

RISK BEHAVIOUR AND HIV AMONG DRUG USING POPULATIONS IN SOUTH AFRICA

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ABSTRACT

This paper reviews the epidemiology of HIV and the changing patterns of drug trafficking and use in South Africa. One in five adults (15 to 49 years) in South Africa is HIV positive with an unequal burden of the epidemic in terms of gender, race and age. In terms of illicit drugs, the biggest changes have been the increased trafficking and availability of various kinds of drugs, changing patterns of use (e.g. more use of stimulants and heroin) and demographic shifts in usage patterns, especially the use of heroin and methamphetamine by persons aged younger than 20 years. A review of existing local studies on drug-related HIV risk among drug users revealed that most of the studies focused on drug use as a risk factor for HIV infection among adolescents and female street sex workers, with very few studies conducted among injection drug users (IDUs). A paucity of research on HIV prevalence among drug users in South Africa was noted. This article also reviews current prevention strategies for addressing substance use in relation to HIV in South Africa and in the short-term recommends the implementation of risk reduction strategies that focus on reducing the adverse consequences of substance abuse. In the long-term, more integrated HIV and substance prevention programmes that include the biological, cultural, social, spiritual and developmental needs of individuals and groups are required to alleviate the double burden of drug abuse and HIV.

KEY WORDS: drug abuse, HIV, sexual risk behaviour, injection drug use

INTRODUCTION

South Africa is currently experiencing one of the world's most devastating HIV epidemics and was estimated to have 5.54 million people (18.8% for adults aged 15 to 49 years) living with HIV in 2005 (Department of Health, 2006). The factors associated with the rapid spread of the epidemic in South Africa include the burden of sexually transmitted infections (STIs), poverty and income inequality, malnutrition, unemployment, gender inequality, the growing commercial sex industry, a long history of labour

migration, inconsistent use of condoms and social norms that accept or encourage multiple sexual partners (Parry and Abdool-Karim, 2000; Pettifor et al., 2005; Shisana et al., 2005). The following section discusses the statistics from three national South African HIV prevalence surveys. The sources for these studies are the South African Department of Health, the Human Sciences Research Council (HSRC) and the Reproductive Health Research Unit (RHRU).

Since 1990 the South African Department of Health has conducted annual, unlinked, anonymous surveys

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among women attending antenatal clinics to derive an estimate of HIV prevalence among the general South African population. The rate is still on the increase

and in 2005 reached the unprecedented figure of 30.2% based on the sample of 16,510 women attending antenatal clinics across all nine provinces (Figure 1).

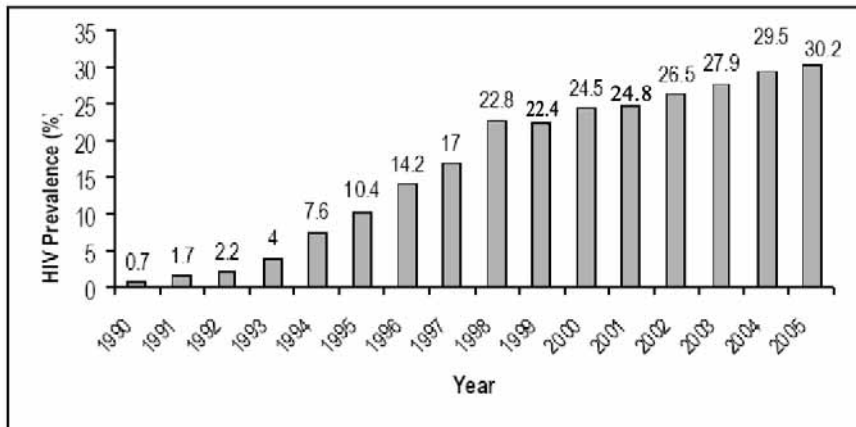


Figure 1. HIV prevalence trends in South Africa, 1990-2005: antenatal clinic attendees
 Source: Department of Health, South Africa, 2006

Projections from the antenatal data estimated that the number of people infected with HIV in South Africa at the end of 2005 were as follows: women aged 15 to 49 years (2.94 million); men aged 15 to 49 years (1.96 million); and children aged 0 to 14 years (235,060) (Department of Health, 2006).

Among the antenatal clinic attendees HIV prevalence rates varied among the different age groups suggesting different patterns of risk. Women in their late 20s and early 30s had the highest HIV infection rates and teenagers the lowest. The prevalence rate for teenagers (aged 15 to 19 years) was 15.9% and for women aged between 25 and 34 years the rate was 38.0%. There were increases in prevalence across most age groups between 2004 and 2005, with the largest increase (24.5% to 28.0%) observed among women aged between 35 and 39 years (Department of Health, 2006).

South Africa’s first nationally representative survey of HIV/AIDS was conducted in 2002 by the HSRC (Shisana and Simbayi, 2002). The second in the

series took place in 2005 (Shisana et al., 2005). Based on the latter survey the overall HIV prevalence among persons aged 2 years and older was estimated to be 10.8%, slightly less than the 11.4% estimated in 2002. For adults aged 15 to 49 years HIV prevalence increased slightly from 15.6% in 2002 to 16.2% in 2005. HIV prevalence among females aged 15 to 49 years was 20.2% in the 2005 household survey, lower than the 29.5% found in the 2004 antenatal survey in which more than 90% of the participants were Black/Africanⁱ. However,

ⁱ The terms “Black/African”, “White”, “Coloured” and “Indian”, originate from the apartheid era. They refer to demographic markers and do not signify inherent characteristics. They refer to people of African, European, mixed (African, European and/or Asian) and Indian ancestry, respectively. These markers were chosen for their historical significance. Their continued use in South Africa is important for monitoring improvements in health and socio-economic disparities, identifying vulnerable sections of the population, and planning effective prevention and intervention programmes

when the findings were restricted to Black/African females aged 15 to 49 years, the overall HIV prevalence was 24.4%, and among those who were pregnant in the last 24 months the figure was 26.8%. Overall, females were more likely to be living with HIV and showed an increase in prevalence from 12.8% in 2002 to 13.3% in 2005, in contrast to males whose prevalence decreased from 9.5% in 2002 to 8.2% in 2005. Among

young females there was a striking increase in HIV prevalence which peaked at 33.3% in adults aged 25 to 29 years. For males, HIV prevalence increased more progressively and peaked at 23.3% in adults aged 30 to 34 years and those aged 35 to 39 years. However, from age 35 to 39 years onward more males than females were infected with HIV. Table 1 shows HIV prevalence by sex and age (Shisana et al., 2005).

Table 1: HIV prevalence among respondents aged 2 years and older by sex and age group, South Africa 2005

Age (years)	2-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+	Total
Male prevalence %	3.2	3.2	6.0	12.1	23.3	23.3	17.5	10.3	14.2	6.4	4.0	8.2
Female prevalence %	3.5	9.4	23.9	33.3	26.0	19.3	12.4	8.7	7.5	3.0	3.7	13.3

Source: Shisana et al., 2005

Reducing HIV risk among young people is known to be critical in curbing the HIV epidemic. Among youth aged 15 to 24 years, HIV prevalence in the 2005 survey was 10.3%, higher than the figure of 9.3% found in the 2002 survey. A significant increase in prevalence was found among females aged 15 to 24 years, from 12.0% in 2002 to 16.9% in 2005. For males in this age group HIV prevalence decreased from 6.3% in 2002 to 4.4% in 2005. These results confirmed the findings of the RHRU Youth Survey conducted in 2003. In this nationwide survey of 11,904 South Africans aged 15 to 24 years, HIV prevalence was 10.2% overall, with the figure among females considerably higher (15.5%) than found among males (4.8%) (Pettifor et al., 2005).

Seen together, these three prevalence studies provide a clearer picture of the South African HIV epidemic than either of them viewed alone. What is evident from each of these studies is that HIV prevalence is exceptionally high in South Africa and although it affects all segments of the population women are more likely to be living with HIV than men.

CHANGING PATTERNS OF DRUG TRAFFICKING AND USE

South Africa has experienced a considerable increase in drug trafficking and use of heroin, cocaine and amphetamine-type stimulants (ATS) since its first democratic election in 1994 and subsequent re-entry into the global economy. The country's geographic location, lax border controls, weak criminal justice system, modern telecommunications and banking systems and international trade links with South America, North America, Europe, and Asia have, unfortunately, resulted in South Africa becoming a desirable zone for the transshipment of drugs. Heroin (from Asia) and cocaine (from South America) are both imported into South Africa and also exported to Europe, North America and even Australia. Regrettably, it is now also without a doubt, the leading market for illicit drugs entering Southern Africa (Bureau for International Narcotics and Law Enforcement Affairs, 2006; Parry and Karim, 2000; Siegfried, Parry and Morojele 2001; UNODC 2002, 2005).

Unlike other sub-Saharan countries, South Africa is unique in that it has a well-developed capacity for surveillance and research on drug-related problems. The primary resource of this information is the South African Community Epidemiology Network on Drug Use (SACENDU) project which currently monitors alcohol and other drug use trends at six sentinel sites in South Africa. Four of these are large port cities (Cape Town, Durban, Port Elizabeth and East London) and two are provinces (Gauteng, a largely urban province that includes the cities of Pretoria and Johannesburg; and Mpumalanga, a mostly rural province that borders Mozambique, Swaziland, and Zimbabwe). SACENDU primarily uses secondary data sources such as treatment demand data and information from the South African Police Service's Forensic Science Laboratories (FSLs) (Parry et al., 2002; Plüddemann et al., 2005).

Most of the cannabis consumed in the country is of South African, Lesotho or Swazi origin with the cultivation and wholesaling primarily in the hands of poor rural Black/African communities. However, trafficking networks from South Africa to Western Europe tend to involve British and Dutch expatriates living in South Africa (UNODC, 2002). The proportion of patients at specialist substance abuse treatment centres having cannabis as their primary substance of abuse has in the last few years remained fairly stable, but has recently increased in Durban, Gauteng and in East London, and among patients aged less than 20 years (Plüddemann, Parry, Cerff, Bhana, Harker, Potgieter, Gerber, and Johnson, 2006). Although Mandraxⁱⁱ has recently

been illicitly manufactured in South Africa and its neighbouring countries, it is estimated that most of the Mandrax consumed in the country is primarily sourced from India and China. Mandrax use is mainly a male phenomenon with Coloured patients dominating treatment admissions in Cape Town and Port Elizabeth, and Black/African patients accounting for the majority of admissions in other SACENDU sites. Of late treatment demand for the cannabis/Mandrax combination ("white pipes) has declined across all sites (Plüddemann et al., 2006).

In the late 1990s South Africa witnessed an increase in demand for "club drugs" (principally Ecstasy and LSD, but including a wide range of substances) among young people attending rave clubs. Initially, users of Ecstasy tended to be White, but the last few years have seen increasing numbers of Coloureds (in Cape Town) and Black/Africans (in Gauteng and Mpumalanga) presenting for treatment for Ecstasy abuse. Even so, the proportion of persons using specialist treatment services presenting with Ecstasy as their primary substance of abuse has over the years remained relatively low across all sites (Plüddemann, Parry, Myers, and Bhana, 2004; Plüddemann et al., 2006). Although there is evidence of local manufacturing of Ecstasy, the majority of the drug consumed in South Africa is imported from Europe (UNODC, 2002).

In contrast, the last few years have seen a dramatic increase in the local manufacturing and abuse of methamphetamine, commonly known as 'tik' in the Western Cape. Disturbingly, the greatest extent of use is among young people in the city of Cape Town which has in the last few years experienced an unprecedented increase in the number of patients reporting methamphetamine as

ⁱⁱ Mandrax is a blend of the pharmaceutical drugs methaqualone and antihistamine. It was originally used legally as a sleeping tablet. The term "mandrax" refers to the common street name for a drug containing significant quantities of methaqualone. It derives from Mandrax[®], the original Roussel trade name (UNODC 2002).

their primary substance of abuse (Parry, Myers, and Plüddemann, 2004; Plüddemann et al., 2006). From the first half of 1999 to the second half of 2005, the proportion of patients reporting methamphetamine as their primary substance of abuse rose from 0.1% to a staggering 35%. For the latter, the average age of patients was 21 years and an astonishing 48% of patients aged less than 20 years reported methamphetamine as their primary substance of abuse (65% as a primary or secondary substance of abuse). The majority of the patients were Coloured (92%) and male (71%). Across all age groups, 45% of all patients reporting for treatment in Cape Town in the second half of 2005 reported methamphetamine either as a primary or secondary substance of abuse (Plüddemann et al., 2006). Anecdotal evidence indicates that (pseudo)ephedrine or the fully manufactured product is also being sourced from China, but as yet, there have been no seizures at points of entry. There is also evidence of the local production of methcathinone (CAT); however, there is no evidence to suggest that trafficking involves the crossing of any borders (UNODC, 2005). Treatment demand has mainly been found in Gauteng, where 4% (n=108) of persons presenting for treatment in the second half of 2005 reported CAT as their primary or secondary substance of abuse (Plüddemann et al., 2006).

Originally South Africa predominantly served as a transit point for cocaine leaving the Andean countries en route to Europe, but in recent years it has become a significant market for cocaine in Africa in its own right. Trafficking was initially controlled by White syndicates and the domestic market for consumption was mostly limited to White affluent recreational users. However, in the mid-1990s a number of Nigerian organized

crime syndicates began to dominate the cocaine trade and with this a shift away from the use of cocaine powder toward the use of crack cocaine occurred (UNODC, 2002). Consequently, crack cocaine became firmly entrenched in most urban areas in South Africa during 1998. The use of crack cocaine has been reported among all socio-economic classes and is especially prominent among vulnerable groups in society, for example commercial sex workers (CSWs) (Parry and Karim, 2000; UNODC, 2002).

Treatment demand indicators for cocaine powder and crack cocaine increased exponentially in the late 1990s across most sites in South Africa and by the early 2000s cocaine/crack had become the third most widely used illicit drug in South Africa, after Mandrax and cannabis. Although this trend has not continued and a levelling off appears to be occurring in most sites (except for Port Elizabeth and East London), overall treatment data for the second half of 2005 found that cocaine/crack use was still substantially more prevalent than heroin or Ecstasy use with 18% of admissions across SACENDU sites indicating cocaine/crack as their primary or secondary drug of abuse, compared to 12% for heroin and 5% for Ecstasy. As in the past, a relatively high proportion of females sought treatment for cocaine as their primary substance of abuse compared to many other illicit drugs (28% in Cape Town). Similar to previous reporting periods, data for the second half of 2005 indicated that Whites still formed the majority (65%) of patients across all sites reporting cocaine/crack as their primary substance. However, some of the sites have over time noted significant increases in the proportion of cocaine/crack patients who are Coloured (in Cape Town, Gauteng and Port Elizabeth) or Black/African (in Gauteng and Mpumalanga).

One of the most unsettling trends in the last few years has been the striking increase in the trafficking and consumption of heroin in the South African drug market. Even though South Africa is a convenient transshipment zone for heroin destined for Western Europe and North America, it is apparent that a substantial proportion of heroin is meant for the local market. Heroin is primarily imported by air into South Africa from Southeast and Southwest Asia, however, there is mounting evidence of heroin from Southwest Asia entering South Africa overland via road transport from the seaports of Maputo (Mozambique), Mombasa (Kenya) and Dar es Salaam (Tanzania). Similar to cocaine, trafficking of heroin into and within South Africa is dominated by Nigerian organized crime syndicates. Nonetheless, there is some indication that nationals from Tanzania, Burundi, Kenya and Ethiopia also feature prominently in the heroin trade (UNODC, 2002, 2005). In the past heroin users have been predominantly White and relatively young; however, recent trends indicate growing numbers of Coloured (in Cape Town) and Black/African users (in Gauteng) (Parry, Plüddemann and Myers, 2005; Plüddemann et al., 2006).

From the first half of 1999 until the second half of 2005 the SACENDU project has noted a significant increase in the proportion of patients reporting heroin as their primary substance of abuse at specialist treatment centres in three of the sentinel sites. Over this time period this proportion has increased from 4-14% in Cape Town, from 3-8% in Gauteng and finally the most alarming increase from <1-10% was recorded for Mpumalanga. This increase may be related to the increased traffic on the "Maputo Corridor" (Maputo to Pretoria) which functions as a conduit for heroin coming from Tanzania via Maputo. Over the last few years the proportion of Coloured heroin patients has steadily

increased in Cape Town and both Gauteng and Mpumalanga have seen increases in Black/African heroin patients, with figures of 84%, 20% and 30% respectively, recorded for each site in the second half of 2005 (Plüddemann et al., 2006).

The proportion of heroin users who inject in Cape Town, relative to other modes of use has fluctuated widely since 1999, whereas over time there has been an overall increase in Gauteng and Mpumalanga. For the second half of 2005 intravenous use by patients with heroin as their primary drug of abuse declined in Cape Town, with only 8% reporting injecting use compared to 15% in the previous period. In Gauteng, 39% of patients reported injecting, compared to 44% in the previous period. In Mpumalanga 34% of heroin patients reported injecting, compared to 31% in the previous period. In the second half of 2005 the percentage of patients seeking treatment for heroin as their primary substance of abuse who were female was 26% in Cape Town and 27% in Gauteng. Treatment data for the second half of 2005 showed an increase in the proportion of patients aged under 20 years having heroin as their primary substance of abuse in all sites, except in Mpumalanga. Furthermore, several sources have recently indicated that there is an increase in the availability and popularity, particularly in youth, of inexpensive heroin which is mixed with cannabis and sold under the name 'Unga' (in Cape Town), 'Nyope' (in Pretoria), 'Sugars' (in Durban) and 'Pinch' (in Mpumalanga) (Plüddemann et al., 2006).

In the last few years, national cases processed and amounts of drug seized by the FSLs have generally followed a similar trend to the drug consumption patterns. National data from the FSLs for each drug in the first half of 2002 and the first half of 2005 are shown in Table 2 below.

Table 2. National Forensic Science Laboratories data on drug seizures for the 1st half of 2002 and 2005.

Drug category	2002a			2005a		
	Cases	Seizures		Cases	Seizures	
		Kg	Tablets		Kg	Tablets
Mandrax	2914	13.93	± 2.8 million	5413	41.3	49 804
ATS	732	0.74	150 101	2 955	40.12	58 214
Cocaine	918	229.43	-	2 105	409.83	-
Heroin	232	6.3	-	469	23.88	-

Over this time period cases processed by the FSLs more or less doubled for Mandrax, cocaine and heroin and quadrupled for ATS. Although seizures of Mandrax and ATS tablets decreased, seizures of Mandrax powder increased threefold and were 54 times more for ATS powder. From the first half of 2002 to the first half of 2005 amounts of cocaine powder seized by the FSLs nearly doubled and seizures of heroin increased almost fourfold (Plüddemann et al., 2005; FSL, personal communication).

DRUG-RELATED HIV RISK

A number of studies on drug-related HIV risk among adolescents and other vulnerable groups at risk of becoming infected with HIV have been conducted in South Africa. The first six studies discussed examined drug use and sexual risk behaviour among adolescents of both genders, followed by three studies conducted among female CSWs. The next two studies discussed include a survey that investigated various factors associated with STIs and HIV-risk behaviour among African women and a study of the nature and extent of heroin use in the Cape Metropole. The final study discussed is an International Rapid Assessment, Response and Evaluation (I-RARE) study of drug use and sexual-HIV risk patterns among three vulnerable

drug-using populations in three South African cities.

Accompanying the rise in HIV prevalence among young people in South Africa is a concomitant increase in other high-risk behaviours (e.g. early sexual behaviour and substance abuse) putting this population group at even greater risk of contracting HIV. Although a few studies have found associations between the use of substances and high-risk sexual behaviour among adolescents, the causal links between the two behaviours, access to drugs and other people's drug use still need further investigation (Flisher, Ziervogel, Chalton, Leger, and Robertson, 1996a, 1996b; Flisher, Parry, Evans, Muller and Lombard, 2003; Flisher, Reddy, Muller, and Lombard, 2003; Morojele, Flisher, Muller, Ziervogel, Reddy, and Lombard, 2001). A cross-sectional community study in Durban examined the relative importance of adolescents' access to drugs, self-drug use, and the drug use of family members, partners and peers in their sexual activity. Analysis revealed that there was a significant relationship between having engaged in sexual intercourse and self-drug use, drug use by the father of the participant and greater accessibility to drugs (Morojele, Brook and Moshia, 2002). Another study conducted in Cape Town at three culturally distinct schools involved a qualitative investigation that

examined adolescents' perceptions surrounding the influence of drug use on their sexual behaviour. Despite knowing the risks, males in particular, purportedly abstained from using condoms and engaged in sex with multiple partners. The main reasons given by females for engaging in risky sex were their desire to please their partners and their limited power in negotiating safer sex for fear of being beaten or rejected. The use of drugs was considered to be both positively and negatively reinforcing, extensive and largely tolerated by the communities they lived in (particularly for the Black/African and Coloured students). Observations surrounding the use of drugs in relation to sexual risk behaviour were that the psychopharmacological effects of drugs (sexual arousal, impaired judgment, lowered inhibitions) would most likely increase the probability of engaging in risky sexual acts (Morojele, Brook and Kachieng'a, 2006).

A further study investigated the association of alcohol and substance use on sexual behaviour among male and female adolescents in KwaZulu-Natal, a province in the northeast of South Africa (James, Reddy, Ruiters, and Van den Borne, submitted). The data used for this study was a subset of data collected for the first South African National Youth Risk Behaviour Survey conducted in 2002 which found that of the students in KwaZulu-Natal that reported being sexually active, 15% had used alcohol or drugs the last time they had sex (Reddy, Panday, and Swart et al., 2003). Results showed that male students were significantly more likely than female students to report ever having had sex, initiating sex at a younger age, having had multiple partners, lifetime use of alcohol or drugs, and alcohol or drug use before their last sexual encounter. In addition, those students who used alcohol *and*

drugs were much more likely to be sexually active, compared to those who only used alcohol or drugs or did not use alcohol or drugs (James et al., submitted). In summary, these studies have shown that besides early sexual debut, low levels of condom use and multiple sexual partners among South African adolescents, this population group is at further risk of contracting HIV due to its easy access to drugs and the extent of drug use.

Even though sex work in South Africa is criminalized under the Sexual Offences Act 23 of 1957, it is on the increase. In many ways the multi-faceted sex industry reflects the many gender-based social and economic inequalities that are the legacy of the apartheid era (Pauw and Brener, 2003). Consequently, many women have by necessity turned to sex work as a means of survival. Unfortunately, in many instances these activities further expose the women to sex-related violence and possibly to increased use of alcohol and drugs. This in turn, would increase the likelihood of having unprotected sex and becoming infected with HIV (Wechsberg, Luseno and Lam, 2005). An anonymous survey of female street sex workers in Cape Town, Johannesburg and Durban was carried out to determine the degree to which drug addiction had led to prostitution (Leggett, 2001). Responses by the sex workers to questions about their use of drugs found that the most commonly consumed illicit drug was cannabis and a large majority reported using Mandrax and crack cocaine. Not surprisingly, results revealed that there was a strong link between drug abuse and ethnicity (especially the use of Mandrax and crack cocaine by White participants). The use of alcohol and cannabis before or during sex work was reported by many of the participants. In addition, a significant relationship was found between high client

volumes and the use of hard drugs (drugs other than alcohol and cannabis). This increase in client volume could have clear implications for HIV transmission. Unfortunately, due to the misinterpretation of the question of causality of whether drug use had preceded or followed the inception of sex work for each individual, the hypothesized link between drug addiction and sex work was not found (Leggett, 2001).

In order to identify barriers to HIV-risk reduction among female CSWs, individual and focus group interviews were conducted in another Cape Town study. Analysis of the data revealed that there were a number of barriers to sustained safer sex practices or factors that could possibly lead to an increased risk of contracting HIV. Among these factors was the resistance by some clients to the use of condoms, client violence and forced unprotected sex, low rates of condom use in their personal relationships and substance abuse among the sex workers. Substance use was common among both the individual and focus group participants and the most common substances used alone and in combination with other drugs were alcohol and “white pipes.” Furthermore, an increase in the availability of crack cocaine was reported and two of the participants had injected heroin. Reasons given by CSW for continuing to use substances were to reduce levels of anxiety and fear associated with sex work, to make them feel happy, to increase their enjoyment of sex, to increase their self confidence and to help them cope with their job. Some of the participants perceived that the use of drugs increased their vulnerability to violence and abuse (Pauw and Brener, 2003).

A pilot study among Black/African sex workers in Pretoria using a street outreach sampling method sought to elucidate the intersecting experiences of

high-risk sexual behaviour, substance abuse and victimisation. The first substance ever used by most of the participants was cannabis, followed by alcohol, crack cocaine, and lastly Thai White (heroin). In the previous month, 46% of women reported using cannabis, 25% crack cocaine, and 18% Thai White. Drug use with their clients was reported by 44% of the women. In addition, most of the women that reported that one or more of their last 10 clients had been violent stated that these clients were often intoxicated with alcohol or other drugs. The findings of this pilot study support the critical need for focused, comprehensive interventions that deal with substance abuse, sexual risk, and violence as interconnected phenomena (Wechsberg, Luseno and Lam, 2005). In summary, the studies found a large degree of high-risk sexual behaviour, violence and substance abuse (especially alcohol, cannabis, crack cocaine and some heroin) among female street sex workers in South Africa. In addition, drug use often occurred in conjunction with sex work.

Levels of sexual and physical violence against women in South Africa are considerably high and result from a study among women attending antenatal clinics in Soweto found that women with violent or controlling male partners were at an increased risk of HIV infection (Abrahams, Jewkes, Laubscher and Hoffman, 2006; Dunkle, Jewkes, Brown, Gray, McIntyre and Harlow, 2004; Jewkes and Abrahams, 2002). These findings have been supported by an anonymous street intercept survey among women residing in an African township in Cape Town that investigated factors associated with STIs and HIV-risk behaviour. This survey found that women who had been sexually assaulted were more likely to have STIs, multiple male sex partners, greater rates of

unprotected vaginal sex, lower rates of anal sex with condoms, to have used alcohol, more than five times as likely to have exchanged sex to meet survival needs and nearly five times more likely to have shared needles to inject drugs than women without a history of sexual assault (Kalichman and Simbayi, 2004).

As noted previously there has over time been a steady increase in treatment demand for problems associated with heroin abuse; however, the nature and extent of the problem in the general population was unknown. Based on findings from a qualitative study conducted in 2004 (Plüddemann and Parry, 2004), a community survey then used snowball sampling to recruit and interview 250 heroin users (mostly male) in Cape Metropole. In the three days preceding the interview the most common substance abused, after tobacco, was heroin. This was followed by methamphetamine then alcohol, cannabis, and the cannabis/Mandrax “white pipe” combination. The majority of study participants used either smoking/inhaling or snorting as their route of heroin administration. Eighteen percent of all participants reported having injected heroin in the past three days and of these, 80% had done so daily. In the 30 days preceding the interview, needles were obtained either from a pharmacy, a heroin dealer, a hospital or another user. During this time, almost half of users had been denied needles, predominantly at a hospital or pharmacy. Of those that had injected heroin during the past 12 months, 67% had shared a needle. Inconsistent condom use with both regular and casual partners was reported by many of the participants. Nine participants were currently sex workers. Based on treatment utilization, it was estimated that Cape Town had approximately 14,700 heroin users (Plüddemann, Parry, Flisher, and Jordaan, 2004; Dewing, Plüddemann, Myers, and Parry, 2006).

Finally, a significant contribution to the research on drug-related HIV risk in South Africa resulted from the I-RARE conducted in late 2005 among drug-using CSWs and men who have sex with men (MSM), together with intravenous drugs users (IDUs) and non-IDUs (who were not CSWs or MSM) in Cape Town, Durban and Pretoria (Parry, Plüddemann, Achrekar, Pule, Koopman, Williams, and Needle, 2006). The methodology involved both key informant and focus group interviews with drug users of both genders and across all ethnic groups. There was a moderate amount of overlap between the various subgroups. Cannabis, Ecstasy, crack cocaine and heroin were used extensively by all subgroups. In addition, for other drugs and among the different subgroups, extensive use was reported for alcohol (MSM), Mandrax (MSM and IDUs), cocaine hydrochloride (CSWs and MSM) and crystal methamphetamine (MSM). Moderate use was reported for alcohol (CSWs), cocaine hydrochloride and Wellconalⁱⁱⁱ (IDUs), crystal methamphetamine (CSWs and IDUs), and CAT (MSM). A number of CSWs and MSM reported the use of drugs (especially crystal methamphetamine, crack/cocaine and Ecstasy) before or during sex, but many of the IDUs seemed more interested in taking drugs than in having sex. There were mixed views on the effects of heroin on sexual behaviour, with some users reporting that it removed a person’s sex drive with others stating that it prolonged sex. For most participants, the use of drugs increased the likelihood of unsafe sex practices (e.g. unprotected sex, group sex and anal sex). Intravenous use was

ⁱⁱⁱ Wellconal is a prescription drug containing dipipanone hydrochloride and cyclizine hydrochloride and is commonly known as “pinks” (Williams, Ansell, and Milne, 1997).

reported for crack cocaine, cocaine hydrochloride, Ecstasy, crystal methamphetamine, heroin and Wellconal. Several participants admitted to sharing needles (mostly with a single regular partner, but occasionally in groups) and most IDUs reported using the same needle a number of times even when they were aware of the risks associated with these practices (Parry et al., 2006).

HIV PREVALENCE AMONG DRUG USERS

A survey of the literature revealed that there are few studies that have investigated HIV prevalence among drug users in South Africa. This section briefly discusses those studies that have done so, however it must be noted that most of these have either been small studies or have been included as part of a wider study.

One of the earliest studies to document the prevalence of HIV infection among IDUs in South Africa was a retrospective analysis of Wellconal abusers admitted to one of two hospitals in Johannesburg over an 18-month period (July 1991 and December 1992). The study analysed the case records of 86 patients (median age of 24 years) with a total of 121 admissions presenting for complications from Wellconal abuse. Of the 72 patients tested for HIV, two (2.8%) were found to be positive (Table 3) (Williams, Ansell, and Milne, 1997).

Between the months of August and September 1999 the HIV prevalence rate was assessed among a sample of 827 arrestees from Cape Town, Durban and Johannesburg as part of a broader project that investigated the link between drug use and crime in South Africa. The overall HIV prevalence rate was 20% and was higher among females (30%) than among males (18%). Among Black/African arrestees HIV prevalence was

found to be 25%, followed by Indians (19%), Whites (10%), and Coloureds (5%). Even though only a very small number of arrestees reported injection drug use (1.3%) or needle sharing (0.8%) in the previous 12 months, IDUs were found to have higher rates of HIV infection than non-IDUs (45% versus 22%). An unexpected finding was that arrestees reporting substance use in the past 12 months (excluding alcohol) were significantly less likely to be HIV-positive than non-users (17% versus 25%) (Parry, Vardas and Plüddemann, 2001).

In his study among street sex workers in Cape Town, Johannesburg and Durban Leggett (2001) also sought to test the hypothesis that there is a positive association between hard drug use (drugs other than alcohol and cannabis) and HIV among CSWs in South Africa. Of the total sample, results for 249 sex workers could be accurately correlated with HIV test results. Statistical analysis revealed that ethnicity was highly associated with HIV, but not with hard drug use^{iv}. The results showed that over 66% of Black/African sex workers were HIV positive, compared to 18% of White and 17% of Coloured sex workers. With regards to drug use, hard drug users were less likely to be HIV positive (27%) than non-users (56%). In summary, the findings found that the poorest Black/African women, who were the least likely of the sex workers to be using hard drugs and therefore, paradoxically more likely to have lower client volumes, were the most susceptible to contracting HIV. This is possibly due to the high base rate for HIV among Black/African women in South Africa, a group which until recently was not found to be using harder drugs substantially.

^{iv} Hard drug use was used to refer to illicit drugs other than cannabis

Table 3: Prevalence of HIV among drug users

Study	Population	Location	% positive
Williams et al., 1997	Wellconal users	Johannesburg	3
Parry et al., 2001	Drug using arrestees	Cape Town, Durban, Pretoria	17
Leggett, 2001	Sex works using “hard” drugs	Cape Town, Johannesburg, Durban	27
Plüddemann et al., 2004	Heroin users	Cape Town	5
Parry et al., 2006	Drug using vulnerable populations in “hotspots”	Cape Town, Pretoria, Durban	28

In the 2004 community survey of 250 heroin users in the Cape Metropole region, eight participants reported being HIV positive, resulting in an HIV prevalence of 5.4% for those who had been tested and an overall prevalence of 3.2% for the total sample. Of those who were HIV positive, two had shared a needle (Plüddemann, Parry, Flisher, and Jordaan, 2004).

The most recent study to provide an indication of HIV prevalence among HIV-risk related drug users was the I-RARE study conducted in late 2005 by Parry et al., (2006). Of the participants tested for HIV (n=92), 28% were found to be HIV positive and for each subgroup these figures were 34% for CSWs, 35% for MSM, 20% for IDUs and 0% for non-IDUs (who were not CSWs or MSM). A cause for concern was that some of the participants (mostly the CSWs) were not well informed about safe sex practices or where to access HIV testing and treatment services (Parry et al., 2006).

It is apparent that there are clear gaps in the research on HIV prevalence among drug users. However, the recently conducted I-RARE study by Parry et al., (2006), has at least given some indication of the possible emergence of an HIV epidemic among IDUs in South Africa.

PREVENTION OF HIV AMONG DRUG USING POPULATIONS

Since 1994 there has been a substantial increase in the number of programmes aimed at the prevention of HIV or substance abuse in South Africa, however, programmes that focus specifically on the prevention of HIV among drug-using populations are scant. As part of an effort to ensure an integrated response to substance abuse problems the South African government established a multi-sectoral coordinating body (the Central Drug Authority) in 2000 to oversee the implementation of the National Drug Master Plan. Over the past decade the South African government has implemented various strategies to reduce both the supply and demand for drugs (especially among youth). In terms of reducing supply, programmes have been setup to improve the monitoring of the importation and manufacture of precursor chemicals, to limit the possibilities of money laundering by strengthening banking procedures, and by aggressively pursuing persons involved with organised crime by allowing for the forfeiture of assets by the State (Parry, 2005). Also during 2002 the Safety and Security Secretariat, the Central Drug Authority and the UNODC successfully piloted the

“Ke Moja – No thanks, I’m fine!” drug awareness campaign in Pretoria. The campaign is aimed at reducing the demand for drugs and is specifically targeted at both in school and out of school youth aged 10 to 18 years. The campaign was launched in the provinces of the Western Cape and Gauteng in 2003 and 2005, respectively, and is currently being rolled out to the other provinces under the auspices of the Department of Social Development (Department of Social Development, 2006). Lastly, a randomized-controlled trial is currently in progress in the Western Cape to test the effectiveness of a classroom-based leisure, life-skill and sexuality education curriculum, “HealthWise: Learning Life Skills for Young Adults”. The programme is designed to reduce substance use and sexual risk behaviour and to increase healthy intra- and interpersonal skills and leisure behaviour. The experimental group comprises students from four high schools in Grades 8 and 9, and students from five comparison schools will serve as the control group. It is hypothesised that the HealthWise participants will engage in less risk behaviour than the controls (Caldwell, Smith, Wegner, Vergnani, Mpofu, Flisher, and Mathews, 2004).

In November 2002 a pilot study was completed among women at risk in Pretoria using a woman-focused HIV prevention intervention. This intervention was based on a modified standard HIV intervention which was designed in the United States and adapted from the revised NIDA standard intervention. The woman-focused intervention presented the same information as the standard intervention, but was culturally-specific, addressing male dominance and attitudes toward women, multiple partners and beliefs and values about sex, and safer sex practices (particularly with boyfriends).

Eighty of the initial 93 women who reported recent substance use and sex trading completed the one-month follow-up interview. At baseline high rates of sexual risk and violence were reported by the participants and at follow-up findings showed decreases in the proportion of women reporting unprotected sex and the daily use of alcohol and cocaine. At follow-up women receiving the woman-focused HIV prevention intervention reported a greater decrease in the daily use of alcohol and cocaine, fewer STI symptoms and reported being victimised less often than the women receiving the modified standard intervention (Wechsberg, Luseno, Lam, Parry, and Morojele, 2006). In continuation of this research, preliminary data reported in January 2006 for a larger study using the woman-focused intervention with an initial 304 women indicated that 83% of the women had returned for the 3-month follow-up. Overall, when compared to baseline, the proportion of unprotected sex acts had decreased significantly and the proportion of participants reporting violent victimisation had also decreased (Wechsberg, 2006).

In addition to the studies in Pretoria, a 1-month pilot study was conducted among Black/African and Coloured high-risk drug-using women in Cape Town. Ninety-nine percent (112) of the 113 women (62 Coloured and 51 Black/African) who completed the baseline assessment had returned for their 1-month follow-up assessment. At baseline, rates of lifetime use of alcohol and cannabis were high (70% to 98%) among both the Black/African and Coloured women, and as many as 89% of the Coloured women reported lifetime use of methamphetamine versus only 7% of the Black/African women. Results for the 1-month follow-up recorded significant decreases in the proportion of

unprotected sex acts and rates of physical and sexual abuse from baseline. In addition, the proportion of participants reporting alcohol and other drug use during sex had also decreased substantially (Wechsberg, Luseno, Myers, and Parry, 2006).

RECOMMENDATIONS FOR MONITORING AND INTERVENTIONS

It is evident from the review of the literature that concurrent to the HIV epidemic, South Africa has over the last decade experienced an escalation in the trafficking and use of drugs such as heroin, crack/ cocaine and crystal methamphetamine. Most notable is the increase in, and extent of drug use across all population groups and, in particular, the use of heroin and methamphetamine among those aged less than 20 years. In addition to increased demand on the already overburdened public health system, the use of drugs has further exacerbated the underlying problems associated with the high levels of sexual risk behaviour such as unprotected sex, inconsistent condom use, multiple partners and both sexual and physical violence against women. In addition, there is some indication that the number of IDUs is growing in some sites, providing an auxiliary route for HIV transmission. It is thus critical that policymakers, researchers and those involved with HIV and substance abuse programmes consider these intersecting issues when developing intervention strategies in order to diminish their combined impact on the South African population.

In the short-term the implementation of risk reduction strategies that focus on reducing the adverse consequences of substance abuse are a critical step toward

limiting the exposure to HIV among drug-using populations. Such strategies include the introduction of needle-exchange programmes; increased condom availability; the integration of HIV and substance abuse programmes, especially for vulnerable groups (e.g. street children, young people, and women and men at risk); the cross-training of health workers in these fields; improved access to and more substance abuse treatment, rehabilitation and counselling facilities, and HIV, hepatitis B and C testing and counselling facilities (e.g. mobile clinics and community outreach programmes); more education about safer sex and drug use practices (e.g. consistent condom use and use of clean needles), including messages targeted at specific vulnerable drug-using populations such as MSM and CSWs; the monitoring of HIV prevalence among drug-using populations by the SACENDU project and community surveys, and more intervention studies on programmes designed to prevent sexual and HIV-risk related behaviour among drug users.

However, in the long-term, more comprehensive HIV and substance abuse prevention and treatment programmes that include the biological, cultural, social, spiritual and developmental needs of individuals and groups will most likely be the most effective means of reducing the transmission of HIV among both IDU and non-IDU populations (Amodia, Cano, and Eliason, 2005). In addition in accordance with the findings of a 2002 review of South African literature on alcohol use and sexual risk behaviours, it is essential that further research is needed to clarify the various proximal (e.g. intra- and inter-personal) and distal (e.g. community, cultural, social and environmental) factors that determine a

person's sexual and drug use behaviours (Pithey and Morojele, 2002).

The South African public health system should consider pursuing an integrated response to address the inevitable challenges confronting South Africa regarding this complex situation. For example, the various components that must be considered in following this strategy would include factors from all of the following levels:

- *Subjective and intentional individual factors such as drug of choice, emotional and subjective well-being, and level of cognitive, emotional, spiritual, moral and interpersonal development.* Possible strategies to enhance development and improve general well-being include developing a positive identity and coping skills, individual counselling, the creation of supportive networks and spiritual or mindful awareness practice.
- *Biological and behavioural factors such as age, gender, types of drugs used and modes of use.* Possible intervention strategies include broadening research priorities and treatment approaches to include nutritional supplements, African and other indigenous medical and complementary therapies (e.g. herbal medicines, acupuncture, massage and meditation).
- *Social and cultural factors such as employment status, community values and attitudes towards drug use, dominant mode of drug use, gender inequality, multiple sexual partners, condom use and notions of masculine and feminine sexuality.* Possible strategies include facilitating less tolerance to the availability of drugs within communities, reducing the stigma associated with drugs users, reducing the extent of drug use,

gender/age specific services, culturally-specific treatment programmes, encouraging family counselling, intervention and support, life skills training, customised skills training and assistance with reintegration into society, the promotion of healthy lifestyles, leisure education, the empowerment of women, the promotion of norms that encourage safer sex practices (e.g. monogamy and condom use) and the resurgence of the spirit of "ubuntu" (humanity).

- *Social, economic and environmental factors such as poverty, availability of and access to drugs, the lack of efficiency of the country's border controls, criminal justice system, inter-governmental communication systems, dissemination of information, and public health system.* Possible intervention strategies include the improved enforcement of the existing illicit drug laws and regulations; improving the efficiency of the country's border controls and the criminal justice system; the provision of more employment and recreational opportunities by both the public and private sectors and increasing the capacity and training of health workers, practitioners (allopathic, African traditional and complementary) and researchers.

In conclusion, even though the combined impact of the HIV epidemic together with extent of drug trafficking and use in South Africa seems dire, prompt multi-sectoral and multi-cultural approaches by government, industry and civil society will allow for an integrated response that ought to significantly alleviate both the current and anticipated problems arising from this regrettable predicament.

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