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Correlates of Receptive and Distributive Needle Sharing Among Injection Drug Users in Kabul, Afghanistan

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Abstract: We describe receptive and distributive needle/syringe sharing among injection drug users (IDUs) in Kabul, Afghanistan. In this cross-sectional study, IDUs completed an interviewer-administered questionnaire. Logistic regression identified correlates of needle sharing in the last six months. Receptive and distributive sharing in the last six months were reported by 28.2% and 28.7% of participants, respectively, and were both independently associated with reported difficulty obtaining new syringes (Receptive sharing: AOR = 2.60, 95% CI: 1.66–4.06; Distributive: AOR = 1.56, 95% CI: 1.02–2.39). Receptive and distributive sharing are common among IDU in Kabul; scaling up availability of sterile, no-cost injecting equipment is urgently needed.

Keywords: Afghanistan, distributive needle sharing, injection drug use, receptive needle sharing

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INTRODUCTION

Afghanistan has been the leading global opium producer for most of the last decade (1). The readily available supply of its derivative, heroin, is linked to rapidly expanding epidemics of injection drug use and blood-borne infections, including human immune deficiency virus (HIV), in the Central Asian region (2, 3). In a 2005 national drug use survey, an estimated 19,000 injection drug users (IDUs) reside within Afghanistan and consume 5–10% of annual opium production (4). Drug use is posited to be increasing in Afghanistan but knowledge about drug-related harms may be low. Afghan drug users were more likely to engage in high risk injecting and sexual behaviors than their Pakistani counterparts in a 2001 study conducted in the border city of Quetta, Pakistan (5). Risky behavior may be secondary to lower knowledge about blood-borne infections among Afghan drug users, or because populations affected by conflict or complex emergencies often engage in high risk behaviors (6).

Among Afghan IDUs, needle sharing has been reported beginning in 2003, with reports indicating 25% to 90% of IDU have shared, though no distinction was made between receptive and distributive sharing (4, 7). Kabul, the capital of Afghanistan, is thought to have the highest concentration of IDUs in Afghanistan (4). The purpose of this paper is to describe prevalence and correlates of receptive and distributive needle sharing to inform future prevention programs and policies in Afghanistan. We assessed correlates of both behaviors since risks differ and factors associated with these behaviors may differ (8, 9).

METHODS

Study Design and Participants

We conducted a cross-sectional study of IDUs in Kabul, Afghanistan, between June 2005 and June 2006 through the Voluntary Counseling and Testing (VCT) Center at the Central Polyclinic. Eligible participants reported injecting drugs within the past six months (confirmed through injection stigmata), were 18 years or greater, and were able to provide informed consent. Prior to enrollment, approval was received from domestic and international investigational review boards.

Procedures

Interested potential participants accompanied an outreach worker known to them to the VCT Center. At the center, a trained study representative
explained the study in a confidential setting and obtained written informed consent. Each participant was assigned a unique study number, completed an interviewer-administered questionnaire, followed by pre-test counseling, whole blood rapid testing for HIV, syphilis, and hepatitis B and C, and post-test counseling. The interview instrument included questions pertaining to sociodemographics, incarceration, drug use, and sexual behaviors. No data was recorded on those declining or ineligible for study entry.

All participants were offered risk-reduction counseling, condoms, and sterile syringes, with referrals for detoxification and needle and syringe programs (NSPs) upon request.

Measurement of Variables of Interest

The outcomes of interest, receptive and distributive needle sharing in the last six months, were assessed with the questions, “In the last six months, have you used a needle/syringe that someone else had used previously?” and “In the last six months, have you given your needle/syringe to someone else to use?,” respectively, with responses by frequency (e.g. “never,” “sometimes,” “most of the time,” and “always”). Responses for frequency of drawing and re-injecting one’s blood (referred to locally as khoon bozee or “playing with blood”) were similarly classified.

Participants were also queried about locations for injecting, including having ever injected while incarcerated. Also assessed were types of drugs used, age of initiation of injecting, sexual behaviors, sharing of injecting paraphernalia (e.g., spoon, ampule bottle), and assistance with injecting. Participants were asked about their perceptions of drug supply, quality, price, and need for addiction treatment.

Statistical Analysis

The outcomes of interest were receptive and distributive sharing in the last six months. Continuous variables, such as age of initiating injecting, were dichotomized at the median. Correlates of receptive and distributive needle sharing were assessed with univariable logistic regression. Simultaneous multivariable logistic regression identified variables independently associated with receptive and distributive needle sharing in separate models. Inclusion of variables was determined using the likelihood ratio test considering all variables with \( p \leq .10 \) in univariable analysis with variable \( p \leq .05 \) retained in the final model.
RESULTS

Study Population

Of 464 participants, the majority were male (99.8%) and Afghan (98.9%). The sole female participant was excluded from remaining analyses. Participants were young (30.6 years) and approximately half (51.8%) were married. Most reported current employment (88.1%), with 67.4% reported earning less than 4900 Afghanis (US$1 = 49 Afs) monthly. Many (57.0%) participants had been incarcerated; of these, 30.4% had injected while incarcerated and 15.9% reported injecting with previously used syringes. Of those previously incarcerated, 11 (4.2%) reported sex with another man while in prison.

Average age of initiating injecting and duration of injecting were 26.4 years (IQR: 21–30) and 4.4 years (IQR: 2–6), respectively. A median of 200 Afghanis (approximately US$4) was spent daily on all drugs in the last six months, of which injected heroin with or without antihistamines (98.4%, n = 457; multiple responses accepted), tobacco (87.3%, n = 405) was used most frequently. Smoking heroin (42.2%, n = 196), marijuana/hashish (25.6%, n = 119), oral tranquillizers (23.3%, n = 108), alcohol (8.8%, n = 38), pharmaceuticals for injection (8.2%, n = 38), and volatile inhalants (1.7%, n = 8) were also reported. Construction sites (44.7%, n = 206/461; multiple answers were permitted) were the most frequently site for drug use, with home (32.1%, n = 148), parks (26.2%, n = 121), sewers (21.0%, n = 97), under bridges (16.9%, n = 78), shrines (13.2%, n = 61), alleys (11.3%, n = 52), and the street (4.3%, n = 20) also reported. Pharmacies (97.6%, n = 450/460) were the usual site for syringe acquisition. Other sites reported included a friend/acquaintance who uses drugs (1.1%, n = 4), spouse (0.4%, n = 2), finding syringes on the street (0.4%, n = 2), or other sites (0.4%, n = 2).

Syringe sharing was common; 50.4% reported any sharing (receptive or distributive) during their lifetime, of whom 63.1% had engaged in both receptive and distributive sharing. In the last six months, receptive and distributive sharing was reported by 28.2% and 28.7% of participants, respectively. Approximately one-third of participants reported ever sharing drug preparation supplies, including spoons (32.0%, n = 148/462), cotton filters (30.1%, n = 138/460), ampoule bottles (30.2%, n = 138/459), and rinse water for syringes (30.1%, 159/462). Most (82.9%) participants reported drawing and re-injecting their own blood in the past, of whom 41.3% always engaged in this practice.
Correlates of Receptive Needle Sharing

In univariable analysis, receptive needle sharing in the last six months was associated with reported difficulty accessing a new syringe (OR = 3.16, 95% CI: 2.07–4.82), low educational level (OR = 2.33, 95% CI: 1.28–4.17), injecting in alleys (OR = 2.25, 95% CI: 1.24–4.05), the perceived need for addiction treatment (OR = 2.12, 95% CI: 1.23–3.66), ever having sex with another man/boy (OR = 2.06, 95% CI: 1.32–3.21), and re-injecting one’s own blood (OR = 1.32, 95% CI: 1.09–1.59). Injecting drugs at home (OR = .62, 95% CI: .39–.99) was negatively associated with receptive needle sharing.

In multivariable analysis, reported difficulty obtaining a new syringe, using drugs in an alley, low educational level, and ever having sex with men or boys were independently associated with receptive needle sharing in the last six months, while perceived need for rehabilitation was marginally associated (Table 1).

Correlates of Distributive Needle Sharing

In univariable analysis, participants who had been incarcerated (OR = 2.25, 95% CI: 1.46–3.27), those incarcerated multiple times (OR = 1.82, 95% CI: 1.01–3.27), and those who re-injected their blood when injecting (OR = 1.28, 95% CI: 1.07–1.55) were significantly more likely to have engaged in distributive sharing in the last six months.

Table 1. Multivariable analysis of factors associated with receptive and distributive needle sharing in the last six months among male injection drug users in Kabul, Afghanistan

<table>
<thead>
<tr>
<th>Variable</th>
<th>Receptive sharing (n = 439) AOR*, (95% CI)</th>
<th>Distributive sharing (n = 460) AOR, (95% CI)</th>
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<tr>
<td>Difficulty obtaining new syringe</td>
<td>2.60, (1.66–4.06)</td>
<td>1.56, (1.02–2.39)</td>
</tr>
<tr>
<td>Drug use in alleys</td>
<td>2.22, (1.17–4.21)</td>
<td>N/A</td>
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<tr>
<td>Low educational level</td>
<td>1.92, (1.02–3.57)</td>
<td>N/A</td>
</tr>
<tr>
<td>Sex with other men/boys</td>
<td>1.79, (1.12–2.86)</td>
<td>N/A</td>
</tr>
<tr>
<td>Perceived need for rehabilitation**</td>
<td>1.78, (.99–3.18)</td>
<td>N/A</td>
</tr>
<tr>
<td>Injecting drugs in prison</td>
<td>N/A</td>
<td>3.75, (2.25–6.26)</td>
</tr>
<tr>
<td>Drug use at home</td>
<td>N/A</td>
<td>.57, (.35–.92)</td>
</tr>
<tr>
<td>Re-injecting one’s blood</td>
<td>N/A</td>
<td>1.23, (1.01–1.49)</td>
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* AOR = Adjusted Odds Ratio.
Perceptions were also important; participants who perceived difficulty in obtaining a new syringe (OR = 1.66, 95% CI: 1.10–2.49) or great need for addiction treatment (OR = 1.75, 95% CI: 1.04–2.94) were also more likely to engage in distributive sharing in the last six months. Distributive sharing was more likely for those reporting injecting in alleys (OR = 1.98, 95% CI: 1.09–3.57) and shrines (OR = 1.74, 95% CI: .99–3.04), while those reporting injecting drugs at home (OR = .57, 95% CI: .36–.90) were less likely to engage in distributive sharing.

In multiple logistic regression analysis, distributive sharing in the last six months was independently associated with injecting drugs in prison, re-injecting one’s blood, and difficulty obtaining a new syringe, and inversely associated with injecting at home (Table 3).

DISCUSSION

High-risk injecting behaviors were common, including receptive and distributive needle sharing and re-injecting one’s blood, a practice described in other settings, including Pakistan, the U.S., and Canada (10–12). Overall, distributive sharing was reported more than receptive sharing, as noted in other settings (9, 13, 14). Studies describing needle sharing should consider distinguishing between correlates of distributive and receptive sharing as each has differing implications of transmission to self vs. transmission to others.

Only perceived difficulty accessing new syringes was independently associated with both receptive and distributive sharing, similar to other settings (3, 13, 14). Nearly all participants procured syringes from pharmacies, where prescriptions are not required. The cost of a syringe at pharmacies (US$.06) in Kabul may be prohibitive in this impoverished setting. Over-the-counter availability of injection equipment at pharmacies is associated with lower prevalence of syringe sharing in other settings (15, 16). During the data collection period, there were three facility-based needle and syringe programs (NSPs) operating in Kabul dispensing two to three syringes at each visit.

Injecting drugs in prison was associated with distributive but not receptive sharing, which merits discussion as it closely parallels data from Iran, where prisons have been a crucible for the HIV epidemic (17–19). By contemporary Afghan law, drug use, while illegal, is not punished by imprisonment for the first offense if treatment facilities are available; however, jailing IDU for other offenses is common. Anecdotal reports relay that opiate users are arrested and held in jail until exhibiting withdrawal symptoms, at which time police release them due to concern of liability for death in prison (personal communication, Dr. M. R. Stanekzai).
It is unclear why only distributive sharing was associated with injecting in prison, though participants may have not reported drug use, necessitating receptive sharing, in this environment.

Having sex with men or boys and low educational level were associated with receptive sharing in the last six months, as reported in other settings (17–19). There is little data estimating the number of men self-identifying as homosexual or bisexual since homosexual activity is highly stigmatized in Afghan society. However, the sizeable percentage of participants reporting prior sexual relations with men or boys suggests that harm reduction efforts should include sexual risk reduction in this setting.

Preferred location for injecting was related to sharing practices, but was different for receptive and distributive sharing. The association between injecting in alleys and receptive sharing may be explained by the need for hurried injections in a semipublic setting, fostering the use of previously used syringes, as noted in other studies (20, 21). However, not all semipublic places were associated with either receptive or distributive sharing in our study. The decreased likelihood of distributive sharing among those injecting at home may reflect decreased opportunities for injecting in a group, since those injecting at home may not belong to large social networks of injectors.

Re-injecting one’s blood was associated with both distributive and receptive sharing in the last six months in univariable analysis. Re-injecting blood has been associated with greater likelihood of needle sharing among IDU in Pakistan and has been recognized as a marker for other high risk behaviors and HIV infection in the United States and Canada (10, 12, 22). While re-injecting one's own blood does not directly increase risk of blood-borne infection, it may lead to practices that do increase transmission. Practices such as front/back-loading and “flashblood” may reflect the belief that blood is an excellent vehicle for distribution of drug between IDU (10, 23, 24).

This study has a number of important limitations. First, the convenience sample does not ensure that the participants are representative of IDU in Kabul. Second, risky behaviors or details perceived to be of concern to authorities, such as where the participant obtained or used drugs, may have been under-reported in this interviewer-administered survey. However, interviewer-administered questionnaires were the only feasible means of data collection, due to low literacy and the prohibitive cost of audio computer-assisted self-interview (ACASI) in this setting. We attempted to minimize this by conducting all interviews in a private setting with a gender-matched interviewer.

In summary, receptive and distributive syringe and needle sharing is common, with associated perceived difficulty accessing syringes among IDU in Kabul. Though the prevalence of blood-borne infection is
currently low, limited NSP availability increases the probability of continued syringe sharing, with resultant transmission of blood-borne infection in Kabul (25). Prompt action across the region is needed, with special attention and programming for incarcerated populations.

ACKNOWLEDGMENTS

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REFERENCES


