

# HIV-Associated Risk Behaviour Among Drug Users at Drug Rehabilitation Centres

M N Fauziah, MD, S Anita, MD, B N Sha'ari, MD, B I Rosli, MD

## Summary

A cross-sectional study to determine the prevalence of Human Immunodeficiency Virus (HIV) and HIV-associated risk behavior was conducted in February 1998 among 6,324 drug users in 26 drug rehabilitation centres in Malaysia. The majority of respondents were males (97.3%) and Malays (77.8%), administered drugs intravenously (64.6%) and of these 65.4% shared needles. About 78.1% had sexual exposure, of which 55.1% had sex with girl friends, 31.3% with prostitutes and 4.6% with male partners. The HIV prevalence rate in the group was 12.1% and significantly high among injecting drug users (IDU); those sharing needles; those who started addiction at a young age (10-15 years); those who had sexual exposures and had sex with prostitutes.

**Key Words:** HIV, Drug users, Risk behaviors, AIDS

## Introduction

HIV infection and AIDS is a major public health threat in Malaysia. As of 31 December 1997, a total of 23,903<sup>1</sup> HIV infections were reported to the Ministry of Health of Malaysia of which 1,477 were AIDS cases. Similarly, the number of drug addicts in Malaysia is also on the rise despite vigorous efforts to contain this problem through rehabilitation and intensive treatment. From 1988 to 1997, a total of 125,162 addicts were identified throughout the country of which about 46% were recidivists<sup>2</sup>. There are 26 drug rehabilitation centers in this country of which only one center is for female inmates.

More than 75% of reported cases contracted the virus through the use and sharing of contaminated

needles among injecting drug users (IDUs)<sup>1</sup>. The HIV seropositivity rates among this group has remained highest at about 16% compared to other risk groups<sup>1</sup>.

It was also noted that drug users who did not inject drugs or share needles were also infected with HIV. A study by Juita<sup>3</sup> in 1994 revealed that significantly more HIV infected inmates admitted visiting prostitutes compared to non-HIV inmates and were 4 times at risk of getting infected. As the majority of HIV infected IDUs are sexually active, they are potential agents for the spread of the disease through sexual activities and sharing of needles.

Much activity has been carried out in drug rehabilitation centers as well as being directed to

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Corresponding Author: Anita Suleiman, AIDS/STI Unit, State Health Department of Selangor, 10th-11th Floor, Lot 1, Wisma Masalam, Jalan Tenku Ampuan Zabedah C 9/C, 40100 Shah Alam

the general public to increase HIV awareness. However, a base-line study is needed to aid the Ministry of Health in planning and monitoring HIV/AIDS prevention and control programs among drug users in Malaysia.

## Materials and Methods

This cross-sectional study was conducted in February 1998 among drug users in 26 drug rehabilitation centers throughout Malaysia. All inmates in the drug rehabilitation centers constituted the survey sample. Inmates who consented to this study were given self-administered questionnaires. Data was then analyzed by EpiInfo version 6 (CDC, Atlanta).

## Results

A total of 7,200 drug users from 26 rehabilitation centers were eligible to participate in this survey. However, only 6,324 responded, giving a response rate of 87.8%. Most of the subjects were males (n=6155, 97.3%). Of the sample surveyed, Malays formed 77.8% (n=4918), Chinese 13.0% (n=825), Indians 8.2% (n=519) and others 1%. The mean age group of the sample was  $30.9 \pm 7.8$  years. Most of the respondents (n=4637, 73.4%) were unmarried (Table I).

In this survey, 759 (12.1%) respondents knew that they were infected with HIV. The majority of HIV infected drug users were males (n=750, 98.8%), Malay (n=643, 84.7%) and were between the age of 21-40 years (84.4%, n=635). The majority (n=559, 73.6%) were unmarried.

Analysis of the drug use pattern showed that 64.6% (n=4058) of the respondents were IDUs of whom 65.4% (n=2652) shared needles. Hence 45.2% (n=2858) of total respondents admitted sharing needles. Among the HIV infected drug users, 92.3% (n=701) were IDUs and 84.7% (n=642) had a history of sharing needles.

The lowest drug initiating age was 10 years and the mean age of drug initiating age was  $21.4 \pm 5.6$  years. The youngest age for drug injecting initiation was 12 years, while the mean age for initiating drug injection was  $23.8 \pm 5.9$  years.

It was found that IDUs (68.9%) and sharing of needles (49.6%) were highest among Malays.

In terms of sexual activities, analysis showed that the majority of respondents (n=4905, 78.1%) had a history of sexual exposure and only 26.6% (n=1454) had sex with their wives. Among the male respondents, about 55.1% (n=3066) had sex with girlfriends, 31.3% (n=1719) had sex with prostitutes and 4.6% (n=245) had sex with male partners (homosexual). Of these, only 21.3% (n=1044) of respondents had used condoms during sexual intercourse.

The youngest age for first sexual exposure was 10 years and the mean age for first sexual exposure was  $20.0 \pm 4.1$  years.

By ethnic group, the rate of sexual exposures, sex with girlfriends, sex with prostitutes and sex with male partners were higher among non-Malays.

Among those with HIV infection, 85.6% (n=651) had a history of sexual exposure; 21.3% (n=162) had sex with their wives; 53% (n=402) had sex with their girlfriends; 40.8% (n=310) had sex with prostitutes; and 4.5% (n=34) had sex with male partners. Of these, only 18.7% (n=122) used condoms during sexual intercourse.

The majority of respondents engaged with dual risk behaviour. Among respondents who shared needles, 60.4% (n=1486) admitted having had sex with their girlfriends and 41.1% (n=1006) with prostitutes.

Among HIV cases, 45.6% (n=346) had a history of sharing needles and had sex with their girlfriends; and 37.7% (n=287) who shared needles had sex with prostitutes. The study showed that only 85

(11.2%) HIV infected drug users did not share needles but were sexually active.

The prevalence of HIV infection was significantly highest among Malays 13.9% (12.9-14.9). The prevalence of HIV was highest in the age group of 21-30 years (15.1%) followed by those 31-40 years (12.8%) and those 16-20 years (12.1%). However, the differences were not statistically significant.

The prevalence of HIV was significantly higher among IDUs (n=701, 17.2%) as compared to non-IDU (n=58, 2.5%). The risk of getting HIV infection among IDUs was 6 times higher than among non-IDUs (RR 6.4, 95% CI=5.2-8.8)

HIV prevalence was significantly highest in those who shared needles (n=642, 24%) compared with those who did not (n=59, 4.26%). The risk of getting HIV infection among those sharing needles was 7 times higher than among those not sharing needles (RR 7.2, 95% CI= 8.5-8.6).

By age of initiating drug usage, HIV prevalence was higher among those whose age initiating drug was 16-20 years (14.9%) followed by those 10-15 years (13.2%), 21-30 years (10.5%) and those

initiating drug use at the age of more than 31 years old (10.4%).

By age of initiating sharing needle, HIV prevalence was significantly highest among those who started to share needles early, that is 10-15 years (23.1%), followed by the age group 16-20 years (21.1%), and above 30 years (17%). Those who started sharing needles at the age 21-30 years old reported the lowest prevalence of 16%.

Generally, the prevalence of HIV was higher among those who had sexual exposures. However, the associations were statistically significant ( $p < 0.05$ ) only among those with history of sexual exposures with prostitutes. The risk of getting HIV infection among the group was 3 times higher than those without a history of sexual contact with prostitutes (RR 3.1, 95% CI= 2.5-3.9).

HIV prevalence was highest (16.7%) among those whose initial sexual exposure was between the ages of 10-15 years. The corresponding prevalence rates among those whose first sexual contact was between 16-20 years of age, 21-30 years and over 31 years were 14%, 12.3% and 11.1% respectively.

**Table 1: Distribution of Demographic Characteristics**

Characteristics	No.	Percentage
Sex	Male	97.3%
	Female	2.7%
Ethnic	Malay	77.8%
	Chinese	13.0%
	Indian	8.2%
	Others	1.0%
		62
Age Group	9-15 years	0.2%
	16-20 years	5.9%
	21-30 years	47.3%
	31-40 years	33.8%
	> 41 years	12.8%
Marital Status	Single	73.3%
	Married	21.9%
	Divorced	4.8%

## Discussion

About 12% of drug users in rehabilitation centers knew they were already infected with HIV. This percentage is lower than the detection rate among IDUs (15%) in 1997. The difference is probably due to unwillingness to disclose their HIV status.

Injecting drug users are at high risk of infection with HIV virus. Transmission is primarily parenteral through the sharing of contaminated needles<sup>4,5</sup>. In this study, about 45.2% of the sample were sharing needles but among those infected with HIV, 92.4% were IDUs of which 91.6% were sharing needles. This explains the higher prevalence of HIV among injecting drug users. Similar finding was also observed by Chitwood et al<sup>6</sup> in their case-control study in Miami. They came to the conclusion that the primary independent risk factors that best explained the risk of seroconversion was sharing injection equipment in the year prior to conversion.

Of those who were not IDUs or sharing needles, they possibly became infected through sexual exposure. This is supported by the finding that the majority of respondents, especially those infected with HIV, practiced dual risk behavior, whereby almost 50% of HIV cases had a history of sharing needles and having sex with their girlfriend; and almost 40% of HIV cases had a history of sharing needles and sexual contact with prostitutes. The prevalence of HIV was noted to be high among those with sexual exposure, sex with prostitutes, sex with girlfriend and sex with male partners. Iguchi et al. found that having multiple sexual partners, trading sex for money and trading sex for drugs are among variables significantly associated with drug users<sup>7</sup>.

The majority of HIV infected drug users are sexually active. They could spread the disease through continuing sexual intercourse or through sharing of needles. They can then spread the disease to their partners and subsequently to their infants. As the epidemic escalates, heterosexual transmission is becoming an important mode of spread in the country. This problem has to be appropriately addressed.

As regards to condom use, more than 80% of respondents did not use condoms during sexual intercourse. This unprotected sexual activity places their sexual partners as well as themselves at considerable risk for sexually transmitted infections<sup>8</sup>. Unprotected intercourse frequently occurred outside of long term relationships and with partners who were not known to be HIV-infected.

## Conclusion

This study shows that injecting drug use is still significantly high among drug addicts in Malaysia. HIV prevalence was significantly high among those who were involved with sharing of needles and unprotected sex with multiple partners. The formulation and implementation of strategies to prevent HIV transmission among drug users needs to take into consideration the findings of this study.

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References

1. Ministry Of Health. HIV Situation in Malaysia. Report of AIDS/STI Section 1997 (Unpublished).
2. National Narcotics Agency, Ministry Of Home Affairs. Narcotics Report 1998.
3. G. Juita. The HIV-Associated Risk Behavior Among Male Drug Abusers In Malaysia. *Med. J Malaysia* 1995; 50: 320-25.
4. Robert GM, Weiss SH, Giron JA, et al. Prevalence of antibodies to HTLV-I, -II and -III in intravenous drug abusers from an AIDS endemic region. *JAMA*.1986; 255: 3133-37.
5. Friedman SR, Des Jarlais DC, Neaigus A, et al. AIDS and the new drug injector. *Nature*.1989: 339: 333-34.
6. Chitwood DD.,Griffin DK, Comerford M, Page JB, Trapido EJ, Lai S, McCoy B. Risk Factors For HIV-1 Seroconversion among Injection Drug Users : A Case-Control Study. *American Journal Of Public Health* 1995; 85(11): 1538-42.
7. Iguchi, Martin Y, Bux, Donald A, et al. Reduced probability of HIV infection among crack cocaine-using injection drug users. *Am J Of Public Health* 1997; 87(6): 1008-12.
8. Kalichman SC. Psychological and social correlates of high-risk sexual behaviour among men and women living with HIV/AIDS. *AIDS Care* 1999. 11(4): 415-27.