major outbreak of HIV was recorded among injection drug users, HIV prevalence has risen rapidly, reaching an estimated 1.1% (95% CI 0.7%–1.8%) of reproductive age adults across the Russian Federation in 2006 [2]. Although injection drug users comprise an estimated 70–85% of all HIV cases in Russia, the role of sexual transmission in the spread of the virus has been increasing, and accounted for approximately a third of all new HIV cases in 2006 [3, 4]. This is likely due to increased HIV transmission among FSW and MSM as well as among sexual contacts of IDU.

Several studies among MSM in Russia have shown MSM to be at high risk for HIV and other sexually transmitted infections (STI), due to a dearth in knowledge about HIV transmission, high rates of unprotected anal intercourse (UAI), and a high frequency and total number of both male and female sexual partners in this population [5–7]. To the knowledge of the authors, there has been no peer-reviewed publication of HIV prevalence among MSM in Russia, highlighting the relatively limited understanding of HIV risk in this population[8]. There has been significant variability in the HIV prevalence rates reported among MSM across Russia ranging from 0.3% in national estimates to 4.8% in Ekaterinburg and 14.3% in Volvograd highlighting the dearth in understanding of HIV epidemiology and determinants of risk in this population in Russia [9].

Male sex workers (MSW) are a subset of MSM who are likely at high risk for HIV acquisition and transmission associated with their status as MSM and engagement in sex work as has been reported in St. Petersburg [10]. While few studies have followed cohorts of MSW, a recent study found that nearly a quarter of a 422 person cohort of St. Petersburg MSM have reported exchanging sex for money, drugs, or valuables [11]. Characteristics associated with selling sex among MSM included being younger, less educated, and having more male and female sex partners in the last three months, all of which were associated with a higher risk of HIV infection [12]. While MSW are an important population to characterize, they are a challenging group to identify and follow in the Russian context, explaining, at least in part, the scarcity of targeted research.

Here, we describe a pilot prospective cohort study among 50 male sex workers recruited in Moscow, Russia in 2005–2006 and present the first HIV and STI prevalence levels in this population The city of Moscow was chosen due to its economic and demographic importance, high influx of migrant workers from both Russia and other FSU countries, and the existence of a prominent yet understudied population of MSW noted by Kelly et al. in 2001 [12]. This study was part of a larger NIH-supported effort to characterize HIV and STI risks among women working in the Moscow sex industry [13]. The project was a collaboration between AIDS Infoshare Russia, a long-standing Russian AIDS service organization which has extensive experience in outreach and recruitment of hard-to-reach populations in Moscow, and research partners at the Johns Hopkins University and the

University of California, San Diego. This study was approved by Institutional Review Boards in Baltimore, MD and Moscow, Russia.

Methods

Study Purpose and Procedures

Following a formative phase of qualitative key informant interviews, this pilot study sought to assess the feasibility of cohort recruitment and retention, to estimate the baseline prevalence of HIV and selected STI, assess risk behaviors, and assess the feasibility of prospective cohort recruitment and retention among MSW in Moscow, Russia. We conducted this pilot study in order to determine the feasibility of conducting HIV preventive intervention research among these men. Inclusion criteria included being a male over 17 years of age, intending to stay in Moscow for at least one year, and current engagement in sex work in Moscow. Sex work was defined as receiving money, drugs, or other valuables in exchange for sex. Moscow residency papers (*propiska*), which are required for free access to medical and social services within the city, or other identifying documents, were not required to participate in the study. The study consisted of one baseline visit and three follow-up visits that took place over the course of six months. Trained outreach workers *AIDS* Infoshare did the initial study outreach, provided information to potential participants, and then obtained informed consent from those potential study participants who met the inclusion criteria and agreed to participate.

Study Recruitment

Male sex workers were recruited using two methods. In the first method, printed advertisements were placed in saunas and other areas known to be frequented by MSW in the Kitai-Gorod district of Moscow. In addition, AIDS Infoshare employed experienced outreach workers who were, in many cases, former sex workers, to directly recruit from saunas that serve as operation bases for MSW. Sauna administrators were paid 10 USD for each MSW who attended information sessions about the study. This method resulted in the recruitment of nine study participants. The other forty-one were recruited from the Kitai-Gorod district using snowball sampling (Trochim) and employing respondent driven sampling to assess the feasibility of this sampling methodology among these men. Outreach workers recruited the first round of participants who then were asked to recruit future subjects from among their acquaintances. Each study participant was paid 10 USD for referring a person who met the inclusion criteria and attended the information session about the study.

Study Visits

Participants who agreed to attend an initial study visit were given vouchers for free clinic visits at the SANAM Clinic, a well-known non-governmental clinic providing services to sex workers and others, and the base of our female SW study. During the initial visit, a physician recorded the participant’s medical history and administered a complete physical and genital exam. Two tubes of venous blood were collected to be tested for HIV, syphilis, HSV-2, Chlamydia, and HCV. An enzyme-linked immunosorbant assay (ELISA) test, Determine HIV 1/2 (Abbott Laboratories) was used to screen samples for HIV antibodies. If

results were positive or equivocal, the test was repeated in order to be able to report the result to the participant during the post-test counseling session. In accordance with Russian law, all samples which were positive for HIV using ELISA were sent to the Moscow AIDS Center (stripped of all identifiers) for confirmatory Western Blot (Vektor) testing. Participants were urged to return in ten days for final results of the Western Blot and further counseling. Each of the visits included a confidential and structured survey led by a trained outreach worker. The survey instrument had been adapted from a survey used previously to study FSW in Moscow (Stachowiak, et al) and consisted of questions about demographic information and medical history, including history of STIs and history of injection drug use and its health consequences. Other questions assessed the prevalence of high-risk sexual behaviors, including sexual practices with clients and noncommercial partners, as well as history of sex work initiation and continuation. The survey also probed at other variables that had the potential to affect health status and vulnerability to HIV and STIs, including alcohol and non-injection drug use, client behavior, interactions with police and medical staff, history of violence, and mental health status.

Study participants were given 20 USD for each visit to compensate for transportation and miscellaneous expenses. Other incentives to participate in the study included free psychological counseling, peer education seminars, and medical treatment of STIs diagnosed during the study.

Results

Recruitment and Retention

The recruitment process took only one week to complete; none of the people who have attended the information sessions refused participation. In fact, though the study was capped at 50 participants because of *a priori* protocol requirements, many more information session attendees expressed desire to join the study. The retention rate at 1 month was 84% (42/50), 74% (31/42) at 3 months, and 55% (17/31) at 6 months giving an overall retention of 34%. The only statistically significant predictor of retention calculated from multivariate logistic stepwise regression was being older in a model that included HIV status, level of education, drug and alcohol use, number of clients, and time in Moscow. Specifically, when categorizing age from 17–20, 21–26, and older than 26, there was an averaged odds ratio for retention of 5.57 (95% CI 2.14–14.46) with each group compared to the previous. No other measured covariate was significantly associated with retention either in univariate and multivariate analyses.

Study Demographics (Table 1 & 2)

Participants were generally young with the majority being under the age of 26. Only 7 (14%) of the participants were originally from Moscow. Over a half of participants were originally from Russia, while others originated from countries within the former Eastern Bloc, including the Ukraine, Belarus, Moldova, Tajikistan, Kazakhstan, and Uzbekistan. Thirty-two (62%) of the study participants were satisfied with their living situation; eleven (23%) lacked Moscow residency papers.

Eighty-four percent (84%) have never worked in the sex business before arriving in Moscow, and all of these individuals had also organized the job after arriving in Moscow rather than coming to Moscow for this reason. Almost half found work at their own initiative through acquaintances in the industry. Fifteen (30%) worked under a pimp. Of the 50 study participants, 28 (56%) work more than 5 days per week, though 37 (75%) considered sex work to be seasonal, with summer being the busiest season. 30 (60%) of the participants reported having more than 4 clients per week, and 38 (76%) said that they keep over 60% of their earnings. Finally, 14 (28%) of the study participants reported violence from clients in the last 12 months. Among these, the median number of incidents of client violence in the last 12 months was 1.7; none of the participants who reported them consulted either a physician or the police about these injuries.

Substance Use (Table 3)

Although 92% (46) of the MSW reported regularly drinking alcohol, 37 (80%) said they rarely or never reached intoxication. 32 (70%) reported regularly drinking with clients, yet 39 (86%) said that they rarely or never get intoxicated while with a client. The use of illegal drugs was much less common. Of the 50 study participants, 6 (12%) had ever used MDMA, amphetamines, or other stimulants, and 8 (16%) have ever used cocaine. Of the 4 study participants (8%) who reported ever injecting illegal drugs, 1 has ever injected opium, heroin, and ephedrine, while the other three have injected ephedrine only.

Serologic Testing

Baseline serologic testing showed that 16% (8/50) of the MSW were HIV positive. Twelve (24%) were diagnosed with STIs (95% CI: 13–38%) of whom 6 (12%) had syphilis, 4 (8%) had HPV, and 2 (4%) had HSV-2. Three (6%) of the study participants had evidence of previous HCV exposure at baseline. Among the 42 HIV sero-negative men at baseline, 1 became infected in the prospective phase, using a person time intent-to treat analysis and a simple mid-point assumption for infection time, this gives an incidence density of 4.8/100PY (95%CI 0.0–11.2), albeit with very wide confidence intervals.

Participants were twice as likely to test for HIV if they lacked Moscow registration papers, and all of the participants who tested positive for HIV have been living in Moscow for less than 10 years. However, given the small sample size, these findings were not statistically significant. Furthermore, the study found no significant association between HIV or STI diagnoses and the amount of time the participant has been involved in sex work, frequency of condom use, client violence, or access to medical and social services as indicated by possession of Moscow residency papers. There was also no association between working under a pimp and having ever experienced violence from a client.

Discussion

The main objective of the study was to assess the feasibly of recruiting and retaining a sample of MSW. The study team reached their recruitment goal and could have surpassed it if the study was not already capped at 50 participants. Using outreach workers and relying on participants to recruit acquaintances, friends, and strangers in one week proved to be both

effective and efficient. While the retention rate was poor, these data indicate that successful retention was highly associated with older MSW, irrespective of the other demographics evaluated. Based on this, it is likely that successful cohort studies of MSW should aim to recruit older men to avoid poor retention rates. These data also highlight the need to better understand why younger MSW were more likely to drop out of the study.

While the sample size is small, HIV prevalence was calculated to be 18%, and the frequency of past and newly diagnosed syphilis provides further evidence of the high risk status of these men. HIV and STI diagnoses were not significantly associated with either the amount of time a study participant has been involved in sex work, his length of stay in Moscow, the reported frequency of condom use with clients, or access to medical services which still begs the question of how these potential risk factors influence HIV and STI transmission among MSW. This lack of significant associations is likely due to the small sample size of this pilot. Over eighty percent of the men were migrants from other regions of Russia and countries of the former Soviet Union. The majority became involved in sex work after arriving in Moscow, with almost a half finding work on their own initiative through acquaintances in the industry. Although many study participants consider sex work to be seasonal and about a third reported having another job, sex work was their primary source of income. They cited financial reasons or lack of better work opportunities as the primary reason for their entry into sex work. None reported being trafficked to Moscow to work in the sex business, but about a third of the study participants worked under a pimp *(Seutemyorhin* in Russian). These findings parallel conclusions reached by previous studies which associate increased population mixing in Russia with the spread of the HIV epidemic and attribute the recent increase in commercial sex work to unemployment and migration to big cities like Moscow (Shakarishvili et al, Aral). Also important to highlight is the relative autonomy of male sex workers as compared with their female counterparts, who are much more often under the protection of a pimp, which have implications for the design of prevention programs. Approximately a third of the sample did not always use condoms with clients either because the client refused, or the MSW themselves were unwilling. The latter suggests that this sample of MSW has a low self-perceived risk status for HIV/ STIs.

In this pilot study, 8% of men reported ever injecting illegal drugs, though a quarter of the sample had used MDMA, cocaine, or other amphetamines. MSM-IDUs have been shown to be at higher risk for infection with bloodbourne viruses such as HIV and hepatitis due to an increased chance of both sexual and parenteral virus transmission [14]. Decreasing the use of these substances may therefore constitute another valid target of HIV/STI prevention interventions aimed at this population.

This was the first study to evaluate baseline demographics, substance use patterns, and prevalence of infectious disease among MSW in Moscow. While the sample size was small, it is clear that this is a population at risk due to current employment as male sex workers, in addition to their status as MSM and migrants. There is a distinct need to further characterize MSM and their risk status for HIV infection in the form of larger prospective observational studies by exploring more their access to medical services, frequency of injection drug use and use of cocaine and amphetamines, knowledge and risk perception with respect to HIV and STI transmission, ability and willingness to negotiate condom use with clients, and

frequency of condom use with clients and regular partners. The results of these studies should be used to design specific and scientifically informed prevention strategies to avoid similar rapid expansion of the HIV epidemic among MSM, including MSW.

Acknowledgments

This research was supported by a grant from the National Institute of Drug Abuse (NIDA) (R01 DA) of the National Institutes of Health and by a grant from the Fogarty International Center of the NIH (2 D 43 TWOOOO10-18-AITRP).

The authors wish to acknowledge the invaluable contributions of: the staff of AIDS infoshare, the laboratory staff of the Ivanovsky Institute of Virology, SANAM, the outreach workers, the interviewers and the pre- and post-HIV test counselors who contributed to this study.

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Table 1

Demographics among male sex workers in Moscow (n=50)

Characteristic	#	%
Originally from Russia	31	62%
Originally from Moscow	8	16%
Age		
17–20	18	36%
21–26	17	34%
over 26	15	30%
Education		
9 grades	17	34%
finished high school	12	24%
college or higher	19	38%
Student	9	18%
Time in Moscow		
less than 1 year	7	14%
1–2 years	11	22%
2–5 years	13	26%
5–10 years	7	14%
over 10 years	12	24%

Table 2

Characteristics of male sex work in Moscow (n=50)

Characteristic	#	%
Aware of entry into SW	45	90%
Entry into SW by own initiative	21	42%
Reasons for entry into SW		
Financial	36	67%
lack of better work opportunities	11	20%
work enjoyment	7	12%
Previous involvement in SW before coming to Moscow	8	16%
Total time in SW		
under 1 year	12	24%
1–2 years	16	32%
3–4 years	10	20%
over 4 years	12	24%
Having another job except SW	18	36%
Earnings		
less than expected	15	34%
as much as expected	17	39%
more than expected	12	27%

Table 3

Risk factors for STIs and HIV among MSW in Moscow

Risk Indicator	**#**	**%**		**#**	**%**
Always use condoms with female clients	18	62%	**Reasons given for not using a condom with a client during vaginal intercourse**		
Always use condoms during AI with clients	35	71%	Did not want to	11	25%
Use of rectal gels with clients	12	24%	Client did not want to	24	55%
Always use condoms during AI with regular clients	26	59%	No condom available	4	9%
Past/Present STI diagnoses	16	32%/ 24%	Forgot	5	11%
Sought medical care for STI	12	75%	**Reasons for not using a condom with a client during AI***		
Use of injected illegal drugs	4	8%	Did not want to	15	19%
HCV diagnosis	4	8%	Client did not want to	31	40%
Use of MDMA, amphetamines, or other stimulants	6	12%	No condom available	10	13%
Cocaine use	8	16%	Forgot	5	6%
Participant had ever experienced violence from clients	14	28%			

Table 4

Univariate associations with prevalent and incident HIV infections among male sex workers in Moscow (*n*=50).

	Higher risk		Lower risk		
Characteristic	**HIV+**	**HIV −**	**HIV+**	**HIV−**	**OR (95% CI)**
Syphilis	2	4	7	37	2.6 (0.4–17.3)
Age group (>23 compared to ≤23)	7	23	2	18	2.5 (0.5–14.3)
Russian descent	7	24	2	17	2.5 (0.5–14.3)
Having had ≥2 years history of sex work	5	15	4	26	2.2 (0.5–9.33)
IDU history	1	3	8	38	1.6 (0.2–17.2)
Irregular use of condoms with male clients	1	1	8	39	4.9 (0.3–100.0)
Irregular use of condoms with female partners	1	4	5	28	1.4 (0.13–14.3)