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Research paper

HIV prevalence and risk among people who inject drugs in five South African cities

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ABSTRACT

Background: Policy and programming for people who inject drugs (PWID) in South Africa is limited by the scarcity of epidemiological data.
Methods: We conducted a cross-sectional survey among 450 PWID (362 males and 88 females) from five South African cities in 2013, using outreach and peer referral to recruit participants. We carried out rapid HIV tests on participants' saliva and assessed drug-using and sexual practices by means of a questionnaire.
Results: We found that 26% of females and 13% of males reported to always share injecting equipment, while 49% of all participants had used contaminated injecting equipment the last time they injected. Only 6% of participants usually used bleach to clean their injecting equipment. We found that half of participants reported using a condom the last time they had sex. A quarter of participants reported symptoms of a sexually transmitted infection (STI) in the previous 12 months and 22% had ever worked as a sex worker (51% of females). HIV prevalence among participants was 14% (18% among females and 13% among males). In multivariate analysis HIV was significantly associated with being 25 years and older (adjusted odds ratio (aOR) 2.1, 95% confidence interval (CI) 1.0–4.6, $p = 0.06$), belonging to a racial group other than white (aOR 4.2, 95% CI 1.9–9.4, $p < 0.001$), coming from Gauteng province (aOR 2.3, 95% CI 1.1–5.5, $p = 0.023$), having ever worked as a sex worker (aOR 3.4, 95% CI 1.7–7.2, $p = 0.001$) and the presence of STI symptoms in the last 12 months (aOR 2.4, 95% CI 1.1–4.4, $p = 0.019$).
Conclusions: This study highlights the need for increased access to sterile injecting equipment, education around safer injecting practices and access to sexual and reproductive health services for PWID in South Africa. Programmes for PWID should also address the specific needs of female PWID, PWID who sell sex and PWID from previously disadvantaged communities.

Introduction

In 2013 there were an estimated 12.2 million people (range: 8.5–21.5 million) who inject drugs (PWID) worldwide, and approximately 1.7 million (range: 0.9 million to 4.4 million) were living with HIV, representing a global HIV prevalence of 13.5% (United Nations Office on Drugs and Crime, 2015). In 2014, needle and syringe programmes were available in 90 of the 158 counties

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where injecting drug use has been documented and opioid substitution therapy was available in 80 countries (Harm Reduction International, 2014). Despite the large numbers of PWID and the high risks associated with injecting drug use, coverage and access to appropriate HIV prevention, treatment and care services remains sub-optimal (Harm Reduction International, 2014).

In 2014, only five out of 51 countries in sub-Saharan Africa had needle and syringe programmes, and only five countries had opioid substitution therapy programmes (Harm Reduction International, 2014). This is despite the dramatic increase in illegal drug availability and use in sub-Saharan Africa over the past two decades (United Nations Office on Drugs and Crime, 2015).

South African PWID data is very limited. In the last decade ten studies (six published and four unpublished) have enquired about HIV and related risk practices among PWID in South Africa (Anova Health Institute & Mainline, 2012; Baral et al., 2011; Dos Santos, Trautmann, & Kools, 2011a; Lane et al., 2009; Parry, Carney, Petersen, & Dewing, 2007; Plüddemann, Parry, Flisher, & Jordaan, 2008; Rossouw, 2009; Simbayi et al., 2007). However, only two of them recruited more than 50 PWID. In 2004, one study recruited 57 PWID in Cape Town as part of a survey among heroin users in that city (Plüddemann et al., 2008). Another study in 2005 recruited 96 PWID as part of a qualitative study around drug use and sexual risk patterns in Cape Town, Durban and Pretoria (Parry et al., 2007). Both studies used opportunistic sampling methods and highlighted the use of contaminated injecting equipment, unprotected sex and low levels of HIV-related knowledge among PWID (Parry & Pithey, 2006; Plüddemann et al., 2008).

In 2014, Petersen et al. used self-reported injecting drug use data collected in the 2008 National Household Survey to estimate the PWID population size. They estimated that there were 67,000 PWID in South Africa (approximately 0.2% of people aged 15–64 years) (Petersen, Myers, van Hout, Plüddemann, & Parry, 2013; Statistics South Africa, 2015). HIV prevalence among South African PWID based on earlier studies was estimated to be 12.4% (Mathers et al., 2008).

No community-based HIV surveillance system for PWID exists, but history of injecting drug use is collected by substance-use disorder treatment centres that are part of the South African Community Epidemiology Network on Drug Use (SACENDU) (Harker Burnhams & Dada, 2014).

To date, no government-funded needle and syringe programmes or opioid substitution therapy for PWID exist in South Africa (Harm Reduction International, 2014), and most needles and syringes are purchased from pharmacies (Plüddemann et al., 2008). Local guidelines for the management of opioid use disorders exist, however, the high cost of medications for opioid substitution therapy and the lack of government-funded programmes for PWID are major barriers to access (Weich et al., 2013).

Our study aimed to assess HIV prevalence and risk practices among a sample of PWID from five cities in three South African provinces.

Methods

An advisory group including representatives from government, the national drug authority, development partners, the United Nations, technical agencies and a recovering PWID was established to oversee the planning and implementation of this cross-sectional survey. The advisory group recommended the use of opportunistic sampling methods. The sample size was informed by the amount of funding available to conduct the study, the number of organisations with links to PWID networks that were interested in participating in the study, and the anticipated challenges in recruiting PWID. The University of Cape Town's Faculty of Health Sciences Human Research Ethics Committee approved this study in May 2013.

Sample

We recruited 451 PWID in five South African cities: 150 participants in Gauteng (from sites in Centurion, Pretoria and Johannesburg), 150 in KwaZulu-Natal (from sites in Durban) and 151 in the Western Cape Province (from sites in Cape Town). People who were 18 years and older, who self-reported to have ever injected an illegal drug and who provided informed consent, were eligible to participate.

Study sites, staff and training

Up to three study sites based at non-governmental organisations with links to the PWID community were established in each province. Study staff included counsellors and nurses who were experienced in drug-use disorder treatment, and outreach workers who were experienced in working with people who use drugs (including two former PWID and four people in recovery from non-injecting drug use). All staff participated in a two-day training session held at each site before the study started. This training covered the findings of previous studies on PWID, study recruitment methods, fieldwork safety, ethics, quality assurance, HIV testing using saliva samples and other study procedures.

Participant recruitment

Between May and July 2013, participants were recruited through convenience sampling methods including street intercepts initiated by outreach workers in known drug use areas, identification by drug-use disorder treatment providers and incentivised peer referral (snowballing). Snowballing is a chain referral recruitment technique that can be used to effectively and efficiently select a sample that has characteristics of research interest. Initial members of the population are recruited ('seeds') and are used to recruit their peers, who in turn recruit theirs. Recruitment is encouraged through the use of an incentive. 'Waves' of recruitment continue until the sample size has been reached (Robinson et al., 2006). Snowballing has been successfully used in the past to recruit people who use heroin in South Africa (Plüddemann et al., 2008).

In this study, participants were compensated for their time with US$3 in cash for transport and US$3 in food vouchers. They were allowed to recruit up to three peers using snowballing vouchers. Participants received US$3 food vouchers for each eligible participant that was referred, and vouchers linked participants by their participant identification number.

Study procedures

All participants signed an informed consent form after their eligibility was confirmed, and they were then given a participant identification number. A trained study staff member administered a paper-based questionnaire, recording the following: demographic characteristics (age, gender, housing, racial group, education, employment and income); drug use history (age at first use and type of drug first used), injecting drug-use practices (age at first injection and type of drug first injected, timing and type of drug last injected, usual needle sharing practices, usual and last needle re-use practices and usual needle cleaning practices); sexual practices (number of sexual partners in last 12 months, history of ever engaging in same sex practices, history of ever engaging in transactional sex and/or sex work, condom use at last sex and STI symptoms in last 12 months), engagement with the criminal justice system (history of ever being in police lock-up and history of ever being in prison), overdose history and substance use disorder treatment history (nature and type of support received).