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Research Paper

Differences by sex in associations between injection drug risks and drug crime conviction among people who inject drugs in Almaty, Kazakhstan

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ABSTRACT

Background: The criminalization of drug use leads to high rates of drug crime convictions for engaging in injection drug use behaviors, introducing barriers to HIV prevention and drug treatment for PWID. Females (FWID) face unique vulnerabilities to HIV compared to males (MWID) in Kazakhstan. This study examined sex differences in associations between HIV/HCV infection, HIV knowledge, injection drug risk behaviors, and conviction for a drug crime in a sample of people who inject drugs (PWID) in Almaty, Kazakhstan.

Methods: Analyses were performed on baseline data from 510 PWID and stratified by males (MWID) (329) and females (FWID) (181) from Kazakhstan in a couples-focused HIV prevention intervention. Logistic regression analyses using mixed effects (AOR) examined associations between HIV/HCV infection, HIV knowledge, injection drug risk behaviors, drug use severity, drug treatment history and conviction for a drug crime.

Results: About three quarters of PWID reported drug crime conviction (73.92%, n = 377). HCV infection was associated with increased odds of drug crime conviction for FWID (AOR = 4.35, CI_{95} = 1.83–10.31, $p < .01$) and MWID (AOR = 3.62, CI_{95} = 1.09–12.07, $p < .01$). HIV transmission knowledge was associated with increased odds of conviction for MWID (AOR = 1.19, CI_{95} = 1.00–1.41, $p < .05$). Injection drug risk knowledge was associated with lower odds of conviction (AOR = .75, CI_{95} = .59–.94, $p < .05$) for FWID. Receptive syringe sharing (AOR = 3.48, CI_{95} = 1.65–7.31, $p < .01$), splitting drug solutions (AOR = 4.12, CI_{95} = 1.86–7.31, $p < .05$), and injecting with more than two partners (AOR = 1.89, CI_{95} = 1.06–3.34, $p < .05$) was associated with increased odds of conviction for FWID. Receptive syringe or equipment sharing with intimate partners was associated with conviction for both MWID (AOR = 1.90, CI_{95} = 1.03–3.92, $p < .05$) and FWID (AOR = 1.95, CI_{95} = 1.02–3.70, $p < .05$). For FWID, injection drug use in public spaces was associated with conviction (AOR_{ME} = 3.25, CI_{95} = 1.31–7.39, $p < .01$). Drug use severity was associated with increased odds of conviction for FWID (AOR = 1.29, CI_{95} = 1.09–1.53, $p < .001$) and MWID (AOR = 1.24, CI_{95} = 1.09–1.41, $p < .001$). Ever receiving drug treatment was associated with conviction for MWID (AOR = 2.31, CI_{95} = 1.32–4.12, $p < .01$).

Conclusion: High-risk behaviors, HCV infection and more severe substance use disorders are associated with drug crime conviction for PWID, particularly FWID. Structural interventions are necessary to increase the engagement of PWID with drug crime convictions in HIV prevention and substance abuse treatment.

Introduction

Kazakhstan is currently experiencing one of the fastest growing epidemics of HIV infection in the world with a growth of 39% in new cases (2200 to 2900) from 2010 to 2016 (UNAIDS, 2016). Injection drug use accounts for more than 60% of all new HIV infections (Degenhardt et al., 2016) and 8.5% of the approximately 122,000 people who inject drugs (PWID) are HIV-positive (UNAIDS, 2016). In addition to HIV, infection with hepatitis C virus (HCV) is highly concentrated among PWID in Kazakhstan with an estimated prevalence of 61–90% (Walsh & Maher, 2013), substantially higher than estimates of the surrounding Central Asian region of 54.0% (Degenhardt et al., 2017). Co-infection is also extremely high with many PWID with HIV also infected with HCV (Platt et al., 2016). Studies from Central Asia and other parts of the world suggest the criminalization of drug use leads to higher rates of convictions for drug law violations among PWID

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(Jürgens, Nowak, & Day, 2011). Criminalization of drug use fuels the targeting of injection drug behaviors including syringe and equipment sharing, syringe-mediated sharing, using prepared injection solutions by drug law enforcement leading to high rates of drug crime conviction among PWID (Jolley et al., 2012; Otiashvili, Latypov, Kirtadze, Ibragimov, & Zule, 2016; Izenberg et al., 2013; Latypov et al., 2014). In social contexts in which drug use is criminalized, public injection spaces of stairwells, vehicles, alleyways and other injecting spaces attract drug law enforcement activities thus increasing risk of drug crime conviction of PWID (Beletsky et al., 2013; Darke, Kaye, & Ross, 2001; Blankenship & Koester, 2002; Booth et al., 2013; Ti et al., 2015; Wood et al., 2017). Lifetime conviction for drug crimes leads to imprisonment, registration as a drug user, compulsory treatment, future discrimination by the police, exclusion from employment and prevention from participation in voting and other political activities (Azbel et al., 2015; Brewer et al., 2014; DeBeck et al., 2017). Lack of access to harm reduction information in prison systems may be associated with lower knowledge and awareness of HIV prevention, and may be correlated with greater injection drug risk behaviors and HIV/HCV infection (Belenko, Langley, Crimmins, & Chaple, 2004; Dolan et al., 2015).

The criminalization of drug use particularly in public spaces has also resulted in law enforcement targeting drug and HIV treatment locations for arrest and detention of PWID (Bojko, Dvoriak, & Altice, 2013; Werb, 2017; Mimiaga et al., 2010; Wolfe, Carrieri, & Shepard, 2010; Wolfe & Cohen, 2010). Research suggests that PWID who access drug treatment and obtain sterile syringes are far more likely to be targeted by law enforcement officers as well as experience conviction for drug law violations thereby increasing injection drug HIV risk behaviors and HIV/HCV infection (Lunze et al., 2014; Mimiaga et al., 2010; Polonsky et al., 2016; Werb et al., 2015). In Kazakhstan, coverage of drug treatment and harm reduction services is extremely low (Aceijas, Hickman, Donoghoe, Burrows, & Stuikyte, 2007; Boltaev, Deryabina, Kusainov, & Howard, 2012; DeHovitz, Uuskula, & El-Bassel, 2014) with approximately .5% receiving methadone treatment and an average of 119.70 sterile syringes distributed for every PWID, substantially lower than the recommended coverage of 200 for every PWID (UNAIDS, 2017).

Although males who inject drugs (MWID) are more likely to experience conviction for a drug crime and resulting incarceration, females (FWID) who are involved in the criminal justice system are at greater risk of injection drug risk behaviors, and HIV and HCV infection (El-Bassel, Strathdee, & El Sadr, 2013; El-Bassel, Gilbert et al., 2013). FWID accounts for approximately 12.1% of PWID in Central Asia (Degenhardt et al., 2017). The intersection of drug-related stigma, gender inequities, and sexual violence place FWID at greater risk of HIV and drug related harms compared to MWID (Iversen, Page, Madden, & Maher, 2015; Lunze et al., 2016; El-Bassel, Strathdee et al., 2013). However, FWID are more likely than MWID to engage in drug and sexual risks due to greater discrimination and cultural stigma surrounding injection drug use, poor mental health and exposure to gender-based violence particularly intimate partner violence (IPV) (Gilbert et al., 2013; Shaw et al., 2016; El-Bassel & Strathdee, 2015; El-Bassel, Shaw, Dasgupta, & Strathdee, 2014; Gilbert et al., 2013; Shannon et al., 2008; Pinkham & Malinowska-Sempruch, 2007). Within the context of intimate partnerships, in Kazakhstan, MWID are more likely to provide syringes and other equipment (receptive sharing), prepare syringes and equipment for their female sex partners, and share injection equipment with a greater number of partners (El-Bassel, Gilbert et al., 2013; El-Bassel, Strathdee et al., 2013; El-Bassel, Gilbert et al., 2014). FWID in intimate partnerships in Kazakhstan and other parts of the world face significant barriers to safe injection practices and HIV testing and counseling because of power differentials in relationships that constrain agency over safe injection practices (El-Bassel, Gilbert, Witte, Wu, & Chang, 2011; El-Bassel, Strathdee et al., 2013; McMahon, Pouget, & Tortu, 2007; Terlikbayeva et al., 2013; Shaw et al., 2017). Understanding differences by sex in associations between injection drug risk behaviors, HIV/HCV infection and drug crime convictions among MWID and FWID is critical to attenuating co-occurring epidemics of HIV and HCV, developing prevention interventions and identifying sex-specific strategies to scale up drug treatment programs in Kazakhstan. Studies are yet to examine sex differences in relationships between risky injecting spaces, drug use severity, and HIV transmission injection drug risks and drug crime conviction in Kazakhstan and other Central Asian countries for MWID and FWID. Although MWID are more likely to be involved in the criminal justice system than FWID little is known about sex differences between injection drug, HIV infection and knowledge and drug crime conviction in Kazakhstan and other parts of the world.

This study addresses these gaps in the literature using baseline data from a sample of PWID who participated in a clinical trial of a couples-focused HIV prevention intervention in Almaty, Kazakhstan. This paper hypothesizes that 1) Injection drug risk behaviors (syringe/equipment sharing, syringe mediated sharing, using prepared equipment) with others, and number of injecting partners will be associated with drug crime conviction (*Hypotheses 1*). 2) Injecting with intimate partners will be associated with drug crime conviction *(Hypotheses 2)*. 3) Injecting in public spaces and shooting galleries will be associated with greater drug crime conviction (*Hypotheses 3)*; 4) HCV/HIV infection will be associated with drug crime conviction (*Hypotheses 4*). 5) Lower knowledge of HIV transmission risk behaviors will be associated with greater risk of drug crime conviction (*Hypothesis 5*). 6) Intimate partner violence (IPV) will be associated with a greater risk of drug crime conviction (*Hypothesis 6*) and, 5) PWID with more severe substance use will be more likely to report drug crime conviction (*Hypothesis 7*). We enrich these hypotheses with sex-stratified analyses between injecting drug risk behaviors, HIV/HCV infection and drug crime conviction.

Methods

Data source

Conducted between 2009–2012, Project Renaissance was a randomized control trial that tested the efficacy of a behavioral HIV prevention intervention for heterosexual couples where at least one or both partners engaged in injection drug use (El-Bassel, Gilbert et al., 2014). All research activities received approval from the Columbia University Institutional Review Board and the Kazakhstan School of Public Health Institutional Review Board.

Recruitment of participants

Several recruitment strategies identified potential couples from community-based, governmental and non-governmental centers rendering services to PWID in Almaty, Kazakhstan. Participants were recruited from HIV treatment and prevention clinics, syringe exchange programs, public neighborhood locations where PWID congregated using (1) targeted outreach and (2) word-of-mouth from injecting social network members and peers. A brief screening interview identified eligibility and then intimate partners were invited to participate in a second screening interview. The recruitment criteria first recruited male PWID and their female injecting or non-injecting intimate partners.

Eligibility criteria

Couples were eligible for the study if (1) both partners were greater than 18 years of age, (2) both partners considered each other as a spouse, lover, boy/girlfriend and/or the parent of his or her child, and the main sexual partner of the opposite sex, (3) the length of the relationship was 6 months or greater, (4) both partners reported an intent to remain together for at least a year, (5) one or both partners reported injecting drugs in the past 90 days and (6) one or both partners reported