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Prevalence and correlates of syphilis and condom use among male injection drug users in four Afghan cities.

Catherine S. Todd, M.D., MPH¹, Abdul Nasir, M.D., EMBA², Mohammad Raza Stanekzai, M.D.², Abdullah M.S. Abed, M.D.³, Steffanie A. Strathdee, PhD⁴, Christian T. Bautista, MSc⁵, Paul T. Scott, M.D., MPH⁵, Boulos A. Botros, DVM, PhD⁶, Jeffrey Tjaden, M.D., MPH⁶

¹Department of Obstetrics & Gynecology, Columbia University, New York, New York, USA;

²International Rescue Committee, Kabul, Afghanistan;

³National HIV/AIDS Control Program, Ministry of Public Health, Kabul, Afghanistan;

⁴Department of Medicine, University of California, San Diego, La Jolla, California, USA;

⁵U.S Military HIV Research Program, Walter Reed Army Institute of Research, Rockville, Maryland, USA;

⁶U.S. Naval Medical Research Unit No. 3 (NAMRU-3), Cairo, Egypt.

Abstract

Background: Injecting drug use is increasing in Afghanistan but little is known about sexual risk behaviors and sexually transmitted infection (STI) prevalence among injection drug users (IDU). The purpose of this study is to assess prevalence and correlates of syphilis and condom use with female sex workers (FSWs) among male IDUs in Hirat, Jalalabad, Kabul, and Mazar-i-Sharif, Afghanistan.

Methods: Participants in this cross-sectional study completed an interviewer-administered questionnaire and serologic testing for syphilis between June 2005 and January 2008. Factors associated with syphilis condom use with FSWs were assessed with site-controlled logistic regression analysis.

Results: Of 1,078 male IDUs, most (90.3%) reported prior sexual experience, of whom 27.6% reported any condom use. Sexual experiences with FSWs (58.1%) and men or boys (25.7%) were common, though prior condom use with FSWs (32.6%) or male partners (10.8%) was relatively

Corresponding Author: Catherine S. Todd, M.D., MPH, Department of Obstetrics & Gynecology, Columbia University, PH 16-69, 622 West 168th Street, New York, NY 10032, Telephone: (212) 305-4805, Fax: (212) 305-6438, cst2121@columbia.edu.

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Disclosure: The research study experienced a six-month lapse of NAMRU-3 IRB approval; this lapse occurred following completion of participant enrollment.

Partial results of this study were previously presented at the 16th International AIDS Conference, Toronto, Canada, August, 2006 (Abstract No. MP-025), the 17th International AIDS Conference, Mexico City, Mexico, August, 2008 (Abstract Nos. MOPE-0280 and 0285), and in the publication, SAR AIDS Human Development Sector, South Asia Region, The World Bank. Mapping and Situation Assessment of Key Populations at High Risk of HIV in Three Cities of Afghanistan. Available at: siteresources.worldbank.org/INTHIVAIDS/Resources/ - 2008-05-16. For the latter publication, the data provided were at the mid-point in the collection process.

rare. Few reported having a lifetime STI diagnosis (6.3%, n=68) or symptoms (10.4%, n=110) in the last 6 months. Prevalence of syphilis was 3.72% (95% CI: 2.66 – 5.06%) and varied significantly between sites ranging from 0% (Jalalabad) to 13.9% (Mazar-i-Sharif) ($p<0.001$). Syphilis was significantly associated with STI diagnosis (AOR=3.84) or sex with FSWs (AOR=3.82) in the last 6 months, and with lower (≤ 6 years) educational level (AOR=2.20). Prior condom use with FSWs was independently associated with living outside Afghanistan in the last decade (AOR=5.52, 95% CI: 1.83 – 16.71), higher income (AOR=2.03, 95% CI: 1.17 – 3.51), greater number of lifetime partners (AOR=1.80, 95% CI: 1.32 – 2.45), and younger age (AOR=0.985, 95% CI: 0.973 – 0.998).

Conclusions: Though prevalence of syphilis and condom use varied significantly by site, high levels of risky sexual behavior were common and consistent condom use was rare among IDUs in Afghanistan. Harm reduction programming should incorporate sexual risk reduction and condom promotion and distribution in Afghan cities.

SHORT SUMMARY:

A cross-sectional study of injecting drug users in four Afghan cities found low syphilis prevalence, fairly low rates of condom use, and high levels of risky sexual behaviors.

Keywords

injecting drug user; condom use; syphilis; sexual risk factors; sex work; Afghanistan

INTRODUCTION

Prior reports indicate that injecting drug users (IDUs) engage in high levels of risky sexual behavior and have low reported condom use in diverse settings, like the United States, Russian Federation, and Indonesia.^{1–3} This behavior increases their risk of sexually-transmitted infection (STI). The focus of many previous studies have been infections transmitted both by sexual and blood-borne routes, particularly HIV and hepatitis B and C.^{4,5} However, high prevalence of syphilis and other STIs have been reported among IDUs in several South Asian settings, including Pakistan, India, and Bangladesh.^{6–8} A recent literature review of syphilis among IDUs in low and middle income countries reported a median lifetime syphilis prevalence of 11.1%.⁹ This review also indicated the need for designing effective interventions targeting IDUs and recommended integration of safer sex promotion, testing, counseling and education into harm reduction programs and improvement in health worker awareness.⁹

There are few data for general population or vulnerable group prevalence of HIV, syphilis, and other STIs in Afghanistan, where health infrastructure is slowly being rebuilt amid ongoing instability. Afghanistan is considered a low HIV prevalence country.⁵ Among a national sample of 16,870 blood donors in 2005, positive screening tests were reported for syphilis-suggestive (VDRL) reaction among 0.35% and for HIV among 0.12%.¹⁰ Among a sample of obstetric patients in Kabul, there were no syphilis or HIV cases detected in 2006.¹¹ In a recent survey among 543 sex workers in three Afghan cities (Jalalabad, Kabul, and Mazar-i-Sharif), no cases of syphilis were detected, but half (50.9%) of participants

reported treatment for presumptive STI in the three months prior to enrollment and 30% (n=156) reported genital sores, warts, or itching at enrollment.^{12,13}

Drug use, principally marijuana and opiates, in Afghanistan has been described for centuries and administration was through smoking or eating.¹⁴ However, injection use of opiates and pharmaceutical agents is a relatively recent trend and is noted to be increasing.¹⁵ Dynamic population shifts in the region, largely driven by conflict, have introduced injection use to some Afghans while they were refugees in neighboring countries. Other Afghans in Kabul described reasons for changing from smoking to injecting, including police or social pressure to have a fast, hidden route of drug administration; relative economy of injecting, or peer influence, in a qualitative study.¹⁶ These reasons may not be identical across the country and further study is needed to better elucidate transitions to injecting.

While some information about risky injecting practices has been reported, little is known about STIs or condom use among Afghan IDUs.¹⁵ A 2001 study among Afghan and Pakistani drug users in Pakistan revealed that, of Afghans surveyed, none used condoms and 41% stated they had engaged the services of sex workers.¹⁷ We previously reported high frequency of risky sexual behavior, including paying women for sex and men having sex with men, among Kabul IDUs.¹⁸ Since that report, IDUs in three additional urban Afghan cities have participated in a similar cross-sectional assessment. Here, we report the prevalence and correlates of syphilis infection and describe condom use behaviors among IDUs in four Afghan cities. Findings from this report will inform STI prevention for nascent harm reduction and drug treatment efforts in urban Afghan settings.

MATERIALS AND METHODS:

Setting

Hirat, Jalalabad, Kabul, and Mazar-i-Sharif represent the largest urban centers in their respective regions and were the setting for this study. Hirat is located in Western Afghanistan and is the third largest Afghan city. Jalalabad is the largest urban center in Eastern Afghanistan and is the most ethnically homogeneous, with a Pashtun majority. Kabul is the capital and largest city, with an estimated population of 3 million. Mazar-i-Sharif is the largest urban center in Northern Afghanistan and the fourth largest Afghan city. A mapping assessment performed concomitantly with this study in Jalalabad, Kabul, and Mazar-i-Sharif estimated IDU populations of 55, 1251, and 159 in these cities, respectively.¹⁹ At the time of this study, private and public addiction treatment and harm reduction programs were operating in all cities, and there was one program providing needle and syringe provision and collection operating in Hirat city, with on-site needle exchange.

Study Design and Participants

This cross-sectional study was conducted between June, 2005 and January, 2008 through the Ministry of Public Health-affiliated Voluntary Counseling and Testing Centers (VCT), harm reduction outreach programs, and the International Rescue Committee (IRC) offices in each location. Eligible participants were those: reporting injecting drugs (confirmed through injection stigmata) within the past six months, aged 18 years or greater, and able to provide

informed consent. Approval was obtained from the institutional review boards of the University of California, San Diego, the Walter Reed Army Institute of Research, the U.S. Naval Medical Research Unit 3 in Cairo, Egypt, and the Ministry of Public Health of the Islamic Republic of Afghanistan.

Measurement of variables and outcomes of interest

The questionnaire instrument, which was identical for all sites and based on the instrument previously used in Pakistan,¹⁷ assessed sociodemographics, travel, incarceration and medical histories, and drug use and sexual behaviors. Sexual risk behaviors of interest were sexual encounters with FSWs and other males, condom use at any sexual encounter with female partners, FSWs, and male partners, and frequency of condom use. Sexual experience was determined by asking about prior intercourse with women and with men or boys as separate questions that were asked of all participants. The questionnaire did not differentiate between vaginal and anal intercourse with women and there was no specific inquiry regarding oral sex.

Procedures

Potential participants were approached by an experienced outreach workers affiliated with local harm reduction programs in each city. If interested in participation, the IDU accompanied the outreach worker to the local VCT Center, harm reduction program office, or study office, based on personal preference. At the enrollment site, trained study staff explained the study and obtained informed consent. The participant was assigned a unique study number, which was required for receiving confirmatory test results. Recruitment was conducted for twelve months in all sites. No data were recorded nor was there enumeration of those declining or ineligible for study entry.

The study questionnaire was administered by a trained, gender-matched study representative in a confidential interview. No formal validation technique was used for reported behavioral data; however, those participants reporting current or prior marriage who also reported no prior sexual experience were asked further about sexual behavior and advised that the question encompassed marital relationships as well. Pre- and post-test counseling and rapid whole blood testing for *Treponema pallidum* antibody was performed with Abbott Determine Rapid Syphilis TP assay (Dainabot Co. Ltd., Tokyo, Japan). Confirmatory testing was performed on all participants with positive rapid tests with Serodia TP-PA (Fujirebio, Inc., Tokyo, Japan); rapid plasma regain (RPR) testing (Spectra, Cairo, Egypt) was performed for clinical decision making. Confirmatory results were available after two weeks; participants were provided with follow-up appointments at time of enrollment. Participants with positive TPPA tests and RPR titres>1:4 who presented for confirmatory test results were provided with benzathine penicillin treatment, per international guidelines.²⁰ Participants received post-test counseling, risk reduction counseling, a small non-monetary gift of hygiene items (e.g. razor, soap) of U.S.\$4 value, condoms, and sterile syringes, with referrals to available treatment and harm reduction programs upon request.

Statistical Analysis

Data were double-entered into a FileMaker Pro 7 (FileMaker Inc, Santa Clara, California) database with cross-comparison performed to identify and rectify entry errors; all data entry was performed in Kabul. Data analysis was performed with Stata Version 10 (Stata Corporation, College Station, Texas). Descriptive statistics for the study population were generated, stratified by enrollment site with Chi-square test performed to assess intersite differences. Continuous variables, such as number of lifetime sexual partners, were categorized into dichotomous variables at the median. Condom use frequency was compared between sites using Chi-square test. Outcomes of interest were prevalence and correlates of lifetime syphilis infection and condom use with FSWs. We chose to focus on any condom use with FSWs because this behavior was more likely to reflect STI prevention than condoms used as contraception with regular partners and because condom use with any male partners was very rare, providing insufficient power to detect relationships. For the outcomes of interest, univariate logistic regression was performed to identify potential associations with select demographic and risk behavior variables, controlled by enrollment site. Variables were entered into a multivariate model if they were associated at the 10% level in univariate analysis or were considered of epidemiologic significance; entry into the final model was determined by likelihood ratio test at a significance of $p=0.10$. Multivariate logistic regression models were generated to identify independently associated factors, adjusting for site.

RESULTS:

Demographic and Sexual Behavior Characteristics:

Analysis was restricted to male IDUs as there were only 8 female IDUs enrolled; 1078 male participants were assessed. Table 1 summarizes demographic and sexual behavior characteristics by site. Briefly, participants were young (median age: 28 years) and half (50.6%) had ever been married. Most (90.3%) reported prior sexual activity, with a median of four lifetime female partners. Among IDUs reporting prior sexual activity ($N=972$), 61.8% had ever paid women for sex and 25.7% reported sexual relations with a man or boy.

There were multiple significant site differences, with Jalalabad participants having the highest reported median income, being the most likely to have been married, and having the least formal education (< 6 years). Most IDU had lived outside Afghanistan in the last decade, predominantly in Iran; IDUs residing in cities with geographic proximity or common language were significantly more likely to have lived in the bordering country (Table 1). Prior sexual activity was reported by more participants in Kabul and Mazar-i-Sharif, as was paid sex with women. Participants from Hirat initiated sex later and were less likely to have ever had sex with another man or street boy. Only 90 participants reported sex with an FSW in the last 6 months, with Mazar participants ($N=34$, 19.4%) more likely to engage in paid sex than participants from other sites (Kabul, $N=34$ (7.9%); Hirat, $N=16$ (5.6%); Jalalabad, $N=6$ (7.5%); $p<0.001$). Among all sites, prior STI diagnosis was reported by 177 (16.4%) participants, of whom 38.4% ($n=68$) had received an STI diagnosis in the last 6 months. Genital warts, ulcers, or penile discharge in the last 6 months was reported by 10.4% ($n=110$).

Prevalence and Correlates of Syphilis:

Lifetime prevalence of syphilis was 3.72% overall (95% CI: 2.66 – 5.06), with significant variance between sites (Table 2). In logistic regression models controlling for site, syphilis was significantly associated with either STI diagnosis or paying women for sex in the last 6 months, having less than 6 years formal education, and ever having sex with another man (Table 2). In multivariable logistic regression analysis controlling for site, either STI diagnosis (AOR=3.84, 95% CI: 1.12 – 13.19) or paying an FSW for sex (AOR=3.82, 95% CI: 1.23 – 11.85) in the last six months and lower (<6 years formal education) educational level (AOR=2.20, 95% CI: 1.04 – 4.68) remained independently associated with syphilis. Given the high syphilis prevalence in Mazar-i-Sharif, a separate, site-specific logistic regression analysis was performed; only lower educational level (AOR=3.34, 95% CI: 1.09 – 10.28) was independently associated with syphilis infection in this site.

Condom Awareness and Use:

Nearly two-thirds (62.9%, n=676) of participants were aware of condoms, of whom just 268 (39.6% of those aware; 27.6% of those ever sexually active) had ever used a condom. Reported condom use varied significantly by site, with Hirat participants most likely to have used a condom (Table 3). When condom use frequency was queried, few participants reported consistent (always) condom use, particularly with any male partners. Though paid sex with women was common (N=602), condom use with FSWs was low, as only 32.6% (N=196) reported ever using a condom with FSWs. Of the 90 who had sex with an FSW in the last 6 months, only 22 reported using a condom.

Ever using a condom with an FSW was associated with living outside Afghanistan in the last decade, having 5 or more lifetime female partners, monthly income >4000 Af\$ (U.S.\$80), prior STI diagnosis, and, marginally, younger age in logistic regression models controlling for site (Table 4). In multivariable site-controlled logistic regression analysis, living outside Afghanistan in the last decade (AOR=5.52, 95% CI: 1.83 – 16.71), higher income (AOR=2.03, 95% CI: 1.17 – 3.51), greater number of lifetime partners (AOR=1.80, 95% CI: 1.32 – 2.45), and younger age (AOR=0.985, 95% CI: 0.973 – 0.998; p=0.024) remained independently associated with ever using condoms with FSWs.

DISCUSSION:

To our knowledge, this is the first report of syphilis infection among IDUs in Afghanistan. While the overall syphilis prevalence was low, similar to that reported in Abbottabad, located in the conservative North West Frontier Province of Pakistan, there was great regional variation, with the prevalence of syphilis in Mazar-i-Sharif approaching that reported among male drug users in other cities in Pakistan and in India.^{21–23} Participants from Mazar were more likely to report contact with FSWs in the last 6 months; six Mazar participants who had contact with FSWs in the last 6 months (23.1% of all detected syphilis infections in Mazar) had syphilis. Interestingly, our companion study among FSWs did not detect syphilis among participants in any of the three cities assessed, including Mazar-i-Sharif.¹² Among only Mazar participants, neither sex with men nor sex with FSWs ever or in the last 6 months were associated with syphilis infection. Mazar-i-Sharif closely borders

several former Soviet Republics where epidemics of syphilis and other STIs linked to sex work have been reported.^{24,25} Jalalabad was the only site with no syphilis cases detected, which may reflect either the conservative culture or the less organized social networks of IDUs in that setting.

Regarding the lack of syphilis cases among SWs in Mazar-i-Sharif, there are several possible explanations for this observation. First, the study team may have been unable to access all sex worker (male and female) networks interacting with IDUs, among whom syphilis may be prevalent. Next, because the temporality of the infection could not be determined, cases may have been acquired elsewhere and not previously detected or treated. Syphilis infection has a long latent phase and current behaviors may not reflect behaviors at the time of infection.²⁰ IDUs have multiple barriers (e.g. stigma, cost) to accessing health care; the frequent lack of symptoms typically associated with primary and secondary syphilis or lack of specific testing may have further prevented diagnosis for those IDUs who did seek care. Last, there may have been under-reporting of sex with men, a stigmatized behavior, particularly if sex is provided in exchange for drugs or money. A contextual study of MSM activity, particularly among IDUs and male sex workers is needed to better determine syphilis transmission among this vulnerable group.

Overall, syphilis was independently associated with both paying a FSW for services and with having a recent STI diagnosis. Among IDUs in Pakistan, ever having sex with FSWs was more frequently reported by IDUs with syphilis but did not attain statistical significance.²² Conversely, among IDU populations in Pakistan with a syphilis prevalence of 6.7%, having STI symptoms in the last year was reported by 14.1% of participants.²¹ Correlates of syphilis were not assessed; however, reporting STI symptoms was inversely associated with HIV infection in these populations.²¹

Reported condom use was uncommon among our study population, similar to that reported among IDUs in both Iran and Pakistan.^{22,26–28} The higher reported condom use from Hirat participants likely reflects their time spent in Iran as refugees, where behaviors may have been influenced by either harm reduction programs distributing condoms or national family planning programs.^{29,30} This observation may also account for the association between ever using a condom with an FSW and having lived outside Afghanistan in the last decade. Condom use with FSWs has been reported among male IDUs in other settings, with most analysis assessing consistent condom use or condom use in the last six months with FSWs.^{31–33} The low numbers of either reported consistent or recent condom use precluded similar analysis, but indicates substantial need for education on sexual risk reduction.

Higher monthly income was associated with prior condom use with FSWs and may be linked with ability to either afford condoms or relations with FSWs who charge higher prices and are able to negotiate condom use.³⁴ Younger age was associated with higher odds of having used condoms with FSWs and may reflect youth-oriented HIV prevention messaging or the exposure to messages in bordering countries, where youth may have assimilated more readily with the host culture. Having five or more lifetime partners was also associated with any condom use with FSWs; the greater number of partners may reflect relatively frequent FSW patronage, with condom use driven by knowledge of increased STI

risk to prevent infection of a regular or marital partner. However, condom use must be correct and consistent to prevent STI transmission. Drug use was associated with incorrect condom use and breakage among clients of FSWs in Vietnam and emphasized the likelihood of drug-user clients to play a bridging role.³⁵ We did not obtain further information regarding motivations for condom use and would recommend inquiry in any future study.

There are some limitations to our study. First, due to convenience sampling, results may not be generalized to IDUs in the cities assessed. Our efforts to safely access this population through outreach programs likely prevented complete IDU representation in these cities. Next, we analyzed lifetime syphilis infection, based on positive antibody assay. Due to the cross-sectional nature of the study, temporality of infection could not be established. Further, the interview format may have resulted in socially-desirable responding on high-risk behaviors. We attempted to minimize this by matching the sex of the interviewer and respondent; self-administered questionnaires were not feasible due to low literacy and the cost of ACASI or similar technology was prohibitive. Last, due to financial limitations, we did not test for additional STIs, such as *N. gonorrhea* or *C. trachomatis*, necessitating our reliance on self-reports of syndromic treatment. Future studies should consider adding testing for these pathogens.

In summary, syphilis prevalence was low among IDUs in major urban Afghan cities, with the exception of Mazar-i-Sharif. The significant variability in syphilis prevalence between sites may reflect regional variation in sexual behaviors and potentially migration patterns and exposures related to the travels. However, high levels of risky sexual behavior and prior STI diagnoses and low levels of condom use were common to IDUs in all sites. Harm reduction programming in Kabul and Hirat currently incorporate sexual risk reduction and condom promotion and distribution; this model needs to be scaled up in these cities and introduced in other sites. However, efficacy of programming on sexual risk reduction has not been established in Afghanistan. The low levels of condom use, particularly among men having sex with men, in sites with condom provision programs may indicate lack of comprehensive behavior counseling, particularly with regard to sex with other men or boys due to the clandestine nature of these activities. Thus, further study is needed to characterize motivations for and barriers to condom use and then develop context-specific behavioral interventions for the IDU population in Afghanistan. Last, STI testing capacity should be added to current and future drug user programming. Currently, most STI treatment in Afghanistan is based on syndromic management; policy and capacity development efforts should focus on introduction and implementation of newer rapid diagnostic methods suited to low resource settings for improved case detection and treatment. Policy efforts should also focus on how care for vulnerable groups may be provided through either government or partner facilities.

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Table 1.

Demographic and sexual experience characteristics of male injecting drug users (IDUs) in four Afghan cities.

Characteristic	Overall (N=1078)	Hirat (N=332)	Jalalabad (N=96)	Kabul (N=463)	Mazar-i-Sharif (N=187)	p-value
Age (years): Median (IQR)	28 (24–34)	28 (24–33)	28 (23–35)	29 (25–35)	27 (24–31)	0.051
Monthly Income: Median (IQR)	4000 (3000–6000)	3000 (3000–5000)	5000 (4000–7000)	3500 (3000–6000)	4000 (3000–6000)	<0.001
Civil Status: Ever Married (N,%)	546, 50.6%	174, 52.4%	61, 63.5%	240, 51.8%	71, 38.0%	<0.001
Education: <6 years (N,%)	654, 60.8%	211, 63.6%	70, 72.9%	255, 55.1%	118, 63.1%	0.003
Lived Outside Afghanistan in Last 10 years (N=987)*: (N,%)						<0.001
Pakistan	202, 18.7%	35, 10.5%	57, 59.4%	50, 10.8%	60, 32.1%	
Iran	648, 60.1%	320, 96.4%	5, 5.3%	202, 43.6%	121, 64.7%	
Other	196, 18.0%	10, 3.0%	1, 1.0%	172, 37.1%	13, 7.0%	
Ever Sexually Active: (N,%)	972, 90.3%	285, 85.8%	80, 83.3%	432, 93.3%	175, 94.1%	<0.001
Of those ever sexually active	(N=972)	(N=285)	(N=80)	(N=432)	(N=175)	
Age Coital Debut: Median (IQR)	19 (17–20)	20 (18–22)	18 (16–21)	18 (17–20)	19 (18–20)	0.025
Number Lifetime Female Partners: Median (IQR)	4 (2–10)	3 (1–5)	2 (1–6)	6 (2–20)	4 (3–8)	<0.001
Sex with Male Ever: N,%	250 (25.7%)	34 (11.9%)	24 (30.0%)	121 (28.0%)	67 (38.3%)	<0.001
Paid Female for Sex Ever: N,%	626 (58.1%)	126 (44.4%)	22 (28.9%)	333 (76.2%)	125 (72.3%)	<0.001

* Number having ever lived outside the country in last decade. Many IDU who had been outside the country had been to multiple countries, predominantly Pakistan and Iran.

IQR: Interquartile Range

N=Number

Table 2.

Variables associated with syphilis infection in site-controlled univariate logistic regression analysis among injecting drug users in four Afghan cities.

Variable	Total Population (N=1036)	Syphilis-Infected (N=40)	OR (95% CI)
Site Prevalence (N,%):			
Hirat	332	4, 1.2%	
Jalalabad	96	0, 0%	
Kabul	463	10, 2.16%	
Mazar-i-Sharif	187	26, 13.9%	
Age (mean, SD)	29.7 (7.45)	31.1 (9.13)	1.02 (0.97 – 1.08)
Age Coital Debut (mean, SD)	19.3 (3.49)	18.9 (3.31)	0.97 (0.93 – 1.02)
Ever married	531, 51.3%	14, 35.0%	0.51 (0.23 – 1.15)
<6 years education	415, 40.1%	9, 22.5%	2.33 (1.11 – 4.76)
>4000 Afs Monthly Income	429, 41.4%	13, 32.5%	0.68 (0.38 – 1.24)
Lived Outside Afghanistan Last Decade	891, 86.2%	29, 72.5%	0.42 (0.12 – 1.53)
STI Diagnosis Last 6 Months	59, 5.7%	9, 22.5%	4.79 (1.34 – 17.10)
STI Symptoms Last 6 Months	5, 4.5%	34, 3.6%	1.27 (0.36 – 4.48)
Paid Female for Sex Last 6 Months (N=972) *	90, 9.3%	11, 28.9%	4.24 (1.20 – 15.00)
Sex with Another Male Ever (N=959) **	250, 26.1%	13, 33.3%	1.44 (1.10 – 1.89)
Ever Use Condom with Sex Worker (N=728) ***	192, 31.9%	5, 16.1%	0.39 (0.05 – 3.39)

* Of IDUs reporting prior sexual relations

** Of IDUs reporting prior sexual relations and responding to question

*** Of IDUs who reported ever paying female for sex

OR= Odds ratio

CI= Confidence Interval

N=number

SD=Standard Deviation

Table 3.

Reported condom use frequency among ever sexually active male injecting drug users in four Afghan cities (N=972).

Variable	Overall (N=972)	Kabul (N=432) N, %	Hirat (N=285) N, %	Jalalabad (N=80) N, %	Mazar-i-Sharif (N=175) N, %	p-value
Ever Use Condoms	268, 27.6%	88, 20.4%	109, 38.2%	15, 18.8%	56, 32.0%	<0.001
Condom Use Frequency with Regular Partners (of total respondents):	(N=778)	(N=424)	(N=198)	(N=66)	(N=90)	<0.001
Never	615, 79.0%	344, 81.1%	135, 68.2%	56, 84.8%	80, 88.9%	
<50% of time	110, 14.1%	68, 16.0%	30, 15.2%	8, 12.1%	4, 4.4%	
50–99% of time	14, 2.2%	3, 0.71%	11, 5.6%	1, 1.5%	2, 2.2%	
Always (100%)	32, 4.6%	9, 2.1%	22, 11.2%	1, 1.5%	4, 4.4%	
Condom Use Frequency with Casual Partners (of total respondents):	(N=818)	(N=416)	(N=190)	(N=52)	(N=160)	<0.001
Never	616, 75.3%	346, 83.2%	118, 62.1%	42, 80.8%	110, 68.8%	
<50% of time	108, 13.2%	57, 13.7%	19, 10.0%	7, 13.5%	25, 15.6%	
50–99% of time	25, 3.1%	5, 1.2%	15, 7.9%	2, 3.8%	3, 1.9%	
Always (100%)	69, 8.4%	8, 1.9%	38, 20.0%	1, 1.9%	22, 13.8%	
Condom Use Frequency with Sex Workers (N=672) *		(N=173)	(N=38)	(N=297)	(N=165)	<0.001
Never	477, 71.0%	105, 60.7%	31, 81.6%	230, 77.4%	111, 67.3%	
<50% of time	99, 14.7%	17, 9.8%	5, 13.2%	52, 17.5%	25, 15.2%	
50–99% of time	27, 4.0%	17, 9.8%	1, 0.72%	6, 2.0%	3, 18.2%	
Always (100%)	70, 10.4%	34, 19.6%	1, 0.72%	9, 3.0%	26, 15.8%	
Condom Use Frequency with Street Boys (N=181) **						0.252
Never	159, 87.8%	72, 82.8%	30, 100%	6, 100%	51, 87.9%	
Ever	22, 12.2%	15, 17.2%	0	0	7, 12.1%	
Condom Use Frequency with Casual Male Partners (N=155) **						0.964
Never	142, 91.6%	85, 90.4%	4, 100%	21, 95.5%	32, 91.4%	
Ever	13, 8.4%	9, 8.6%	0	1, 4.5%	3, 8.6%	
Condom Use Frequency with Regular Male Partners (N=110) **						0.916
Never	102, 92.7%	81, 91.0%	2, 100%	4, 100%	15, 100%	
Ever	8, 7.3%	8, 9.0%	0, 0%	0, 0%	0, 0%	
Any Condom Use with Males (N=259) **	28, 10.8%	17, 12.7%	1, 2.9%	1, 4.2%	9, 13.4%	0.236
Any Condom Use with Female Sex Workers (N=729) *	196, 26.9%	68, 39.3%	7, 18.4%	67, 18.8%	54, 33.8%	<0.001

*
IDUs ever using services of female sex worker responding to question

**
IDUs ever having sex with another male responding to question

N=Number

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Table 4.

Factors associated with any reported condom use with female sex workers (FSWs) among injecting drug users in four Afghan cities in site-controlled logistic regression analysis (N=601).

Variable	No Prior Condom Use with FSW	Prior Condom Use with FSW	Odds Ratio	95% CI
Age (Mean, SD)	28.98, 7.42	28.53, 6.67	0.99	0.99 – 1.00 *
Age Coital Debut (Mean, SD)	19.02, 3.38	18.77, 2.82	0.98	0.90 – 1.06
	N, %	N, %		
6 years Education	155, 38.2%	105, 53.6%	1.87	0.76 – 15.39
Lived Outside Afghanistan Last 10 Years	336, 82.8%	189, 96.5%	5.63	2.06 – 15.39
Monthly Income >4000 Afghanis (US\$80)	144, 35.5%	102, 52.0%	1.97	1.21 – 3.23
Treated for STI Ever	74, 18.2%	50, 25.6%	1.55	1.13 – 2.10
Treated for STI Last 6 Months	29, 7.1%	13, 6.7%	0.93	0.48 – 1.80
STI Symptoms in Last 6 Months	39, 9.8%	17, 8.8%	0.89	0.70 – 1.14
Sexual Relations with Man or Boy	135, 33.7%	54, 27.7%	0.75	0.52 – 1.10
>5 Female Partners/ Lifetime	213, 52.5%	134, 68.4%	1.96	1.25 – 3.08

* Marginally statistically significant

Bold text denotes statistically significant associations (p<0.05)

SD= standard deviation

OR=odds ratio