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Intravenous Drug Users' HIV-Risk Behaviors with Primary/Other Partners

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Abstract

The objective of this study was to determine how injection drug users' (IDUs) HIV-risk behavior differs with primary and other sex partners. Interviews were conducted with injection drug users from a needle exchange program (n = 243). Those with one sexual partner were more likely to report never using condoms with primary partners than were those with more than one partner (74% vs. 54%, $p < 0.001$). Those with more than one partner differed, between primary and other sexual partners, in their disclosure of HIV and IDU status, condom use, and drug use in combination with sex. Primary sexual partners of IDUs are placed at risk from IDUs' risk behavior with other sexual partners. Those planning HIV-risk reduction interventions for IDUs should consider risk behavior with primary partners separately from behavior with other partners. Evaluation of intervention effects should use partner-specific assessments of risk behavior.

Keywords

Injection drug user; HIV; Partner—specific; Drugs; Needle exchange

INTRODUCTION

Individuals who use intravenous drugs experience multiple HIV-risks, through both their drug use and sexual behaviors. Injection drug users (IDUs) have the second highest prevalence of HIV/AIDS in the United States, behind men who have sex with men (1). Heterosexual transmission of HIV/AIDS occurs most frequently through sexual contact with injection drug users (2). Though interventions to reduce HIV risk behavior among IDUs have been developed and evaluated, most appear to influence drug use behaviors, but result in fewer reductions in sexual risk behaviors (1,3,4).

Like most sexually active populations, IDUs engage in sexual intercourse within relationships of varying levels of commitment, knowledge, and duration and make decisions about the need for protection according to perception of the relationship in which sex takes place. Few risk-reduction interventions have taken these relationship context factors into account in targeting their sexual risk reduction messages and few have measured their behavioral outcomes with reference to partner type [for an exception, see Ref. (5)]. In fact, a recent meta-analysis of HIV prevention interventions focused on reducing sex behaviors of drug users found only one study out of 33 that assessed partner relationship in their behavioral outcome (4). Further information on the nature of IDUs' sexual relationships and the sexual and drug use risk behaviors that differentiate them can guide the development and evaluation of future risk reduction strategies for IDUs at high risk for HIV.

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Many drug users engage in sex with multiple partners (5–8), often including a primary partner and other sex partners. The HIV + IDUs are more likely to disclose their HIV serostatus to primary partners than to other partners (9). Numerous studies have found that condom use is more likely with IDUs' nonsteady partners than with primary or steady partners (1,5,6,8–13). Additional sexual risk behaviors practiced by IDUs involve exchanging sex for drugs or money, engaging in sexual intercourse with other IDUs, and using alcohol and/or drugs prior to or during sex (8,11–16).

The majority of studies that have assessed drug and sex HIV-risk behaviors have focused on out-of-treatment samples of IDUs, recruited from the street or needle-exchange programs (1, 6,8,10,11,13,14,16–18). Some have assessed drug users' HIV risk behaviors in inpatient treatment, primary care clinics, methadone maintenance programs, and while incarcerated (9, 12,15,19). The current study was undertaken to identify differences between IDUs (in a needle-exchange program) who report no sexual behavior, those who report sex with one partner, and those who report sex with more than one partner in the past six months. We also examined sex and drug use behaviors with primary partners among those who report one partner and those who report more than one partner. Finally, among the group of IDUs who reported more than one partner in the past six months, we examined drug and sex risk behaviors with primary and other partners.

METHODS

Participants

Between July 1997 and March 1998 we recruited persons from the Providence, Rhode Island, Needle Exchange Program (NEP) for a study of health service utilization among injection drug users (ProMethIUS) (17). Inclusion criteria limited participants to those who spoke English, were not pregnant, were 18 years of age or older, and had a history of injection drug use. Individuals recruited from the NEP included anyone who had exchanged needles at least once in the last six months, and had received no methadone treatment or other formal drug treatment (detoxification, outpatient, residential) in the last seven months. The Rhode Island Hospital Institutional Review Board (IRB) approved the study and informed consent was obtained from all participants. Administrative databases that included the age, race, and gender of all program clients were available.

Procedure

Due to the anonymous nature of needle exchange, we recruited NEP clients to a separate research site at Rhode Island Hospital. At the study visit, all NEP participants presented their study card (received from the NEP coordinator), received urine toxicological testing (to confirm heroin or cocaine use), underwent HIV-testing using Orasure, saliva-based testing, and received a 45-minute, face-to-face interview with study staff (18). The questionnaire included sections on demographics, health service use, drug use, and HIV risk behaviors (described below). Persons completing the research assessment received 40 dollars. Information was collected in private rooms by four experienced interviewers.

Measures

Demographics—Participants were asked to indicate their age, race/ethnicity, highest school grade completed, and current marital status using single items.

Number of Sex Partners and Sexual Orientation—Two questions assessed the number of men and the number of women with whom participants had had sex in the past six months. The responses to these items were combined and categorized according to those participants who reported no sexual partners (0); one sexual partner (1); and more than one sexual partner

(> 1) in the past six months. A single item asked participants to indicate their sexual orientation as “straight,” “gay, lesbian, or homosexual,” or “bisexual.” Those participants who indicated they were gay, lesbian, homosexual, or bisexual on this item, as well as those who reported same-sex sexual partners were characterized as gay, lesbian, or bisexual (GLB).

Disclosure of Risk Factors—Four questions (two items each for HIV status and intravenous drug use and two items for primary and other partners) assessed whether participants had disclosed these risk factors to their primary sexual partner and sexual partners other than their primary sexual partner. Participants indicated No or Yes to these questions.

Sexual Risk—Participants were asked to indicate how often they used condoms with the primary sexual partner and with other partners in the past six months. Answers ranged from Never to Always. They were also asked to report on how often they used drugs before or during intercourse with primary and other partners. Answers on these items ranged from Never to Every time.

Drug Risk—Participants were asked to indicate with whom they had shared needles in the last six months—including regular sex partners and casual sex partners.

Data Analysis

We began by categorizing the sample according to the participants sexual behavior in the past six months, forming groups of participants who had not had a sexual partner [0], those who had one sexual partner [1], and those who had more than one sexual partner [> 1].

Initially, comparisons of demographics were made between these three groups. Subsequently, comparisons of risk-disclosure, sex, and drug risk behaviors with primary partners were made between those who had one partner [1] and those who had more than one partner [> 1]. Then, comparisons of sexual and drug risk behaviors with primary partners and with other partners were made within the group of participants who indicated that they had more than one partner [> 1] in the past six months.

RESULTS

Participant Characteristics

The sample was composed of 243 individuals with injection drug use histories, recruited through needle exchange programs (79 women and 164 men). Their ages ranged from 18 to 67 ($M = 35.02$, $SD = 9.25$). The ethnic make-up of the sample was 86% (209) Caucasian, 9% (22) African American, 3% (7) Hispanic, and 2% (5) Native American or Other. Thirty-four percent (82) did not graduate high school, 37% (91) graduated from high school, and 29% (70) had continued their education beyond high school. Eighteen percent (44) had a partner (married, remarried, or other partner), 32% (78) were previously married (divorced, separated, or widowed), and 50% (121) were never married. Eighty-eight percent (215) self-identified as straight/heterosexual; 12% (28) either self-identified as gay, lesbian, or bisexual or reported same-sex sexual partners in the past six months. There was a low prevalence of HIV infection (3%) in the sample.

Differences Based on Number of Recent Sexual Partners

There were significant differences in age ($\chi^2 = 34.58$, $df = 4$, $p < 0.0001$) and marital status ($\chi^2 = 23.26$, $df = 4$, $p = 0.0001$) among those who reported no partners, those who reported one partner, and those who reported more than one partner in the past six months (see Table 1). Age was negatively related to the number of sexual partners (i.e., those with no partners were older than those with one partner, who, in turn, were older than those with more than one

partner). Additionally, those with one partner were more likely to report being married than those with no partners or those with more than one partner. There was also a significant difference in sexual orientation between those who had no partners, one partner, or more than one partner ($\chi^2 = 13.05$, $df = 2$, $p = 0.0015$). Those with more than one partner were more likely to self-identify as gay, lesbian, or bisexual, and/or report a same sex partner in the past six months than those with no partners or only one partner.

Behaviors with Primary Partners Based on Number of Recent Sex Partners

In addition to significant differences in condom use ($\chi^2 = 34.58$, $df = 4$, $p < 0.0001$), we also found that those who reported more than one partner were less likely to report sharing needles with their primary partner than those who reported having only one recent partner ($\chi^2 = 12.68$, $df = 2$, $p = 0.0018$) (see Table 2).

Behaviors with Primary and Other Partners Among Those with Both

The average number of sexual partners indicated by those who reported more than one sexual partner in the past six months was three sexual partners. To determine if those who had more than one sexual partner behaved differently with their primary partner than with other partners, we compared disclosure of HIV status and IV drug use and sexual and drug risk behaviors with primary and other partners. Those with more than one partner were more likely to have disclosed their HIV status and IV drug use to their primary partner than to their other partners (HIV disclosure: $\chi^2 = 11.42$, $df = 1$, $p = 0.0007$; IDU disclosure: $\chi^2 = 8.08$, $df = 1$, $p = 0.0045$). They were also more likely to report condom use with other partners than with primary partners and were more likely to report drug use in conjunction with sex with other partners than with their primary partner (Condom Use: $\chi^2 = 25.14$, $df = 4$, $p < 0.0001$; Drugs with Sex: $\chi^2 = 53.05$, $df = 9$, $p < 0.0001$) (see Table 3).

DISCUSSION

For most people, greater trust and caring characterize relationships with primary sexual partners. Among our sample of intravenous drug users in needle exchange programs, primary relationships appear to be viewed in these terms. Regardless of the number of sexual partners in the past six months, disclosure of HIV status and intravenous drug use to primary partners was uniformly high. Perhaps due, in part, to this disclosure, our sample also reported significant levels of needle sharing and unprotected intercourse with primary partners. More than one out of three individuals with one partner and nearly one in four individuals with more than one partner reported sharing needles with primary partners. The majority of our sample also reported never using condoms with their primary partners. These behaviors are often based on the assumption that primary partners practice monogamy or protect themselves with other sexual and drug-use partners (11).

Despite these assumptions, it is clear that primary sexual partners are put at risk through their sexual partners' sexual and drug risk practices with others. In our study, 28% of the sample reported more than one sexual partner in the past six months. Those with more than one partner are not always using condoms consistently with their other partners (nearly 75% of those who are not always using condoms with their primary partner are also not always using condoms with their other partners). Similarly, 36% of our sample of IDUs share needles with others and, of these, 40% also share needles with their primary partners. Clearly, the combination of sharing needles with primary partners and not consistently using condoms with primary or other partners represents a high HIV risk to primary partners.

Our findings are similar to some previous studies on IDUs, with respect to the proportion of the sample that reported sex with more than one partner (ranging from 21% to 30%; 1, 14, 16).

Other studies of IDUs have found larger percentages of their samples reporting more than one sex partner (ranging from 40% to 61%; 6, 8, 12).

Interpretation of our findings should take into account a number of limitations. We relied on self-report data that can be influenced by social desirability. Research assessing the reliability and validity of self-reported risk behavior among IDUs suggests that self-report for most behaviors is generally accurate and reliable. Items pertaining to sharing needles and other injection equipment are the most threatening for this population and less reliable than questions about sexual behaviors (19). Therefore, it is likely that needle sharing is underreported. Additionally, self-report of gay, lesbian, or bisexual sexual orientation and same-sex sexual behavior, which may be stigmatizing, might have affected our estimates of those numbers among our sample. A further caution is that, although we assessed our participants' marital status, we felt that this variable was redundant with our measure of the number of sexual partners in the past six months and, therefore, chose not to use it as a covariate in the analyses for this descriptive study. Our sample was a nonrandom, convenience sample of IDUs who were attending needle exchange programs in an urban area in New England. Therefore, our findings may not generalize to other IDU samples who are not participating in needle-exchange programs or who live in suburban/rural areas or other geographical areas.

Our findings have a number of important implications. Interventions designed to reduce sexual and drug risk behaviors among IV drug users typically have not included a specific focus on risk behaviors with primary partners separate from risk behaviors with other partners. Given that IDUs behave differently with primary partners than other partners, including information that would raise these important relationship issues seems warranted in any attempt to address risk reduction in this population. Additionally, outcome measures that evaluate the effects of sexual and drug risk reduction interventions with IDUs should assess behaviors in a partner-specific manner in order to capture potential differences in the effects, based on partner type or relationship context. Obviously, efforts to reduce the number of concurrent or sequential sexual partnerships among IDUs will remain a focus of risk reduction. However, where it may not be realistic for IDUs to reduce their number of partners, discussion of reducing risk within different types of partnerships should be a goal. Where resources for risk-reduction prevention are scarce, a particular focus on reducing HIV risk behaviors among those IDUs who report primary and other partners may be warranted.

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Table 1

Demographic comparisons among those who report no partners (0), one partner (1), and more than one partner (> 1).

Variable	0 (n = 40)	1 (n = 134)	> 1 (n = 69)
Gender			
Female	35%	34.33%	27.54%
Male	65%	65.67%	72.46%
Age**	39.38 (9.1)	35.22 (8.2)	32.10 (10.3)
Race			
Afr. Am.	7.5%	11.19%	5.8%
Caucasian	87.5%	82.09%	92.75%
Hispanic	5%	3.73%	0%
Other	0%	2.99%	1.45%
Education			
<HS	32.5%	33.58%	34.78%
HS	45%	35.07%	37.68%
>HS	22.5%	31.34%	27.54%
Marital status**			
Current	5%	28.36%	5.8%
Previous	40%	30.6%	30.43%
Never	55%	41.04%	63.77%
Sexual orientation*			
Hetero.	95%	92.54%	76.81%
GLB	5%	7.46%	23.19%
HIV status			
HIV +	2.5%	1.49%	5.8%

* $p < 0.01$.

** $p < 0.001$.

Table 2

Disclosure, sexual risk, and drug use behavior with primary partners: comparisons between those who report one partner (1) and those who report more than one partner (> 1).

Variable	1 (n=134)	> 1 (n = 69)
Disclosure of HIV status		
Yes	82.54%	77.61%
Disclosure of IDU		
Yes	94.03%	86.96%
Condom use		
Never	73.88% **	53.62%
Sometimes	14.93%	30.43%
Always	11.19%	15.94%
Drugs and sex		
Never	18.66%	8.7%
Sometimes	43.28%	42.0%
Most/every time	38.06%	49.3%
Shared needle		
Yes	35.82% *	22.58%

* $p < 0.01$.

** $p < 0.001$.

Table 3

Differences in sex risk and drug use behavior with primary and other partners among those who report more than one partner.

Variable	Primary partner	Others
Disclosure of HIV status		
Yes	78.79% **	60.61%
Disclosure of IDU		
Yes	86.96% *	55.07%
Condom use		
Never	53.62% **	33.33%
Sometimes	30.43%	31.88%
Always	15.94%	34.78%
Drugs and sex		
Never	8.7% **	8.7%
Sometimes	42.03%	37.68%
Most/every time	49.28%	53.63%
Shared needle		
Yes	20.29%	10.14%

* $p < 0.01$.

** $p < 0.001$.