



Full length article

## Predictors of injecting cessation among a cohort of people who inject drugs in Tijuana, Mexico

Danielle Horyniak<sup>a,b,c</sup>, Steffanie A. Strathdee<sup>a</sup>, Brooke S. West<sup>a</sup>, Meredith Meacham<sup>d</sup>, Gudelia Rangel<sup>e</sup>, Tommi L. Gaines<sup>a,\*</sup>

<sup>a</sup> Division of Global Public Health, University of California San Diego, La Jolla, CA, 92093, United States

<sup>b</sup> Behaviours and Health Risks Program, Burnet Institute, Melbourne, VIC, 3004, Australia

<sup>c</sup> School of Public Health and Preventive Medicine, Monash University, Melbourne, VIC, 3004, Australia

<sup>d</sup> Department of Psychiatry, University of California San Francisco, San Francisco, CA, 94143, United States

<sup>e</sup> United States-Mexico Border Health Commission, Tijuana, BC, 22320, Mexico

### ARTICLE INFO

#### Keywords:

Injecting drug use  
Cessation  
Mexico

### ABSTRACT

**Introduction:** Little is known about the cessation of injecting drug use (IDU) among people who inject drugs (PWID) in low and middle-income settings, where access to effective interventions for reducing drug use (e.g., opioid substitution treatment; OST), may be limited. We measured the incidence and identified predictors of IDU cessation among a cohort of PWID in Tijuana, Mexico.

**Methods:** Data were drawn from 621 participants in Proyecto El Cuete IV, a prospective cohort of PWID recruited in 2011 and interviewed biannually to 2016. A multivariable Extended Cox model was constructed to identify socio-demographic, drug use, risk environment and health-related predictors of IDU cessation (no IDU for  $\geq$  six months).

**Results:** 141 participants (23%) reported at least one IDU cessation event during follow-up. The crude IDU cessation rate was 7.3 per 100 person-years (95% Confidence Interval [CI]: 6.2–8.7). IDU cessation was negatively associated with injecting at least daily on average and heroin/methamphetamine co-injection in the past six months, and positively associated with testing HIV positive at baseline, being on methadone maintenance therapy in the past six months, and recent arrest. Concern for personal safety was also independently associated with IDU cessation.

**Conclusions:** The rate of IDU cessation among PWID in Tijuana was low. These findings underscore the importance of expansion of services including OST to help reduce drug use and facilitate IDU cessation for those who wish to do so. In this setting, interventions addressing individual-level economic barriers as well as broader social and structural barriers to harm reduction services are integral.

### 1. Introduction

Injecting Drug Use (IDU) is associated with myriad health, social and economic harms, including increased risk of mortality and transmission of HIV and Hepatitis C virus (Degenhardt et al., 2011; Mathers et al., 2013, 2008; Nelson et al., 2011). Typically, people who inject drugs (PWID) usually have long injecting ‘careers’ and experience multiple transitions in and out of IDU (Galai et al., 2003; Genberg et al., 2011b; Xia et al., 2015). Identifying factors which promote episodes of injecting cessation is essential for the development of interventions to reduce the harms associated with IDU and to facilitate long-term cessation for those who wish to become abstinent from drug use.

A growing number of prospective cohort studies have examined

short-term IDU cessation (commonly defined as reporting no IDU for six or twelve months), with cessation incidence rates ranging from 4.1 to 32.6 per 100 person-years (PY) (Evans et al., 2009; Genberg et al., 2011a; Langendam et al., 2000; Nambiar et al., 2015; Shah et al., 2006; Steensma et al., 2005). Factors positively associated with IDU cessation have included younger age, being employed (Huo et al., 2006; Luchenski et al., 2015; Nambiar et al., 2015; Shah et al., 2006; Steensma et al., 2005) lower frequency of IDU, engagement in drug treatment, particularly opioid substitution treatment (OST), and reporting a previous cessation (DeBeck et al., 2011; Evans et al., 2009; Hadland et al., 2017; Huo et al., 2006; Langendam et al., 2000; Shah et al., 2006; Steensma et al., 2005; Werb et al., 2013; Xia et al., 2015). Conversely, homelessness, residing in a disadvantaged neighbourhood,

\* Corresponding author at: Division of Global Public Health, University of California San Diego, 9500 Gilman Dr., La Jolla, CA, 92093, United States.  
E-mail address: [togaines@ucsd.edu](mailto:togaines@ucsd.edu) (T.L. Gaines).

incarceration, and alcohol and non-injection drug use have been inversely associated with IDU cessation (Bruneau et al., 2004; Evans et al., 2009; Genberg et al., 2011a; Hadland et al., 2017; Kimber et al., 2010; Luchenski et al., 2015; Nambiar et al., 2015; Shah et al., 2006; Steensma et al., 2005; Werb et al., 2013). Further, qualitative studies have emphasised the importance of social, structural and environmental factors such as having a desire to reduce potential negative consequences arising from drug use (e.g. criminal justice involvement, overdose risk) and having access to instrumental and social support, in facilitating IDU cessation (Boeri et al., 2009; Boyd et al., 2017; Knight et al., 2017; Weiss et al., 2014).

Studies of IDU cessation have been primarily conducted in high-income settings including North America (e.g. DeBeck et al., 2011; Evans et al., 2009; Genberg et al., 2011b; Luchenski et al., 2015), Europe (e.g. Kimber et al., 2010; Langendam et al., 2000) and Australia (e.g. Nambiar et al., 2015; Teesson et al., 2015). As a result, an important gap exists in knowledge about injecting trajectories across other geographic settings. In particular, research is needed to understand IDU cessation and inform responses to IDU in low and middle-income countries (LMIC), where effective harm reduction interventions such as needle and syringe exchange programs and OST may be unavailable or coverage is inadequate (Des Jarlais et al., 2013; Dutta et al., 2012; Mathers et al., 2010).

Among the 13 million PWID living in LMIC, approximately two million reside in Latin America (Mathers et al., 2008). Mexico is a leading producer of cocaine, methamphetamine, and heroin destined for the United States (U.S.) (Bucardo et al., 2005; United Nations Office on Drugs and Crime, 2016). In the past decade, IDU epidemics have emerged in cities located along drug trafficking routes in Mexico, including in Tijuana, Baja California, a densely populated metropolitan area located directly across the border from San Diego, California (Brouwer et al., 2006; Bucardo et al., 2005; Strathdee et al., 2012). The lifetime prevalence of illicit drug use in Baja California is estimated at 13.5%, exceeding the national average, and IDU plays an important role in driving Tijuana's burgeoning HIV epidemic (Brouwer et al., 2006; Instituto Nacional de Salud Pública, 2017; Strathdee et al., 2012). IDU is particularly prevalent among key populations, estimated at 60% among female sex workers and their male partners (Robertson et al., 2014b) and 6% among men who have sex with men (Pitpitan et al., 2015), with methamphetamine and heroin (including co-injection) the most commonly injected drugs (Meacham et al., 2015; Rusch et al., 2009). Among PWID with a history of incarceration, over 60% report injecting while in prison (Pollini et al., 2009). Access to OST is limited in Tijuana, and available drug treatment consists primarily of 12-step approaches, which have limited effectiveness, and in this setting is often coercive, with reports of mistreatment common (Harvey-Vera et al., 2016; Rafful and Medina-Mora, 2016; Syvertsen et al., 2010).

Although studies conducted in Tijuana have found that many drug users express a desire to reduce or cease drug use (Bazzi et al., 2016) and report a high level of self-reported need for addiction treatment (Werb et al., 2015), little is known about IDU cessation in this setting. In the only study to-date that examined IDU cessation in Mexico, 19% of female sex workers who injected drugs and participated in a behavioral intervention to promote safer sex in the context of drug use ceased IDU for at least four months during 12 months of follow-up. This study found no significant associations between drug use variables (including participation in OST) and IDU cessation (West et al., 2015).

In response to this gap in the literature, this paper aimed to measure the rate of IDU cessation and identify predictors of IDU cessation among a cohort of people who inject drugs regularly in Tijuana.

## 2. Methods

### 2.1. Study methods

Data were drawn from *Proyecto El Cuete IV*, a prospective cohort of

PWID in Tijuana designed to examine the impact of recent Mexican drug policy reform on HIV risk among PWID. Study methods have previously been described in detail (Robertson et al., 2014a). In brief, eligibility criteria included being aged  $\geq 18$  years, reporting past-month IDU, speaking English or Spanish, residing in Tijuana with no plans to move for 30 months and not currently participating in any intervention studies. From 2011 to 2012, 734 PWID were recruited using targeted sampling and street-based outreach. Following provision of written informed consent, data were collected by trained bilingual interviewers. Study instruments comprised an interviewer-administered quantitative survey and rapid HIV testing using Advance Quality rapid HIV tests (InTec Products, Inc.). Reactive rapid tests were confirmed with a second test; a second reactive test result was considered positive. Participants are followed up biannually (with an interview window  $\pm 1.5$  months) and receive a \$20USD reimbursement per visit. Approval for the study was provided by Institutional Review Boards at the University of California San Diego and El Colegio de la Frontera Norte (Tijuana).

### 2.2. Measures

The outcome of interest was the first self-reported episode of IDU cessation (defined as not having injected drugs for at least six months, to enable comparisons with most existing literature). At each interview, participants reported the number of days since their last illicit drug injection, from which we calculated the date of the last injection. We then added 180 days to calculate the date on which a six-month period of IDU cessation was completed. Survival time was calculated by subtracting the baseline interview date from the date of first cessation completion for those who experienced a cessation event, or from the date of most recent interview, for those who did not cease injecting (i.e., were right censored).

Selection of predictor variables for inclusion in analysis was informed by available literature on IDU cessation (e.g. DeBeck et al., 2011; Evans et al., 2009; Kimber et al., 2010; Nambiar et al., 2015; Shah et al., 2006; West et al., 2015; Xia et al., 2015), with a focus on variables which we considered particularly relevant to our study setting (i.e., a middle-income country with low OST coverage). Four domains of variables were included:

1. *Socio-demographic variables*: Sex, age, educational attainment, marital status, and employment status. We also considered deportation history as Tijuana is a primary receiving community for U.S. deportees (Masferrer and Roberts, 2012) and emerging evidence suggests that deported migrants who inject drugs engage in different patterns of drug use and are less likely to receive treatment compared with other PWID (Brouwer et al., 2009). Deportation history was stratified by time since most recent deportation (never deported, last deported within the past four years, last deported longer than four years prior to baseline). These time periods were chosen to correspond roughly to the commencement of the Obama administration (i.e., January 20, 2009), during which deportations increased dramatically (Gonzalez-Barrera and Krogstad, 2014), as well as to capture recency of arrival in Mexico.
2. *Drug use variables*: Duration of injecting, frequency of injecting, heroin/methamphetamine co-injection, frequency of marijuana use, frequency of methamphetamine smoking, ever receiving any type of professional help for drug use other than methadone maintenance therapy (MMT) at baseline, enrolment in MMT (ever enrolled at baseline; past six months), need for help for drug use in the past six months, and experiencing an overdose in the past six months;
3. *Risk environment variables*: Residence in the Zona Norte (the region encompassing Tijuana's red light district, which borders the U.S. and has been subject to heightened policing (Gaines et al., 2015; Werb et al., 2016)), mostly living in unstable housing in the past six months, arrested in the past six months, time spent incarcerated in

Download English Version:

<https://daneshyari.com/en/article/7503235>

Download Persian Version:

<https://daneshyari.com/article/7503235>

[Daneshyari.com](https://daneshyari.com)