Journal of Substance Abuse Treatment 61 (2016) 13–17

Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment

Factors Affecting Drug Use During Incarceration: A Cross-Sectional Study of Opioid-Dependent Persons from India

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ARTICLE INFO

Article history:
Received 20 January 2015
Received in revised form 24 August 2015
Accepted 28 August 2015

Keywords:
Criminality
Opioid-dependence
Incarceration

ABSTRACT

Introduction: Substance abuse and criminality share a complex relationship. The rates of substance use among the prisoners, and that of criminal acts among substance users in community setting are high. Data from South Asian countries, including from India are inadequate. This study aimed to assess the pattern of criminal acts among opioid-dependent subjects and their substance use pattern in the month before, during and after imprisonment.
Methods: Using a cross-sectional study design and purposive sampling, opioid-dependent subjects (n = 101) attending two community drug treatment clinics who have had any contact with the law were assessed using a specifically-designed tool to record criminal acts and substance use before, during and after last imprisonment.
Results: Most subjects (93%) had committed illegal acts in their lifetime. Physical assault was the most common illegal act, while 23% reported selling drugs and 9% reported committing serious crimes. About 95% were arrested and 92% had spent time in police lockups. About 29% were arrested for drugs possession or drug use, and 3% of injecting drug users arrested for carrying injection equipment. About 85% had been imprisoned at least once, of whom 88% used psychoactive substances in the 1-month period before their last imprisonment. Opioids were the most common substances used daily (68%), followed by cannabis (34%) and alcohol (22%). Ninety-seven percent reported the availability of substances in prisons, and 65% also used substances during their last imprisonment. Cannabis (35%) was the most common substances used in prison followed by opioids (19%). Seventy-six percent used substances soon after prison release, and 13% of opioid users experienced opioid overdose soon after prison release. Use of cannabis, injecting drugs, and opioid use before imprisonment were predictors of substance use in prison.
Conclusion: Opioid-dependent people have various contacts with the law, including imprisonment. Many users are dependent on substances during prison-entry, which is an important reason for their continued substance use in prisons. There is a need to provide substance abuse treatment across all stages of criminal justice system.

1. Introduction

Research conducted across different substance using groups and in different settings shows a positive association between substance abuse and criminal acts. For example, the Arrestee Drug Abuse Monitoring (ADAM) program in the USA found that drug positivity rates among arrestees was in the range of 63–83% (Office of National Drug Control Policy, 2014). Substance use is also over-represented in prisons. A review conducted on this topic reports that the prevalence of substance abuse and dependence among prisoners ranges from 10–60% (Fazel, Bains, & Doll, 2006). Drug users residing in community and those seeking treatment also report high rates of criminal activities (Bennett, Holloway, & Farrington, 2008; Gossop, Trakada, Stewart, & Witton, 2005; Schwartz et al., 2008; Van der Zanden, Dijkgraaf, Blanken, van Ree, & van den Brink, 2007). The rates of criminal activities depend on the substance used. A meta-analysis showed the greatest odds of committing crimes were among crack users, followed by heroin users and cocaine users (Bennett et al., 2008).

Most of the available literature on substance use and crime is however, available from select countries, and research from developing countries, including from India, is sparse. A study from south India reported the use of different types of substance in one large prison to be in the range of 3–43% (Bada Math, Murthy, Parthsarthy, Kumar, & Madhusudhan, 2011). Another study from a prison in north India reported eight percent of the prisoners to use substances in prisons (Ray, 2004). However, research studies that have assessed the association between crime and substance use, or the factors determining substance use in prisons are lacking.

The aim of the present study was to document the pattern of illegal acts among opioid dependent people from a community-based treatment clinic, and their substance-use status immediately before

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http://dx.doi.org/10.1016/j.jsat.2015.08.009
0740-5472/

imprisonment, during imprisonment and immediately after release from prison. The study also aimed to explore factors associated with substance use during imprisonment.

2. Materials and methods

The study employed a cross-sectional design, in which the subjects were recruited from two community drug treatment clinics in a metropolitan city in India. The clinics provide medicines as well as psychosocial interventions to people with substance use problems staying near the clinics. The treatment is low-threshold as there are lesser barriers on treatment entry, patients are not forced to provide body fluids to confirm adherence and abstinence, and are not penalized for continued drug use during treatment by decreasing the dose of medicines. One of the clinics used only buprenorphine, while another clinic used both buprenorphine and methadone for long-term treatment of opioid dependence.

'Purposive' sampling strategy was applied for selecting the subjects. Subjects diagnosed with opioid dependence, registered in one of the clinics for opioid dependence treatment, and having any 'contact' with law were interviewed. 'Contact' with the law was defined as commitment of any illegal act (except possession or use of illegal drugs), or caught by police (except for civil offenses such as property disputes, or for traffic violations). The International Classification of Disease (version-10) is usually followed in the clinics for diagnosing opioid dependence.

A structured tool prepared for the purpose of the study was used to interview subjects. The areas covered in the interview tool included: socio-demographic details, substance use details, high-risk behaviors, nature of illegal activities, and details of contact with law. The subjects who reported to have experienced imprisonment at least once were further interviewed, and substance use details were collected at three time-points: a) 1-month period before their recent imprisonment, b) during their recent imprisonment, and c) 1-month period after their recent release from prison. The records maintained in the clinics provided the subjects' treatment details. The participants were interviewed in a single session in the clinics after receiving their consent, ensuring privacy and confidentiality of information provided. Sensitive information about names or details of law enforcement officials was not collected. The subjects were assured that non-participation in the study would not have any bearing on their treatment. Compensation was not provided for the participant's time. The study protocol was cleared by the Institutional Ethics Committee. The data were collected over a 6-month period.

Quantitative data were analyzed using frequency measures. Binary logistic regression was used to assess factors affecting substance use during imprisonment. The dependent variable was substance use during imprisonment ('0' denoting no substance use and '1' denoting substance use during imprisonment). The independent variables considered were: lifetime alcohol use, lifetime cannabis use, lifetime opioid use, history of injecting opioids, any illegal acts committed, label of 'bad character', 'banishment' from the area of residence, and receiving treatment before the last imprisonment. These variables were chosen on the basis of their clinical relevance. The reference categories were absence of these selected characteristics (0 = no; 1 = yes). Analysis performed in this manner yielded unadjusted odds ratio.

Age, education, marriage status, occupation and employment were considered as potential confounders, and therefore multivariable analysis was performed. Occupation and employment status of the subjects were recorded for the period just before the assessment, which could be different from their last imprisonment. Hence, these were not corrected for in multivariable analysis. Age, marital status and education could be transformed to binary categories relevant for meaningful interpretation. Hence, multivariable analysis was performed to adjust for age, education and marital status which provided adjusted odds ratio. The two-sided $p < 0.05$ was considered statistically significant and Sidak correction was applied for the p-value adjustment for multiple comparisons. Licensed SPSS Software was used to perform the statistical analysis (IBM SPSS Statistics for Windows, Version 21.0, Armonk, New York, USA).

3. Results

3.1. Socio-demographic details

One hundred and one subjects took part in the study, all of whom were males. Twenty-five subjects were from 'buprenorphine only' clinic, while the rest 76 were from the 'buprenorphine and methadone' clinic. The mean age of the subjects was 33.6 years (SD: 10.83); most subjects were young, married, had completed primary schooling, and were either self-employed or unskilled workers. About one fourth of the subjects were unemployed during assessment. Table 1 provides the detailed socio-demographic profile of the participants.

3.2. Substance use and treatment details

About 79% and 85%, respectively, had consumed alcohol and cannabis at least once in their lifetime. Almost all subjects (97%) had consumed heroin through inhalation at least once. The lifetime rates of injection use were – 53% for heroin, 29% for buprenorphine, and 8% for pentazocine. The median duration of enrollment in the drug treatment clinic as well as for receiving treatment was 12 months. All subjects were receiving long-term opioid agonist maintenance treatment with either buprenorphine (49.5%) or methadone (50.5%). Only two subjects had a lifetime co-morbid psychiatric illness, while six had comorbid medical illness.

3.3. High risk behavior

About 64% had injected at least once, out of whom, 57% (n = 37) and 68% (n = 44) respectively had shared and reused needles or syringes.

Table 1
Socio-demographic profile of subjects (n = 101) included in the study.

Variables	Categories	Frequency (percentage)
Age (in years)	20 or less	9 (8.9)
	21–30	35 (34.7)
	31–40	32 (31.7)
	41–50	17 (16.8)
	51–60	8 (7.9)
Gender	Males	101 (100)
Education	Illiterate	14 (13.9)
	Able to read and write	24 (23.8)
	Primary school	44 (43.6)
	Middle school	14 (13.9)
	10th grade	3 (3)
	Graduate	1 (1)
	Post-graduate	1 (1)
Marital status	Married and staying together	51 (50.5)
	Unmarried	38 (37.6)
	Divorced	2 (2)
	Separated	9 (8.9)
	Widower	1 (1)
Occupation	Business/self-employed	29 (28.7)
	Skilled worker	26 (25.7)
	Unskilled worker	28 (27.7)
	Transport worker	10 (9.9)
	Student	2 (2)
	Clerical/Administrative work	1 (1)
	Others	5 (5)
Current employment	Full-time employment	62 (61.4)
	Part-time employment	9 (8.9)
	Unemployed	27 (26.7)
	Never employed	3 (3)
Residence	Urban	49 (48.5)
	Urban slum	50 (49.5)
	Urban homeless	1 (1)
	Rural	1 (1)