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Illicit Drug Use In Acute Care Settings

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Abstract

Background—While persons with addiction are often hospitalized, hospitals typically employ abstinence-based policies specific to illicit drug use. Although illicit drug use is known to occur within hospitals, this problem has not been well characterized. Therefore, we sought to investigate the prevalence of and factors associated with having ever used drugs in hospital among people who use drugs (PWUD) in Vancouver, Canada.

Methods—Data were derived from prospective cohort studies of PWUD between December 2012 and May 2013. Multivariable logistic regression was used to identify demographic and behavioural factors associated with having ever used illicit drugs in hospital.

Results—Among 1028 participants who had experienced 1 hospitalization, 43.9% reported having ever used drugs while hospitalized. In multivariable analyses, factors positively associated with having ever used drugs in hospital included: daily cocaine injection and daily crack non-injection (both $p < 0.05$). Factors negatively associated with the outcome included: older age and male gender (both $p < 0.05$). The most common reasons for drug use in hospital were “wanting to use” and “being in withdrawal”. Drugs were most commonly used in patient washrooms.

Conclusions—Our findings demonstrate that an abstinence-based approach to drug use in hospitals may be ineffective at prohibiting drug consumption. High-risk drug use behaviours arising from ongoing drug use may pose risks for further harm and illness. Efforts to minimize the harms associated with using drugs in hospital are urgently needed.

Keywords

hospitalization; people who use illicit drugs; abstinence; harm reduction; Canada

INTRODUCTION

Numerous adverse health-related harms are associated with illicit drug use (e.g., cutaneous injection-related infections), which may result in lengthy and costly hospital admissions [1,2]. However, barriers to utilizing hospital care among people who use illicit drugs (PWUD) have been documented, and include stigma and discrimination specific to drug use among healthcare workers [3–5]. Moreover, various rules in hospitals, including abstinence-only based policies, make it challenging for PWUD to manage their active addiction while hospitalized [6]. Nevertheless, studies have suggested that illicit drug use is still common within hospitals [6]. Given that little is known about this topic, this study sought to characterize the prevalence of illicit drug use in hospital, and investigate demographic and behavioural factors that predict illicit drug use in hospital among a cohort of PWUD in Vancouver, Canada.

METHODS

Data for this study were derived from two prospective cohorts involving PWUD: the Vancouver Injection Drug Users Study (VIDUS) and the AIDS Care Cohort to Evaluate Exposure to Survival Services (ACCESS). The methods for these studies have been described in detail previously [7,8]. In brief, beginning in May 1996, participants were recruited via self-referral and street-based outreach methods. The recruitment and follow-up procedures for the two studies are identical, allowing for combined analyses, the only difference being that HIV-positive individuals who used illicit drugs other than cannabis in the month prior to enrollment are followed in ACCESS whereas HIV- negative individuals who injected drugs in the month prior to enrollment are followed in VIDUS. Moreover, individuals who seroconvert following recruitment are transferred from VIDUS into ACCESS. All participants provided informed consent and completed a harmonized interviewer-administered questionnaire eliciting a range of information, including demographic characteristics, behavioural patterns, and engagement with healthcare services. In addition, participants provided blood samples for HIV and hepatitis C testing, and HIV disease monitoring. At each study visit participants were provided with an honoraria (\$20 CAD). The study received ethics approval from Providence Health Care/ University of British Columbia's Research Ethics Board. The present study is restricted to participants who have ever been hospitalized and were active VIDUS or ACCESS participants between December 2012 and May 2013.

The primary outcome of interest for this analysis was having reported “yes” to “have you ever used illicit drugs while being hospitalized?”. We identified the prevalence of and factors associated with using illicit drugs in hospital. Specifically, simple logistic regression was used to identify crude associations between demographic and behavioural characteristics and using illicit drugs in hospital. Variables considered included: age, gender, HIV serostatus, daily heroin injection, daily cocaine injection, daily crack non-injection, daily crystal methamphetamine injection, and binge drug use. The present study being a cross-sectional study drawn from a prospective cohort study, the latter five time-varying variables were derived from longitudinal data beginning from the participant's initial date of enrollment to the current study period. This measure accounted for our outcome variable being a lifetime

measure of illicit drug use in hospital. Specifically, these variables were defined as the cumulative proportion of reported behaviours or activities in the past six months during the cohort study period, and were dichotomized as ‘≥ 50% of the time’ vs. ‘< 50% of the time’. As a next step, a multivariable logistic regression model was constructed using an *a priori*-defined statistical protocol based on examination of the Akaike Information Criterion and *p*-values [9]. All *p*-values were two-sided. As a subanalysis, participants who reported having used drugs in hospital were asked to specify reasons for using and where they used illicit drugs in hospital.

RESULTS

Between December 2012 and May 2013, 1028 PWUD who had experienced at least one hospitalization in their lifetime were enrolled into the study; the median age was 48 years (age range: 24 – 74 years), 331 (32.2%) were female, and 465 (45.2%) were HIV-positive. In total, 451 (43.9%) reported having used illicit drugs in hospital. Table 1 shows the patients’ characteristics and drug use patterns. In bivariable analyses, factors significantly and positively associated with using illicit drugs in hospital included: daily heroin injection at least 50% of the time (odds ratio [OR] = 1.66; 95% confidence interval [CI]: 1.11 – 2.50), daily cocaine injection at least 50% of the time (OR = 2.89; 95% CI: 1.40 – 5.97), daily crack non-injection at least 50% of the time (OR = 1.81; 95% CI: 1.36 – 2.41), and binge drug use at least 50% of the time (OR = 1.42; 95% CI: 1.10 – 1.83), while older age (OR = 0.99; 95% CI: 0.99 – 1.00) and male gender (OR = 0.54; 95% CI: 0.42 – 0.71) were negatively associated with the outcome.

As indicated in Table 2, in multivariable analyses, factors remaining positively associated with illicit drug use in hospital included: daily cocaine injection at least 50% of the time (adjusted odds ratio [AOR] = 2.61; 95% CI: 1.27 – 5.70) and daily crack non-injection at least 50% of the time (AOR = 1.51; 95% CI: 1.12 – 2.03). Factors remaining negatively associated with the outcome included: older age (AOR = 0.98; 95% CI: 0.96 – 0.99) and male gender (AOR = 0.63; 95% CI: 0.48 – 0.83). The most common reasons for using illicit drugs in hospital included: wanting to use (17.2%), being in withdrawal (15.9%), and feeling bored (12.0%). The most common locations where illicit drugs were used in hospital included: in the washroom (20.8%), in a smoking area (17.9%), and in a hospital room (16.1%).

DISCUSSION

In the present study, a substantial proportion of participants reported they had used illicit drugs while hospitalized at least once in their lifetime. Daily use of stimulants, in particular cocaine injection and crack non-injection, were positively associated with use of drugs in hospital, while older age and male gender were negatively associated with the outcome. The reasons reported for using drugs in hospital were mainly associated with wanting to use or being in withdrawal. Additionally, participants reported mainly using drugs in patient washrooms and communal smoking areas.

Our finding that a large proportion of participants in our sample reported drug use while hospitalized suggests that abstinence-based approaches to drug use in this setting may be ineffective at prohibiting drug consumption among PWUD. Drug use in hospital is of particular concern given that PWUD are known to resort to high-risk behaviours that may lead to adverse health outcomes when using in settings where drug use is strictly prohibited [10]. Indeed, our finding that a large proportion of PWUD have used in hospital washrooms is consistent with a past study showing that people who inject drugs resort to injecting alone in locked washrooms or injecting with syringes of unknown origin in an effort to conceal in-hospital drug use from healthcare providers [6]. Consequently, an elevated risk of fatal overdose or blood-borne disease acquisition among these individuals exists. To minimize the health harms associated with using drugs in hospitals, harm reduction programs (e.g., needle syringe distribution programs and supervised drug consumption facilities) should be implemented in hospital settings and healthcare workers should receive training to identify signs associated with drug abuse and misuse regardless of the reason for admission [4,5,11]. Indeed, past studies documented the beneficial health impacts of incorporating a harm reduction model within hospital settings, which resulted in more comprehensive care for PWUD [12]. The Dr. Peter Centre in Vancouver, which was located in a hospital, offers one example where harm reduction has been successfully integrated with a medical facility [13]. Our research findings are consistent with previous recommendations that highlight the potential for harm reduction programs to minimize health-related harms associated with drug use as PWUD recover from acute illnesses in hospital [11].

We found that daily cocaine injection or daily crack use were significantly associated with drug use in hospital among PWUD. It is likely that high frequency stimulant drug users were more likely to use illicit drugs in hospital to maintain established drug-using habits [14,15]. Given the lack of established treatment approaches for stimulant dependence, these findings point to the continued need to develop addiction treatment strategies, including novel pharmacotherapeutic options, specifically for stimulant users.

This study has several limitations. First, the cross-sectional design of the study limited our ability to determine a temporal or causal relationship between our explanatory variables and our outcome. Second, our study relied on self-reported data that is susceptible to reporting biases, including socially desirable reporting and recall bias. Third, given that the participants in the present study were not randomly selected, the interpretation of these results may not be representative or generalizable to other PWUD populations.

In sum, we found that a large proportion of PWUD in our sample reported using illicit drugs while hospitalized, which was positively associated with high frequency stimulant use and negatively associated with older age and male gender. Our findings demonstrate that an abstinence-based approach to drug use in hospitals may be ineffective at prohibiting drug consumption among PWUD. Efforts to minimize the harms associated with using drugs in hospital (e.g., integrating harm reduction programs within medical settings) are urgently needed.

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Table 1

Bivariable analysis of factors associated with using drugs in hospital among drug-using persons who have ever been hospitalized in Vancouver (n = 1028)

Characteristic	Yes (n = 451) n (%)	No (n = 577) n (%)	Odds Ratio (95% CI)	p - value
Age				
Median age (IQR)	47 (42 – 53)	50 (43 – 49)	0.99 (0.99 – 1.00)	<0.01
Gender				
Male	272 (60.3)	425 (73.7)	0.54 (0.42 – 0.71)	<0.01
Female	179 (39.7)	152 (26.3)		
HIV Serostatus				
Positive	216 (47.9)	249 (43.2)	1.21 (0.95 – 1.55)	0.13
Negative	235 (52.1)	328 (56.8)		
Daily Heroin Injection				
50%	58 (12.9)	47 (8.1)	1.66 (1.11 – 2.50)	0.01
< 50%	393 (87.1)	530 (91.9)		
Daily Cocaine Injection				
50%	24 (5.3)	11 (1.9)	2.89 (1.40 – 5.97)	<0.01
< 50%	427 (94.7)	566 (98.1)		
Daily Crack Non-Injection				
50%	139 (30.8)	114 (19.8)	1.81 (1.36 – 2.41)	<0.01
< 50%	312 (69.2)	463 (80.2)		
Daily Crystal Methamphetamine Injection				
50%	13 (2.9)	14 (2.4)	1.20 (0.56 – 2.57)	0.65
< 50%	437 (97.1)	563 (97.6)		
Bringe Drug Use				
50%	198 (43.9)	205 (35.5)	1.42 (1.10 – 1.83)	<0.01
< 50%	253 (56.1)	372 (64.5)		

CI: confidence interval; IQR: interquartile range

Table 2

Multivariable logistic regression of factors associated with using drugs in hospital among drug-using persons who have ever been hospitalized in Vancouver (n = 1028)

Variable	Adjusted Odds Ratio (AOR)	95% Confidence Interval	p - value
Age			
(per year older)	0.98	(0.96 – 0.99)	<0.01
Gender			
(male vs. female)	0.63	(0.48 – 0.83)	<0.01
Daily Cocaine Injection			
(50% vs. < 50%)	2.61 (1.27 – 5.70)	0.01	
Daily Crack Non-Injection			
(50% vs. < 50%)	1.51	(1.12 – 2.03)	<0.01