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The HIV prevention needs of injection drug users in Estonia

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Summary

To assess the relationships between HIV transmission risk behaviours, HIV serostatus and knowledge of HIV serostatus among active injection drug users (IDUs) residing in Tallinn, Estonia, we conducted HIV testing and administered a standardized interview to 266 participants reporting recent injection drug use. In total, 45% were HIV positive, and of those, 39% knew their HIV serostatus. Those who knew their HIV-positive serostatus were less likely to report giving someone else their needle after they used it (9%) than were HIV-negative participants (23%) and those who were HIV positive but unaware of their HIV-positive serostatus (25%). There were no statistically significant differences in unprotected sex or other drug use behaviours between the groups. Most participants reported that HIV can be transmitted through sharing needles (98%) and unprotected sexual activity (93%). Prevention needs of IDUs in this area include increasing the rates of HIV testing and implementing effective programmes to reduce sexual and drug use risk behaviours.

Keywords

HIV; substance abuse; intravenous; sexual behaviour; Baltic states

INTRODUCTION

Following the collapse of the Soviet Union, dramatic social and political changes occurred in Eastern Europe and Central Asia, resulting in increasing economic disparity, failures in health-care systems and greater drug availability.¹ Sharp increases in injection drug use were seen in the region, which contributed to a rapid spread of HIV infection.^{2,3} The Baltic state of Estonia, in particular, has a high rate of HIV infection; up to 568 per million in 2004,⁴ with 90% of all HIV infections among injection drug users (IDUs).⁵ In response to this rapidly evolving epidemic, HIV prevention activities have been under way in Estonia for some time. To date, however, there have been few descriptions of the sexual and drug use behaviours of both HIV-infected and HIV-uninfected IDUs in Estonia, particularly as a

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function of HIV serostatus. The current research was undertaken to determine how sexual and drug use behaviours differ as a function of knowledge of HIV serostatus among active IDUs.

MATERIALS AND METHODS

Respondents

Men and women who reported, upon screening, that they were at least 18 years old and had engaged in injection drug use in the last 90 days were eligible. Of 309 active IDUs approached for the study, 266 were eligible and agreed to participate (86%). Participants were recruited between September 2002 and May 2004 from sites and clinics operating under the aegis of the AIDS Information and Support Center ($n = 151$) and the Centre for Infectious Diseases, West-Tallinn Central Hospital ($n = 115$). These recruitment sites included prevention outreach services, and drug treatment and syringe exchange programmes, and represent venues serving a large proportion of HIV-positive and at-risk individuals in Tallinn. All sites offer HIV prevention services as standard of care to high-risk patients.

Procedures

Study procedures were approved by an Institutional Review Board at the US site and an Ethics Board governing research at Estonian recruitment sites. All participants provided informed consent, completed a standardized, interviewer-administered instrument and were screened for HIV by enzyme-linked immunoassay, with positive screens confirmed via western blot. Those newly diagnosed with HIV were referred to the Centre for Infectious Diseases outpatient clinic, which serves as the only HIV primary care facility in Tallinn. The survey instrument was developed in English, translated into Estonian and Russian, and back-translated into English before being piloted on a sample of clinic patients and clinicians. We first assessed drug use practices, sexual behaviour and HIV transmission knowledge, followed by questions on HIV testing history and serostatus. For analyses, participants were grouped into three categories based on their HIV serostatus and knowledge of HIV serostatus: (1) HIV-negative test result; (2) HIV-positive test result but reports either never having been tested or never receiving a positive HIV test result; or (3) HIV-positive test result and reports knowing that he or she is HIV positive. Sexual and drug use risk behaviours were assessed for their relationship with HIV serostatus/ knowledge of HIV status through logistic regression models.

RESULTS

The mean age of study respondents was 25 (standard deviation [SD] = 6), and most were men (88%). Although 92% of the participants were born in Estonia, most defined their nationality as Russian (79%), followed by Estonian (15%). Fourteen percent of the respondents were working full-time and 68% were unemployed; 10% were in school either full- or part-time. HIV testing was completed in all but two cases, and these tests revealed an HIV seroprevalence of 45% ($n = 119/266$). Of those who tested positive for HIV infection, 38% ($n = 46$) reported in the interview that they were aware of their HIV-positive serostatus. Overall, 33% (87/266) of the sample reported never having received an HIV test prior to study participation. Regardless of HIV serostatus or knowledge of HIV serostatus, most respondents knew that HIV could be transmitted through sharing needles (98%) and unprotected sexual activity (93%).

We assessed the type of drug use in the last 90 days; 83% of the participants reported the use of heroin, 45% amphetamines, 45% marijuana, 8% crack or cocaine, 5% ecstasy and 1%

illicit fentanyl. Among those who reported using heroin, 11% used homemade opiates and 3% illicit methadone. Half of our sample reported having used a needle that had previously been used by someone else in the last 90 days. At last episode of injection drug use, 33% reported that the last needle they used had been previously used by someone else; 21% gave their needle to someone else to use after injecting, 19% reported that a needle-sharing partner had used their syringe to insert drugs into the participant's syringe and 19% reported using their syringe to insert drugs into someone else's syringe. Most participants (80%) reported being sexually active in the previous year, almost exclusively with opposite sex partners (98%). Of those sexually active, 39% reported one sexual partner, 22% two partners and 39% three or more sexual partners. In the previous 90 days, at least one episode of unprotected vaginal or anal sex was reported by 26% of the participants (25% unprotected vaginal and 3% unprotected anal sex).

There were no statistically significant differences in the proportion of respondents reporting any unprotected vaginal or anal sex in the previous 90 days as a function of knowledge of HIV infection and actual HIV serostatus (Table 1). At last episode of injection drug use, there were no statistically significant differences reported between the groups in terms of using needles to inject drugs into another drug user's needle, having drugs injected into the participant's own needle or in using a needle after another person had used that needle. Those who were aware of their HIV-positive serostatus were significantly less likely to report having given their own needle to someone else after they had used it (9%) than either HIV-negative participants (23%, odds ratio [OR] = 0.32) or HIV-positive participants who did not report an HIV-positive serostatus (25%, OR = 0.28).

CONCLUSIONS

Although 45% of our sample tested HIV-positive, fewer than 40% reported knowledge of their HIV-positive serostatus. Despite knowledge of HIV transmission behaviours, HIV-negative participants did not differ from HIV-positive participants in the rates of sexual risk behaviours or most injection drug use behaviours, although those who reported knowing that they are HIV positive were less likely to give their needles to others to use after they had used them. Our sample included individuals already linked to some form of medical care or social services, and is therefore not representative of all drug users in Estonia. Thus, we may have underestimated the prevention needs of this population by omitting more difficult-to-reach drug users. Additionally, self-reported methods of determining knowledge of HIV status may underestimate the number of respondents who report awareness of being HIV positive, in that those who engage in behaviours with higher risk of HIV transmission may be less likely to report having tested positive in the past. Although this may reflect error in actual rates, this bias suggests that relationships reported between HIV-positive serostatus and risk behaviour are greater than what we have reported.

While injection drug use has driven the recent HIV epidemic in Estonia, heterosexual transmission represents a significant and ongoing risk. Our data demonstrate HIV risks among IDUs that include inconsistent condom use and needle-sharing behaviours. The outcome of what has thus far remained a concentrated epidemic in Estonia will largely depend on the nature and extent of contacts between high-risk populations such as IDUs with HIV and their transmission risk behaviours with persons outside this risk group. Intervention efforts are needed to increase the rates of HIV testing and to promote HIV prevention behaviours across a range of sexual and drug use risk behaviours, and should concentrate on vulnerable subgroups with increased risk behaviour.

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Table 1

HIV transmission risk behaviours as a function of HIV serostatus and self-reported knowledge of HIV serostatus ($n=264$)*

	HIV+ serostatus, does not report being HIV+ ($n=73$)		HIV+ serostatus, reports being HIV+ ($n=46$)	
	%	OR, 95% CI	%	OR, 95% CI
Any unprotected vaginal or anal sex, last 90 days	27	1.06; 0.56–2.00	26	0.99; 0.47–2.12
Last needle use, participant gave someone else needle after he/she injected	25	1.14; 0.58–2.22	9	0.32; 0.11–0.96
Last needle use, participant used someone else's needle after that person had injected	37	1.21; 0.58–2.53	29	0.85; 0.35–2.05
Last needle use, participant injected drug from own needle into another person's needle	17	0.87; 0.41–1.84	20	1.09; 0.47–2.53
Last needle use, another person used needle to inject drug into participant's needle	21	1.10; 0.54–2.23	16	0.79; 0.32–1.97

CI = confidence interval

* HIV-negative respondents ($n=145$) serve as referent category in odds ratios (OR)