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Male injection drug users try new drugs following U.S. deportation to Tijuana, Mexico

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Abstract

Background—Among male injection drug users (IDUs) in Tijuana, Mexico, U.S. deportation is associated with HIV transmission. Changing drug use behaviors following deportation, including the use of new drugs, may increase HIV risk but are understudied. We identify correlates of trying new drugs following male IDUs' most recent U.S. deportation to Mexico.

Methods—In 2010, we recruited 328 deported male IDUs in Tijuana, Mexico. Questionnaires collected retrospective data on drug use and other HIV risk behaviors throughout migratory events. Logistic regression identified correlates of trying new drugs/combinations following their most recent deportations. Informed consent was obtained from all participants.

Results—Nearly one in six men ($n=52$, 16%) tried new drugs following their most recent deportation, including heroin ($n=31$), methamphetamine ($n=5$), and heroin/methamphetamine combined ($n=17$). Trying new drugs following deportation was independently associated with U.S. incarceration (adjusted odds ratio [AOR]= 3.96; 95% confidence interval [C.I.] 1.78, 8.84), increasing numbers of U.S. deportations (AOR=1.11 per deportation; C.I. 1.03, 1.20), feeling sad following deportation (AOR 2.69; C.I. 1.41, 5.14), and perceiving that one's current lifestyle increases HIV/AIDS risk (AOR 3.91; C.I. 2.05, 7.44).

Conclusions—Trying new drugs following U.S. deportation may be related to the unique contexts and stressors experienced by drug-abusing migrants as they attempt to reestablish their lives in Mexico. Findings imply an unmet need for health and social programs to alleviate pre-and post-deportation stressors faced by undocumented and return migrants in the U.S.-Mexico context.

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Keywords

Migration; deportation; HIV/AIDS; injection drug use; drug abuse transitions; Mexico

1. Introduction

Lifetime prevalence of drug use increased in Mexico from 5.0% in 2002 to 5.7% in 2008 and is highest among individuals who have ever migrated to the United States or have migrant family members (Borges et al., 2007; Hernandez et al., 2009; Secretaria de Salud de Mexico, 2002, 2008). Although illicit drug use is lower among Mexican migrants in the United States than U.S.-born Mexicans and non-Latino whites (Grant et al., 2004), undocumented migrants experience multiple economic, social and contextual stressors (e.g., unemployment, discrimination) that shape their physical and mental health (Chavez, 1998). These stressors also contribute to alcohol and drug abuse (Apostolopoulos et al., 2006) and engagement in sexual risk behaviors (Munoz-Laboy et al., 2009; Worby and Organista, 2007). Mexican migrants to the United States may be exposed to drugs while travelling through Northern Mexican border communities (Apostolopoulos et al., 2006; Sánchez-Huesca et al., 2006) and residing in marginalized U.S. communities where drug abuse is highly prevalent (Valdez and Cepeda, 2008). Once in the United States, undocumented Mexican migrants, particularly those who inject drugs, experience heightened HIV risk (Magis-Rodriguez et al., 2004; Magis-Rodriguez et al., 2009).

Mexican nationals comprised 58% of all undocumented immigrants in the United States in 2010, estimated at ~6.5 million persons (Passel and Cohn, 2011). Deportation, a type of forced or involuntary return migration, is highly prevalent in the U.S.-Mexico context, with Mexican-born persons accounting for the majority of U.S. deportations: 86% of the 613,003 persons apprehended by U.S. immigration officials in 2009 were Mexican nationals, and Mexicans accounted for ~72% of the 393,289 persons removed from the country (U.S. Department of Homeland Security, 2010). Most migrants returned to Mexico are men (89% in 2010; National Migration Institute, 2010). Involuntary return migrants, including increasing numbers of individuals prosecuted for drug offenses (Department of Homeland Security, 2001; Slevin, 2010), are often returned to Northern border states (National Migration Institute, 2010), where prevalence of drug use is above the national mean (Secretaria de Salud de Mexico, 2008).

In 2010, ~40% of U.S. deportees to Mexico came to ports of entry in Baja California, with Tijuana receiving the largest share at >126,000 deportees (Instituto Nacional de Migración, 2010). Tijuana is the largest and fastest growing Northern Mexican border city, with a population of ~1.6 million (Instituto Nacional de Estadística y Geografía de Mexico, 2011). Tijuana is situated along major drug trafficking routes that carry heroin, cocaine, and methamphetamine into the United States (Bucardo et al., 2005), supporting large populations of non-injection and injection drug users (IDUs) (Brouwer et al., 2006; Strathdee et al., 2005). A recent survey estimated that ~10,000 IDUs reside in Tijuana (Secretaria de Salud de Mexico, 2008). Increasing HIV prevalence among high risk populations in the city is an important concern, with the highest documented transmission rates among IDUs, female sex workers (FSWs), and migrants including deportees (Strathdee and Magis-Rodriguez, 2008). Given the high cross-border mobility in the region, including among IDUs and their social networks (Brouwer et al., 2009; Wagner et al., 2011), HIV transmission from migrant IDUs returning to Mexico presents a unique concern because of the potential for “bridging” of disease to diverse populations within and beyond the geographic bounds of the region (Rachlis et al., 2007).

Our binational research team recently found that 42% of adult male IDUs enrolled in a cohort study in Tijuana reported U.S. deportation (Brouwer et al., 2009), and deportees experienced four times higher odds of HIV infection than non-deportees (Strathdee et al., 2008b). Unfortunately, this study did not collect detailed migration data, preventing a thorough understanding of associations between deportation and HIV. Formative qualitative research among a small subsample of deported male IDUs found that men's drug use evolved during complex and lengthy migration histories, with many men describing transitions and escalations in their drug use following deportation (Ojeda et al., 2011). Despite evidence that cross-border mobility is an important factor in the transmission of infectious diseases within border regions (Apostolopoulos and Sönmez, 2007), particularly among IDUs (Paschane and Fisher, 2000; Rachlis et al., 2007; Wagner et al., 2011), data on drug-related risk behaviors among deportees in the U.S.-Mexico border context are limited. Describing deportees' changes in drug use and identifying behavioral and contextual factors associated with post-deportation transitions in drug abuse trajectories could facilitate the development of interventions to delay or prevent drug abuse progression, including the initiation of new drugs or routes of administration (e.g., injecting).

To guide our exploration of the relationships between migration/deportation factors and new drug use (NDU) among deportees, we drew on Gil and Vega's Acculturative Model for Latino Adolescent Substance Use, which highlights the role of acculturative stress in promoting drug abuse among young Latino migrants as they transition between two physical environments (e.g., Mexico and the United States) (Gil and Vega, 2001). Based on our formative work, which uncovered the importance of migration- and deportation-related stressors in deportees' drug abuse (Ojeda et al., 2011), we modified Gil and Vega's model to include a third physical environment, post-deportation Mexico. We also drew on Rhodes' risk environment framework, which emphasizes how drug abuse and related harms occur within and are produced by the social situations and environments in which individuals participate (Rhodes, 2009). As deportees move through diverse risk environments, not necessarily by choice, they may lose or gain physical, emotional, and social resources and support (Soskolne, 2007) and encounter opportunities to try new drugs (Wagner and Anthony, 2002). Based on these theoretical models and a review migration and drug abuse literature, we conceptualized five broad domains in which factors could influence NDU: (1) pre-migration (Mexico), (2) migration/pre-deportation (United States), (3) deportation (e.g., apprehension and detention processes), (4) immediate post-deportation (Mexico), and (5) current environment (Tijuana). Our study examined the relationship between factors within each of these five domains and NDU by male IDUs following their most recent deportations. We hypothesized that specific factors within each domain would be associated with post-deportation NDU. We hypothesized that men experiencing social, economic, legal or emotional stressors in the migration/pre-deportation domain (e.g., having a U.S. criminal record), the deportation domain (e.g., not being able to communicate with social contacts during the deportation process), or the immediate post-deportation domain (e.g., feeling sad or lonely immediately after return to Mexico) would be more likely to report post-deportation NDU.

2. Methods

2.1. Participants and recruitment

We obtained data from a cross-sectional study of deportation that was nested within Proyecto El Cuete, a 2006–2007 longitudinal study of behaviors and contexts associated with HIV, syphilis and TB infection in a cohort of IDUs in Tijuana, Mexico, as previously described (Strathdee et al., 2008c). Eligibility included being ≥ 18 years old, injecting illicit drugs in the past month, speaking Spanish or English, not planning to permanently move away within 18 months (to allow prospective follow-up), and providing written informed

consent. Outreach workers recruited participants using respondent-driven sampling (RDS), a network-based technique for sampling “hidden” populations, including IDUs (Abdul-Quader et al., 2006; Heckathorn, 1997). RDS eliminates problems associated with methods such as “snowball sampling,” including bias from non-random selection of seeds and oversampling of well-connected individuals or those with large social networks (Heckathorn, 1997; Heckathorn, 2002; Heckathorn et al., 2002; Salganik and Heckathorn, 2004). RDS involves direct peer recruitment, a dual incentive system, and a coupon system to limit the number of peers each person recruits and monitor who recruits whom. In brief, (Abramovitz et al., 2009; Strathdee et al., 2008c), we recruited an initial set of subjects (i.e., “seeds”) who were selected for heterogeneity in age, gender and neighborhood. Seeds underwent interviews, were educated on how to refer eligible peers using uniquely coded coupons. Recruits returning with coupons were then given coupons to recruit their peers, continuing until the desired sample size was obtained. Respondents received incentives of 10 U.S. dollars (USD) for completing interviews and an additional 5 USD for each peer they successfully recruited.

For our deportation sub-study, from January-April 2010, outreach workers recruited 328 men from Proyecto El Cuete who reported U.S. deportation as their primary reason for moving to Tijuana and were not lost to follow-up. Specifically, of 1,056 *Proyecto El Cuete* participants, 377 were eligible for the deportation sub-study (i.e., men reporting U.S. deportation as their primary reason for moving to Tijuana), and 328 (87%) were not lost to follow-up, confirmed eligibility, and completed the questionnaire. All subjects provided written informed consent for this sub-study. The Human Research Protections Program of the University of California, San Diego and the Ethics Board of the Tijuana General Hospital approved all study protocols.

2.2. Measures

Due to the potentially low reading and computer literacy of our study population, which has a median educational attainment of 6 years (Strathdee et al., 2008c), and complex survey skip patterns, we used interviewer-administered computer assisted personal interviewing (CAPI) survey programmed into laptops with questionnaire development software (QDS; Nova systems). Computer assisted interviewing methods are effective in reducing data collection errors when low literacy levels are pervasive and survey instruments are complex (Al-Tayyib et al., 2002; Wright et al., 1998). Outreach workers from Proyecto El Cuete who were known to the participants and had developed rapport administered the CAPI surveys. We developed measures for our survey based on emergent themes from our formative qualitative work (Ojeda et al., 2011) and key domains in our theoretical framework. Measures were written and translated into Spanish by our bilingual research team and pilot tested prior to administration in the larger sample.

The survey collected information on socio-demographics (e.g., age, education, income and living arrangements). Measures of sexual and drug-related risk behaviors and contextual factors were organized according to the key migration-related domains emphasized in our theoretical framework: (1) *pre-migration factors* included birthplace, family socio-economic status, reasons for emigrating (e.g., search for better economic opportunities), age of independence from family, age at first U.S. migration (Durand et al., 2001), and individual and family drug use in Mexico pre-migration; (2) *migration factors* included initial U.S. travel, existing U.S. social networks, places and total years of U.S. residence (Marcelli and Cornelius, 2001), and U.S. drug abuse and incarceration experiences; (3) *deportation factors* included number of deportations, occurrence of last deportation, total number of times deported, and specific circumstances of the “most recent deportation” (e.g., detention experiences including drug abuse, communication and financial support received from family/friends, and whether the last deportation was “voluntary,” and if not, number of years “banned” from U.S. reentry); (4) *immediate-post-deportation factors* also focused on the

“most recent deportation” and included time/place released, amount of money on one’s person, ability to locate temporary shelter and employment, and self-rated emotional state (e.g., feelings of anger, sadness, happiness, anxiety, and relief); (5) *current environment* (Tijuana) covered the period following the most recent deportation and included recent and current drug use, social relationships, employment, communication with U.S. or Mexican family/friends, incarceration and police interactions, drug treatment experiences and aspirations, and self-reported current health status and risk perceptions regarding HIV/AIDS. Our dependent variable, NDU, was measured using the questions, “Since your most recent deportation, are any of the drugs or combinations of drugs you have used in Tijuana new for you, meaning that you use them now in Tijuana but had never used them in the United States?” and “Which drugs/combinations were new for you?”

2.3. Analysis

We generated descriptive frequencies for independent variables within each of the five domains described above. Univariable and multivariable logistic regression was used to identify migration and deportation factors associated with NDU following deportation. Independent variables associated with the dependent variable at $p < 0.20$ were considered for inclusion in the final multivariable model, along with factors central to the five migration-related domains of our theoretical framework. Since many migration and deportation factors were highly correlated with each other, we did not include them together in our final model but present descriptive statistics to provide context on the study population. We assessed potential confounders by removing variables one at a time and assessing changes in coefficients for other covariates. We compared candidate models using likelihood ratio tests. The final model retains only variables statistically significantly associated with the dependent variable and factors identified in our theoretical framework. We did not find evidence of interactions or multicollinearity in the final model.

To account for potential effects of the RDS method used in the parent study (Heckathorn, 1997), we adjusted our logistic regression models using inverse probability weights based on individual recruitment weights, as previously described (Abramovitz et al., 2009). Briefly, we used the RDS Analysis Tool (Volz et al., 2007) to derive weights that include factors to control for respondents’ heterogeneity of degree. To account for correlations between recruiter and recruit, we used a variable indicating who the recruiter of each subject was as a cluster variable in a generalized estimating equation (GEE) algorithm. An exchangeable correlation structure within each cluster was assumed (i.e., that the correlation between any two subjects recruited by the same recruiter was the same). Correspondingly, all multivariate results presented are labeled “RDS-adjusted.”

3. Results

Of 328 deported male IDUs, nearly one in six ($n = 52$; 16%) reported NDU in Tijuana following their most-recent deportation. The majority of men ($n = 243$; 74%) were born outside of Tijuana; their average age was 39.3 years (standard deviation [SD]: 7.6). Men reported an average of 13.7 years of total U.S. residence (SD: 6.6) and 3.9 lifetime deportations (SD: 3.9) (Table 1). Among the 52 men reporting NDU, the most commonly tried drugs post-deportation were heroin alone ($n = 31$, 60%), heroin and methamphetamine combined ($n = 17$, 33%), and methamphetamine alone ($n = 5$, 10%; data not shown).

We identified factors within each migration-related domain in our theoretical framework. Within the pre-migration domain, men reporting post-deportation NDU were less likely to be from a poor family in Mexico, more likely to see family members use drugs pre-migration, and more likely to become independent from their families at younger ages. Within the pre-deportation (U.S.) domain, men reporting NDU were more likely to report

ever using drugs while incarcerated in the United States. In the deportation domain, ever using drugs in an immigration detention center and communicating with U.S. or Mexican family/friends were associated with post-deportation NDU. In the immediate post-deportation context, men reporting post-deportation NDU were more likely to report feeling sad after their release and less likely to feel anxious. In the current (Tijuana) domain, men reporting NDU were more likely to perceive that their current lifestyle increased their risk of acquiring HIV.

In RDS-adjusted multivariable logistic regression (Table 2), factors independently associated with post-deportation NDU included ever being incarcerated in the United States (adjusted odds ratio [AOR]= 3.96; 95% confidence interval [C.I.] 1.78, 8.84), increasing number of lifetime deportations (AOR=1.11 per deportation; C.I. 1.03, 1.20), feeling sad following the last deportation (AOR 2.69; C.I. 1.41, 5.14), and perceiving that one's current lifestyle increases HIV/AIDS risk (AOR 3.91; C.I. 2.05, 7.44).

4. Discussion

Nearly one in six male IDUs reported NDU in Tijuana following their most recent U.S. deportation, supporting our theoretical framework's emphasis on migrants' exposure to new drugs resulting from macro-level factors (e.g., drug availability in different geographic locations). The most commonly reported "new" drugs, heroin and methamphetamine, are increasingly prevalent in Northern Mexico (Brouwer et al., 2006), carrying important implications for HIV transmission. Heroin is the most commonly injected drug worldwide, and injection drug use contributes to 5–10% of HIV infections worldwide, or 30% excluding sub-Saharan Africa (Mathers et al., 2008). In Mexico, heroin consumption has been associated with increasing HIV prevalence, particularly in the Northern border region (Bucardo et al., 2005). Although we cannot discern whether men trying heroin for the first time post-deportation injected it, our sample is comprised of long-term and current IDUs, many of whom reported injecting in the post-deportation period, making it likely that participants' first-time heroin use involved injecting. Nevertheless, non-injecting heroin use also carries important health consequences through sexual risk behaviors (Chitwood et al., 2003; Gyarmathy et al., 2002; Neaigus et al., 2006; Sanchez et al., 2002; Valdez et al., 2008) and is a precursor for transitioning to injection (Chitwood et al., 2000). Additional research is needed to determine how deported IDUs start using heroin and which, if any, transitions in drug use or route of administration follow first use.

A growing body of evidence supports the link between methamphetamine use and engagement in sexual risk behaviors that may increase HIV transmission (Degenhardt et al., 2010; Kral et al., 2001). Methamphetamine consumption is rising in Mexico's Northern border region (Brouwer et al., 2006; Case et al., 2008; Patterson et al., 2008; Strathdee et al., 2008a). Mexico's role in manufacturing methamphetamine entering U.S. markets has been linked to domestic consumption (Degenhardt et al., 2010), reflecting the importance of changing drug access in facilitating drug abuse as migrants relocate (Genberg et al., 2011). Methamphetamine use is highly prevalent among IDUs in Tijuana, and among men is associated with a history of sex with men, trading sex and having more than two casual sex partners (Rusch et al., 2009). As with heroin, increasing duration of non-injection use and resulting physical dependence may precipitate transitioning to injection (Chamla et al., 2006; Neaigus et al., 2001). Ten percent of men reporting NDU in our sample tried heroin and methamphetamine together, a combination that likely reflects the widespread of availability of both drugs to deportees in Tijuana. Additional research is needed to describe transitions to methamphetamine use, either alone or in combination with heroin, and identify the associated behaviors, contexts and health outcomes among deportees in Mexico.

As posited in our theoretical framework, our findings suggest that physical risk environments may significantly influence male deportees' drug abuse behaviors. As hypothesized, legal problems (e.g., U.S. incarceration, increasing numbers of U.S. deportations) were associated with NDU post-deportation. Incarceration may reflect previous drug involvement: our qualitative study found that male deportees attributed their deportations to escalating drug abuse and related legal problems (Ojeda et al., 2011). Incarceration and immigration detention may also present deportees with changing exposure opportunities as different populations of drug users mix in prison/detention facilities. Prisons have been identified as high-risk environments for drug users internationally (Rhodes et al., 2005; Sarang et al., 2006), but U.S. immigration detention facilities remain understudied. Although detainees in immigration detention should receive HIV prevention services (Human Rights Watch, 2007), our finding that very few men ever received drug treatment in the United States suggests an important unmet need for drug abuse screening and treatment, both within detention facilities and migrant communities. Although drug use in detention did not remain statistically associated with NDU in our final model, additional research is needed to explore the ways in which incarceration and deportation processes may precipitate NDU upon release in Mexico.

Consistent with our adaptation of an acculturative model of migrant substance abuse (Gil and Vega, 2001), we found that emotional stressors were associated with post-deportation NDU. As hypothesized, men who experienced negative emotions (e.g., feeling sad) following deportation were more likely to report NDU in Tijuana. Our formative research revealed insurmountable challenges in attaining physical security (e.g., locating temporary and permanent housing and employment) immediately following deportation (Ojeda et al., 2011), and anecdotal evidence points to substantial financial, physical and emotional challenges faced by deportees to Mexico (Turnbull, 2008). One study of U.S. deportation to El Salvador found that many deportees were long-term residents of the United States with established employment histories and strong social and familial ties (Hagan et al., 2008). Our sample reported an average of >13 years of U.S. residence, suggesting that separation from U.S. social networks and economic resources may cause considerable distress. In our qualitative research, some deportees explained that shame, loss of economic resources and social support, loneliness and other stressors contributed to drug relapse and transitions in drug abuse, including escalating dependence post-deportation (Ojeda et al., 2011). Although acculturative stress has been studied extensively among Latino immigrants in the United States (Finch and Vega, 2003) and is related to fear of deportation (Arbona et al., 2010), less research has applied theories of acculturative stress to drug abuse (Gil and Vega, 2001), particularly in forced return-migration contexts. Deported male IDUs may experience many of the acculturative stressors identified in the U.S. acculturation literature, including discrimination, legal status and language difficulties. Thus, using drugs to cope with post-deportation stressors may indicate an unmet need for mental health services (Harris and Edlund, 2005).

In a post-deportation setting, individuals may self-medicate with illicit drugs that help meet specific psychosocial needs (Khantzian, 1985). Opiates (e.g., heroin) may mute pain, aggression or rage, while stimulants (e.g., methamphetamine) help cope with stress and sadness (Khantzian, 1985). By increasing the release of dopamine, noradrenalin, adrenaline, and serotonin, methamphetamine produces feelings of euphoria, decreased appetite (Seiden et al., 1993; World Health Organization, 2004), increased sociability, enhanced sexual encounters (Diaz et al., 2005; Halkitis et al., 2005), and energy in occupational settings (Malta et al., 2006). These factors could be reasons why deportees use methamphetamine alone or combined with heroin; however, more detailed measures are needed to better understand drug abuse and drug consumption decision-making processes within an acculturative stress model in post-deportation contexts. Such data may inform the scope and

nature of interventions that can target acculturative stress processes to reduce or prevent NDU in deportees.

Finally, our finding that perceived HIV risk is associated with post-deportation NDU may reflect fatalism or apathy among the marginalized drug users in our sample. Possibly, individuals with extensive drug experience believe themselves to already be at elevated risk of HIV, reducing the perceived additional risk of trying another, new drug. Despite a growing body of literature on fatalism and sexual risk behaviors (Nemeroff et al., 2008; Stockman et al., 2004), additional research is needed to understand fatalism and perceived risk among populations of drug abusing deportees. This finding may carry important intervention implications: if men engaging in high risk drug-related risk behaviors for HIV transmission actually recognize their risk, theoretically driven interventions may be able to leverage perceived risk to encourage behavior change (Janz et al., 2002). Understanding the perceptions and motivations underlying deportees' behavioral responses to post-deportation vulnerability, acculturative stress, and challenging social and financial circumstances may have valuable implications for physical and mental health programs and social services targeting this population.

Our study was limited by the fact that it was cross-sectional and we cannot make causal inferences based on our findings. Additional research is needed to document the experiences of NDU among deported women and non-IDUs. Selection bias may have resulted from the participants lost to follow-up, however, we believe that 87% retention is high given the migration profile of our target population. Potentially those lost to follow-up were at higher risk of NDU, which could have biased our results by reducing the magnitude of associations. Our findings may have been affected by social desirability bias (e.g., underreporting of drug-related risk behaviors) in response to interviewer-administered questionnaires or recall problems given some participants' extensive and complicated migration, deportation, and drug use histories. However, we used trained, experienced interviewers from the longitudinal parent study who have established rapport with our study population. Our use of gender-matched (male) interviewers may have increased participants' trust in reporting sensitive migration, drug abuse and sexual experiences (Davis et al., 2010). We focused on the period following men's most recent deportations in an attempt to enhance recall because published studies have found that drug users' self-reported behaviors are sufficiently reliable and valid, particularly when concerning major events (Darke, 1998).

5. Conclusions

Our study found that NDU is common among IDUs in Tijuana following deportation, and this practice is associated with negative emotions and other stressors experienced throughout migration and deportation trajectories. We identified a need for drug treatment and mental health services that target deportees, an involuntary return-migrant population, in the U.S.-Mexico border region. Deportees may be vulnerable to trying new drugs that carry important HIV transmission implications (e.g., heroin and/or methamphetamine). Delaying progression and transitions in drug abuse trajectories among vulnerable, marginalized deportees in the U.S.Mexico context may require binational cooperation in an effort to contain the HIV/AIDS epidemic in the border region (Strathdee and Magis-Rodriguez, 2008) and improve the health of this migrant population (Weeks et al., 2009). Specifically, our data suggest that it is critical to identify and address the specific stressors and social contexts that deported drug abusing migrants encounter as they attempt to (re)establish their lives in Mexico.

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Table 1

Characteristics of male IDUs residing in Tijuana, Mexico who have and have not used new drugs following their most recent U.S. deportations ($N = 328$)

	Tried new drugs following most recent U.S. deportation			
	Yes (<i>n</i> = 52; 16%)	No (<i>n</i> = 276; 84%)	Univariate Odds Ratio ^a	95% Confidence Interval
<i>Socio-Demographics</i>				
Mean current age in years (SD)	38.42 (6.69)	39.45 (7.80)	0.96	0.91–1.00
<i>Pre-Migration Factors</i>				
Mean years of education completed in Mexico pre-migration (SD)	5.60 (3.64)	6.16 (3.49)	0.92	0.83–1.02
Family in Mexico was poor	26 (50.0%)	196 (71.0%)	0.37	0.14–0.96**
Saw family member(s) consume drugs in Mexico pre-migration	13 (25.0%)	39 (14.1%)	3.20	1.18–8.70**
Mean age in years independent from family in Mexico (SD)	15.63 (2.70)	16.54 (2.74)	0.83	0.72–0.97**
Mean age first migrated to U.S.	14.87 (6.65)	15.74 (6.61)	0.99	0.94–1.05
<i>Migration/Pre-Deportation Factors</i>				
Migrated to U.S. in search of better economic opportunities	40 (76.9%)	181 (65.6%)	2.06	0.76–5.58
Already knew people in U.S. at first migration	41 (78.9%)	209 (77.1%)	1.14	0.37–3.48
Mean total years living in U.S. (SD)	13.16 (6.34)	13.74 (6.60)	0.93	0.88–1.00
Ever incarcerated in U.S.	43 (82.7%)	173 (62.7%)	1.46	0.49–4.31
Ever used drugs in U.S. prison (<i>n</i> = 216)	21 (48.8%)	80 (46.2%)	0.40	0.14–1.12*
Ever received drug treatment in U.S.	5 (9.6%)	0 (0%)	--	--
<i>Deportation Factors</i> [§]				
Mean total # U.S. deportations	4.85 (4.70)	3.78 (3.14)	1.06	0.96–1.17
Deportation was “voluntary”	27 (51.9%)	184 (66.7%)	0.88	0.33–2.36
Communicated with family/friends in U.S. or Mexico during deportation	25 (48.1%)	80 (29%)	2.75	1.06–7.17**
Received money from family/friends				
Ever used drugs in immigration detention center (<i>n</i> = 280)	8 (15.7%)	77 (34.4%)	0.26	0.09–0.75**
<i>Immediate Post-Deportation Factors</i> ^b				
Released in morning (vs. pm/night)	38 (73.1%)	172 (62.3%)	0.55	0.22–1.39
Released in Tijuana (vs. another city)	40 (76.9%)	231 (83.7%)	0.64	0.25–1.61

	Tried new drugs following most recent U.S. deportation		Univariate Odds Ratio^a	95% Confidence Interval
	Yes (<i>n</i>= 52; 16%)	No (<i>n</i>= 276; 84%)		
Slept on the street (vs. found shelter)	42 (80.8%)	198 (71.7%)	0.73	0.22–2.45
Mean amount of money (USD) on person when released in Mexico (SD)	190.48	174.87	1.00	1.00–1.00
Found a job in Tijuana	12 (23.1%)	40 (14.5%)	2.95	0.96–9.10
Felt happy/relieved after deportation ^c	14 (26.9%)	44 (15.9%)	2.21	0.72–6.74
Felt angry after deportation ^c	8 (15.4%)	14 (5.1%)	2.04	0.64–6.53
Felt anxious after deportation ^c	26 (50.0%)	198 (71.7%)	0.25	0.10–0.61 **
Felt lonely after deportation ^c	34 (65.4%)	170 (61.6%)	0.65	0.26–1.66
Felt sad after deportation ^c	27 (51.9%)	82 (29.7%)	2.57	1.01–6.53 **
Current Post-Deportation Factors ^b				
Mean total years living in Tijuana (SD)	13.47 (10.25)	14.46 (10.36)	1.01	0.96–1.05
Harassed/detained by police for not carrying identification (ID card/papers)	39 (75.0%)	196 (71.0%)	0.80	0.29–2.17
Ever been arrested/jailed in Tijuana	39 (75.0%)	196 (71.0%)	1.70	0.68–4.24
Needs help/treatment for drug use	37 (71.2%)	167 (60.5%)	1.62	0.63–4.15
Self-reported health as good/very good (vs. not good/bad)	38 (73.1%)	217 (78.6%)	0.86	0.30–2.49
Wants to return to the U.S.	21 (40.4%)	114 (41.3%)	0.60	0.24–1.48
Perceives that current lifestyle could increase risk of HIV/AIDS	32 (61.5%)	85 (30.8%)	3.40	1.37–8.42 **

^aModels are adjusted for RDS recruitment method

^bRefers to period following most recent deportation unless otherwise stated

^cParticipants could report multiple emotions after deportation

*
p< .01;

**
p< .05

Table 2

Factors independently associated with using new drugs following most recent U.S. deportation among male IDUs in Tijuana, Mexico ($N = 328$)

Variable	Adjusted Odds Ratio ^a	95% Confidence Interval *
Ever incarcerated in U.S.	3.96	1.78–8.84
Total # lifetime deportations (per deportation increase)	1.11	1.03–1.20
Felt sad/depressed after deportation ^b	2.69	1.41–5.14
Perceives that current lifestyle could increase risk of HIV/AIDS ^b	3.91	2.05–7.44

^aModels are adjusted for RDS recruitment method

^bRefers to period following most recent deportation unless otherwise stated

* $p < .05$ for all variables.