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Racial Differences in Acquisition of Syringes from Pharmacies under Conditions of Legal but Restricted Sales

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Abstract

Background—Injecting drug users (IDUs) are at increased risk of acquiring and transmitting HIV and other bloodborne pathogens through the multi-person use of syringes. Although research has shown that increased access to syringes through syringe exchange programs (SEPs) is an effective strategy to reduce risky injection practices many areas of the United States still do not have SEPs. In the absence of SEPs, legislation allowing pharmacies over-the-counter sales of syringes has also been shown to reduce syringe sharing. The success of pharmacy sales however is limited by other legal stipulations, such as drug paraphernalia laws, which in turn may contribute to fear among IDUs about being caught purchasing and carrying syringes.

Methods—Between 2003 and 2006, 851 out-of-treatment IDUs were recruited using street outreach in the Raleigh-Durham (North Carolina) area. Data were collected using audio-computer assisted interview (ACASI) technology. Multiple logistic regression analyses were performed to assess factors associated with purchasing syringes from pharmacies.

Results—In our study sample, African-American IDUs were one-fifth as likely as white IDUs to report pharmacies as their primary source of syringes.

Conclusions—Given the absence of syringe exchange programs and the relatively high prevalence of HCV and HIV among IDUs in the Raleigh-Durham area, the limited use of pharmacies as a source of syringes among African-American IDUs in this study sample is problematic. The study findings support the need for effective multilevel interventions to increase access to clean needles in this population, as well as for policy interventions, such as legalization of SEPs and elimination of penalties for carrying syringes, to reduce harm and eliminate the health threats posed by receptive syringe sharing.

Keywords

Injecting drug users; African-Americans; purchasing syringes; carrying syringes

Introduction

Injecting drug users (IDUs) are at increased risk of acquiring and transmitting HIV, the hepatitis C virus (HCV), and other bloodborne pathogens through the multi-person use of syringes and other injection equipment. Currently, IDUs account for 23% of new HIV cases

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in the United States and injecting drug use is the leading cause of HCV, accounting for over 50% of new infections (Wasley, Miller, & Finelli, 2007). Numerous studies have shown that increasing access to sterile syringes through syringe exchange programs (SEPs) and over the counter (OTC) pharmacy sales are effective strategies for reducing syringe-sharing and injection-related risk for HIV and HCV among IDUs (Stimson, 1995; van Ameijden & Coutinho, 2001; Wodak, 2006). However, many areas of the United States, do not have SEPs because of legal prohibitions or a lack of funding (CDC, 2007). In these locations, OTC syringe sales in pharmacies assumes greater importance.

Although OTC syringe sales is now legal in most states, many obstacles to pharmacy syringe sales remain and vary from state to state (Burriss, Vernick, Ditzler, & Strathdee, 2002; <http://www.temple.edu/lawschool/aidspolicy/apolicy.htm>). In states that do not have a law against selling nonprescription syringes, most have “subprescription” limits, such as confining sales to pharmacies or requiring identification or other information from the buyer prior to the sale (Burriss et al., 2002). The effectiveness of pharmacies is also limited by lack of pharmacy participation (Singer et al, 1998) as well as by pharmacist's discretion (Burriss et al., 2002; Compton et al 2004).

Other studies indicate that obstacles to purchasing syringes at pharmacies may have more to do with characteristics or concerns on the part of IDUs rather than pharmacists. For instance, several studies found that IDUs who reported a history of past police discrimination, fear of arrest and/or harassment, or lack of knowledge regarding syringe sales laws, were less likely to purchase syringes in a pharmacy (Burriss, Strathdee, & Vernick, 2003; W. M. Compton et al., 2004; Fuller et al., 2004). One factor that may heighten IDUs' fear of arrest or harassment is the existence of a drug paraphernalia law. According to drug paraphernalia laws, which exist in 48 of the 50 states, legally purchased syringes may become “drug paraphernalia” as soon as the IDU leaves the store (McNeely, Arnsten, & Gourevitch, 2006; Reich et al., 2002; Simpson, 2002).

As part of an intervention study to reduce risks for HIV and HCV among IDUs in the Raleigh-Durham (RDU) area (Zule et al., 2009), data on sources of syringes was collected. At the time of the study, there were no SEPs in the RDU area. Pharmacy sales, however, were and are permitted; although, a drug paraphernalia law exists and pharmacy regulations stipulate that pharmacists should use their professional judgment in deciding to whom to sell syringes (North Carolina Administrative Code, 2007; North Carolina General Statutes, 1994). This paper examines individual demographic and drug use characteristics associated with purchasing syringes in a pharmacy. The primary objective of this paper is to examine the characteristics of drug users that acquire syringes from pharmacies under current conditions in order to inform the need for establishment of SEPs and additional loosening of regulations regarding OTC sales.

Methods

Between July 2003 and January 2006, 851 out-of-treatment IDUs completed baseline interviews for this study. Participants were recruited in the Raleigh-Durham metropolitan area using a targeted sampling approach and street outreach methods (Carlson, Wang, & Siegal, 1994; Watters & Biernacki, 1989; McNeely et al., 2006). After preliminary field screening, prospective participants were referred to a project office where the study was described to them and they provided informed consent. To minimize underreporting of sensitive behaviors, data collection was performed using audio computer- assisted self-interviewing (ACASI). At the end of this visit, participants were offered counseling and testing for antibodies to HIV, HCV, and the hepatitis B virus (HBV). Baseline data were collected across two visits, which were completed about one week apart. Participants

received their test results (HIV, HCV, and HBV) and post-test counseling at the end of the second visit.

Only data collected at the first baseline visit were analyzed for this study. Additionally, because we were interested in potential racial differences in syringe acquisition, only non-Hispanic whites and non-Hispanic black participants were included in the analyses ($n=776$). This resulted in the exclusion of 3 Asians, 11 Native Americans, 17 mixed race individuals, 36 participants that identified as 'other' race and Hispanic ethnicity and 8 participants with missing data on race/ethnicity. Eligibility criteria for the study included the following: a minimum age of 18 years; self-reported injecting drug use in the previous 30 days; visible tracks (injection marks) and/or a urine specimen positive for heroin (morphine), cocaine, or methamphetamine; no formal substance abuse treatment in the previous 30 days; and current residence in one of the two counties in which the study was conducted. This study was conducted by researchers at RTI International and approved by RTI International's Office for Research Protection.

Measures

The baseline interview included sections on socio-demographics, alcohol and other drug use, injecting practices, substance abuse treatment, criminal history, sexual behavior, and general health status. Many of the variables in this interview were taken from the Risk Behavior Assessment and have demonstrated adequate reliability and validity in several studies (Weatherby et al., 1994; Needle et al., 1995). The dependent variable used in this analysis was derived from the question: "Where do you usually get your syringes?" (responses were recoded to pharmacy=1, other sources=0). We used a composite measure of injection risk that was constructed from four questions about the number of times in the last 30 days respondents had engaged in any of the following behaviors: injected using works (needles/syringes) known to be used by somebody else, used a cotton, cooker/spoon, or water (for rinsing or mixing) known to be used by somebody else, injected drugs that were mixed with water added from a syringe known to be used by somebody else; and, injected drugs that were drawn up into somebody else's syringe to measure or divide them. Participants who response to any of these four questions was > 0 were coded as having engaged in injection risk in the previous 30 days. We examined the distributions of the continuous variables age and injection frequency and collapsed them into dichotomous variables where there were breaks in the distributions (i.e., injection frequency at 30 injections per month and age at 35). We felt that dichotomous variables gave us greater ability to focus on what we hypothesized could affect use of pharmacies in this population (i.e., being younger or injecting more frequently than average).

Analyses

Bivariate associations between each independent variable and the dependent variables were assessed using logistic regression analyses. Covariates evidencing significant associations at $p<0.1$ between purchasing syringes from pharmacies in bivariate analyses were entered into a multiple logistic regression model.

Results

Sample Characteristics by Race

The study sample was predominantly male (74%) and comprised of 69% African-Americans and 31% non-Hispanic whites. Although the majority of study participants had completed a high-school education (69%), the sample was largely poor and unemployed with only 18% reporting incomes of 1,000 or more in the past month and only 21% employed full or part-time. Over half of the sample were infected with HCV (54%) and reported a history of

having been to prison (57%). In addition, 8% tested positive for HIV and over a third reported homelessness (35%). Crack (73%), cocaine (65%) and heroin (70%) use in the past 30 days were reported by nearly two-thirds of the sample and just over a third reported engaging in injection risk in the past 30 days (32%). Over half of participants reported pharmacies as their primary source of syringes (58%).

Pharmacy Primary Source of Syringe

In bivariate logistic regression analyses (Table 1), participants testing HCV positive ($p<0.05$), injecting 30 or more times in the previous 30 days ($p<0.05$), recruited in Raleigh ($p<0.1$), currently awaiting trial ($p<0.1$), or using heroin daily ($p<0.1$) were significantly more likely to report that pharmacies were their primary source of syringes. In contrast, participants that were male ($p<0.05$), African-American ($p<0.05$) homeless ($p<0.05$) or reported being afraid to carry a syringe ($p<0.1$), any injection risk in the previous 30 days ($p<0.1$) or drinking alcohol daily ($p<0.05$) were significantly less likely to report pharmacies as their primary source of syringes.

When all of the factors with a significant association at the bivariate level were added to a multivariate logistic regression model (Table 1), only testing HCV positive, being recruited in Raleigh, injecting 30 or more times or any injection risk in the previous 30 days, or being African-American were associated with a pharmacy being the primary source of syringe purchases. Specifically, testing HCV positive, being recruited in Raleigh, and injecting 30 or more times in the previous 30 days were significantly associated with increased odds of obtaining syringes from pharmacies. On the other hand, being African-American and injection risk in the previous 30 days were both associated with significantly decreased odds of obtaining syringes from pharmacies.

Discussion

This report documents factors associated with purchasing syringes in pharmacies in a racially mixed sample of IDUs in the Raleigh-Durham area. Most notably, we found evidence of racial differences in the locations reported by participants as their primary source of syringes. African-American IDUs were one-fifth as likely as white IDUs to report pharmacies as their primary source of syringes. Although these data do not allow any conclusive statements regarding the reason why fewer African-Americans are obtaining syringes from pharmacies, it does raise the possibility that pharmacists in the area may be “profiling” African-Americans, who attempt to purchase syringes. This phenomenon has been observed in smaller studies (W. M. Compton, 3rd, Cottler, Decker, Mager, & Stringfellow, 1992). Despite the fact that the variable “fear of carrying a syringe” was not significant in the multivariate model, data collected from the Raleigh and Durham police departments indicate that there were 1,975 arrests for drug paraphernalia charges in 2008. Although this estimate includes other equipment in addition to syringes, in area with an estimated 4,600 IDUs in a given year (Friedman et al., 2006) the majority of whom have been shown to be African-American (Zule, unpublished data; Zule, Costenbader, Meyer & Wechsberg, 2007), the 1,975 arrests could represent arrests of as much as 43% of the IDU population. This may be a phenomenon that African-American IDUs are concerned enough about as to modify their syringe acquisition patterns (e.g. obtaining immediately preceding when they inject rather than purchasing them ahead of time and carrying them).

As with most studies of IDUs, this study suffers from several limitations. Although targeted sampling was used, the representativeness of the sample is unknown. Street outreach tends to reach drug users that are in public areas where outreach workers can approach them. Consequently, poor unemployed drug users tend to be overrepresented. Nonetheless, these drug users should be of considerable importance to policy makers since they are the most

likely to need publicly funded substance abuse and HIV treatment and the most likely to be arrested and incarcerated. Moreover, the 851 IDUs in this study may represent a significant proportion of all IDUs in the area given the estimate of 4,600 total IDUs (Friedman et al., 2006).

Another common limitation in studies with drug users is the validity of self-reported data. A number of studies suggest, however, that drug users' self-reports of behaviors are valid (Darke, 1998; Weatherby et al., 1994). In addition, interviews for this study were conducted using ACASI technology, which has been shown to reduce socially desirable responses (Macalino, Celentano, Latkin, Strathdee, & Vlahov, 2002). Finally the dependent variable "where do you usually get your syringes" tells us only where syringes were primarily obtained by study participants but may not necessarily be the same as how easily accessible syringes are for the study population at the time of injection nor what sites they use as secondary or tertiary sources for syringes.

Despite high-levels of awareness regarding the risks of syringe-sharing, one-sixth of this sample still reported recent receptive syringe-sharing. In areas like Raleigh-Durham, where there are no SEPs and syringes are only sold in pharmacies, pharmacies represent an important source of sterile syringes. Given the relatively high prevalence of HIV (8%) and HCV (54%) in this sample and the fact that OTC syringe sales have been associated with lower HIV prevalence and risk behaviors (Friedman, Perlis, & Des Jarlais, 2001; Taussig et al., 2000), the limited use of pharmacies as a source of syringes is problematic. Interventions that effectively increase access to clean syringes in this population are therefore still needed. A multilevel intervention, such as the one tested recently in New York City that focused simultaneously on both decreasing pharmacists' opposition to selling syringes as well as increasing IDUs' knowledge regarding their ability to legally purchase syringes from pharmacies, may be ideal (Fuller et al., 2007). Moreover, to reduce harm and eliminate the health threats posed by receptive syringe-sharing, policy interventions, such as legalization of SEPs and elimination of penalties for carrying syringes, are likely to also be needed.

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Table 1

Pharmacy main source of syringes model

	β	Unadjusted Odds Ratio	(95% CI)	B	Adjusted Odds Ratio	(95% CI)
% age ≥ 35 years	0.15	.86	(0.61, 1.21)			
Male	-0.35	0.71	(0.50, 0.99)	-0.25	0.78	(0.52, 1.16)
African-American	-1.34	0.26	(0.18, 0.38)	-1.50	0.22	(0.15, 0.34)
Completed high school	-0.07	0.93	(0.68, 1.28)			
Working full time or part time	0.24	1.27	(0.88, 1.83)			
Income (Reference Category: \leq \$300 per month)	--					
\$301 - \$999	0.06	1.06	(0.76, 1.48)			
\geq \$1000	0.34	1.41	(0.95, 2.09)			
Currently homeless	-0.41	0.66	(0.49, 0.90)	-0.33	0.72	(0.50, 1.03)
Recruited in Raleigh	0.27	1.31	(0.96, 1.78)	0.53	1.70	(1.17, 2.48)
Ever in substance abuse treatment	0.04	1.04	(0.76, 1.41)			
HIV+	-0.27	0.76	(0.44, 1.32)			
HCV+	0.71	2.04	(1.50, 2.77)	0.71	2.04	(1.45, 2.87)
Currently on probation	0.06	1.06	(0.72, 1.58)			
Currently awaiting trial	0.39	1.48	(0.95, 2.30)	0.34	1.40	(0.85, 2.31)
Ever in prison	-0.01	0.99	(0.73, 1.33)			
Drank alcohol daily	-0.43	0.65	(0.44, 0.96)	-0.14	0.87	(0.56, 1.35)
Used crack cocaine	-0.12	0.88	(0.63, 1.24)			
Used powder cocaine	-0.21	0.81	(0.60, 1.11)			
Daily heroin use in previous 30 days	0.29	1.34	(0.95, 1.90)			
Used methamphetamine	-0.35	0.71	(0.45, 1.11)			
Injected ≥ 30 times in previous 30 days	0.47	1.60	(1.16, 2.22)	0.44	1.56	(1.06, 2.30)
Any injection risk in previous 30 days	-0.28	0.75	(0.55, 1.03)	-0.76	0.47	(0.32, 0.69)
Afraid to carry a syringe	-0.29	0.74	(0.56, 1.00)	-0.22	0.80	(0.57, 1.13)