

## HIV transmission among drug users in Larkana, Pakistan

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### Summary

During a routine surveillance programme, 17 of 183 drug users in Larkana, Pakistan, were found to be HIV positive. To investigate the factors to this rapid transmission of HIV, a case-control study was conducted. Cases were HIV seropositive male drug dependants, while controls were drug dependants who were tested to be HIV seronegative. A total number of seven cases and 14 controls were recruited for the investigation at a case:control ratio of 1:2. Univariate logistic regression analysis of the data showed that injection drug use in groups, re-using a syringe that is used by a companion, sex with commercial sex workers, having multiple sex partners, and early initiation of sexual activity were associated with HIV seropositivity among heroin addicts.

### Introduction

Among the various factors that has placed Pakistan among the high-risk countries for HIV spread is the drug abuse problem, which over time has spilled over from the confines of large cities to the medium-sized and smaller cities as well.<sup>1</sup> Larkana is a medium-size city in the Sind province of Pakistan. It witnessed heroin abuse in early 1990s, and a major shift from oral route to injection use was seen in early 2001. During routine surveillance, 17 of 183 intravenous drug users tested positive for HIV in 2002. The sudden emergence of HIV among drug users gained considerable attention of the drug-regulating authorities. This small-scale study was conducted to assess the factors associated with this rapid transmission of HIV among drug users in Larkana. Cases were defined as HIV positive, male drug dependants in Larkana, while controls were HIV seronegative, drug-dependant men. Seven cases and 14 controls were interviewed after taking an informed consent. A pre-tested questionnaire in the local language was administered by the principal investigator himself and two outreach workers of a local Non-Government Organization (NGO). Data were analysed using SPSS version 10.0.

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All cases and controls were heroin addicts. The mean age (7SD) of cases and controls were 31.6 (77.9) and 33.9 (710.2), respectively. All the cases and controls were Muslims and Sindhi speaking and local residents of Larkana, except two among controls who had migrated to Larkana. The mean 7SD monthly incomes (rupees) for cases and controls were 14537987 and 171871028, respectively. We observed that 65% of cases and 71% of controls had no formal school education. Among cases and controls 57% and 29%, respectively, were married. Forty-three percent of the cases and 29% of the controls lived on the street. None of the cases and the controls ever used condoms and admitted to sex for money. Univariate logistic regression analysis showed that although statistically non-significant, injection drug use in groups, reusing a syringe used by a companion, sex with commercial sex workers, multiple sex partners, and early initiation of sex were strongly associated with HIV seropositivity among heroin addicts (Table-1). The findings of this study are in coherence with published data, i.e., sharing needles and syringes, re-using used syringes without disinfecting,<sup>2,3</sup> having multiple heterosexual and homosexual partners, initiating sex at a young age, and having sexual contacts with commercial sex workers<sup>4,5</sup> is related to HIV seropositivity. We did not do multivariate analysis due to the small sample size. Non-use of condoms with either regular or casual sex partners put them at a risk of contracting various sexually transmitted infections including HIV. Although homosexual encounters and exchange of sex for money was not disclosed by drug users, misreporting cannot be ruled out.

Based on our results, it is presumed that HIV was probably introduced into the local area by drug users who had sex with commercial sex workers and then it spread to the drug users population who also inject drugs. Thus while the drug-injecting practices may play a role, the high-risk sexual behaviour of drug users needs urgent attention, since through this route, the HIV epidemic may spill over from the confines of the community of drug addicts to the general population. Further research is indicated on the (i) social and sexual networks of drug users, (ii) active surveillance for detection of HIV-positive cases and (iii) harm reduction

Table-1: Univariate analysis of factors associated with HIV transmission among drug users in Larkana, Pakistan.

Variables	Cases, n (%)	Controls, n (%)	Odds ratio (95% CI)	P value
Injection sharing in groups	5 (83)	7 (64)	2.9 (0.24--33.9)	0.39
Reusing a syringe of another IDU	5 (83)	6 (54)	4.2 (0.36--48.4)	0.22
Sex with CSWs	5 (71)	4 (28)	6.2 (0.84--46.0)	0.06
43 casual sex partners	2 (28)	2 (14)	3.5 (0.28--4.31)	0.27
Initiation of sex at 18 years	4 (57)	3 (25)	4.1 (0.55--29.0)	0.23

CI: Confidence interval; IDU: Injecting drug user; CSW: Commercial sex worker.

interventions for this highly risk group.

### Acknowledgements

Our acknowledgements go to Dr Kamran Niaz, Regional Adviser, Global Assessment Program, UNODC, Ankara, Turkey, for providing guidelines for the design of the questionnaire. We further acknowledge the Administration District Jail Larkana, Local Hospital Administration, for facilitating the interviews, and Community Development Concern, a local NGO, for assisting in identifying street addicts and providing staff to fill the questionnaire. Above all, we are grateful to all the intravenous drug users who volunteered to be interviewed.

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