

## **Drug use and HIV transmission risk behavior among HIV patients in West Java, Indonesia**

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### **Background**

The prevalence of HIV/AIDS and other viral blood borne transmitted infections such as Hepatitis B and C has greatly increased in recent years in Indonesia (NAC, 2007, UNAIDS et al., 2008). This trend is primarily derived by injecting drug use followed by heterosexual transmission (Directorate General CDC & EH, 2008). It has been estimated that HIV-seroprevalence is 52.4 % among Indonesian people who inject drugs (PWIDs) (NAC, 2007).

West Java has 40 million inhabitants of which 2,5 million reside in the capital city, Bandung (PemprovJabar, 2005). There are about 5,000 PWIDs in Bandung (IHPCP, 2007b, IHPCP, 2007a) and the HIV-prevalence in PWIDs in Bandung was reported as 43% (MoH et al., 2007). Eighty percent of all AIDS/HIV cases in Bandung are attributed to injecting drug use (FHI, 2006, NAC, 2007). However, this is not the only risk behavior for HIV transmission (Heriawan et al., 2005, Pisani et al., 2003, MoH et al., 2007). In three big cities in Indonesia, including Bandung, over two thirds of PWIDs were sexually active, with 48% reporting multiple partners, and 40% reporting that they had visited female sex workers in the preceding 12 months. However, consistent condom use was reported by only 10% of PWIDs (Pisani et al., 2003).

It is recognized that sexual transmission is an important risk factor for HIV transmission among PWIDs but most HIV prevention programs focus on ‘the injecting part’ of the risk behavior such as bleaching programs; sterile needle and syringe services (SNSS);

drug addiction recovering therapy services; and Methadone Maintenance Therapy (MMT). However, studies in New York and Australia have concluded that HIV prevalence among PWIDs and drug users who had never injected drugs was nearly the same. This highlights the impact of non-injecting risk behavior in HIV transmission (Des Jarlais et al., 2007a, Darke et al., 2005).

In addition, there are a considerable number of PWIDs who change from injection to non-injection drug administration. These subjects are classified as former injecting drug users (fPWIDs) if no drugs have been injected in the previous 6 months (Neaigus et al., 2001b, Des Jarlais et al., 2007b). The prevalence of HIV and Hepatitis B and C may be high in fPWIDs and these viruses may be further transmitted through risky sexual behavior; sharing of non-injection drug-use implements such as straws and crack pipes; and other practices such as tattooing (Gyarmathy et al., 2002, Neaigus et al., 2007, Tortu et al., 2004, Des Jarlais et al., 2007a). Furthermore, compared with current PWID, former PWIDs may be more likely to have sexual contact with people who do not use drugs (Gyarmathy et al., 2002). As a result, former PWIDs may also play an important role in transmitting HIV and Hepatitis B and C infections to the general population (Gyarmathy et al., 2002, Neaigus et al., 2001a). Therefore, understanding the characteristics, sexual risk behaviour, and drug used that can influence sexual risk behaviours especially in key population, should be studied.

## **Method**

Data was collected consecutively from January to June 2012. There were 281 respondents in Bandung, West Java, consisted of 144 patients from HIV Clinic, 39 patients from Methadone Clinic, and 98 PWID in community, using Blood Borne Virus Transmission questionnaire and Addiction Severity Index questionnaire.

Patients from HIV Clinic with and without a history of IDU, who are at risk for HIV infection or who present with signs and symptoms suggesting HIV/AIDS are counseled and

tested for HIV. Patients from methadone were recruited from a hospital-based MMT program in Bandung, the capital of West-Java and epicenter of the epidemic of injecting drug abuse in Indonesia. PWID from community were recruited by outreach staffs from NGOs which working with this population ((Perhimpunan Keluarga Berencana Indonesia (PKBI) and Rumah Cemara)). All HIV testing is voluntary and informed consent is obtained from all study participants. This study has been approved by the Health Research Ethics Committee at the Faculty of Medicine of Padjadjaran University/Dr. Hasan Sadikin General Hospital in Bandung, Indonesia.

The interview was undertaken by trained and standardized interviewers who had professional backgrounds, such as medical doctors or psychologists. Besides joining the interview, participants also filled-in self-administered questionnaires. The interviewers provided the participants with an assurance that their anonymity would be strictly maintained and that their identities would be protected from unauthorized parties.

Instruments used in this study were European Addiction Severity Index (EuropASI) and Blood Borne Virus Transmission Questionnaires (BBV-TRAQ). The EuropASI is an adaptation of the Addiction Severity Index (fifth version). It is a semi-structured interview designed to provide important information about aspects of the life of patients that may contribute to their substance-abuse problems <sup>(McLellan et al., 1980)</sup>. To determine the kind/s of drugs being used, participants were asked if they had ever used one of a number of listed drugs. If they responded positive, they were asked if the particular drug/s were used regularly (more than 3 times or 2 consecutive days a week). Once it was determined that a particular drug was used regularly, further information was recorded including; the first time the particular drug was used; the time the particular drug was used in a life time; frequency of drug use in the previous 30 days; and drug route of administration <sup>(TRI, 1990)</sup>.

Researchers have found that ASI has shown excellent reliability and validity across a range of types of patients and treatment settings in many countries <sup>(McLellan et al., 2006)</sup>. For the

translation into Bahasa Indonesia, WHO translation procedures were used (WHO, 2003). EuropASI takes about an hour to gather the information.

The BBV-TRAQ is a questionnaire developed by Turning Point Alcohol and Drug Centre. The BBV-TRAQ assesses the frequency with which injecting drug users have participated in specific injecting, sexual and other risk-practices in the previous month that may expose them to blood-borne viruses. The instrument consists of 34 questions that make up three sub-scales which measure frequency of current injecting risk behaviors (20 questions); sexual risk behaviors (8 questions); and other skin penetration risk behaviors (6 questions). The administration time for the instrument is short (around 15 minutes), and it has been shown to have good reliability and validity (Fry et al., 1998, Fry and Lintzeris, 2003, Tucker et al., 2004).

### **Data analysis and statistics**

Descriptive data are presented in terms of percentage, mean, and standard deviation. The differences between HIV patients, methadone patients and PWID in the community were analyzed using Pearson Chi-Square for dichotomous data and Kruskal Wallis or Mann-Whitney test for continuous data. All tests were two-sided, with a P-value of 0.05 or less considered to indicate statistical significance. Analyses were performed with the use of SPSS, version 15.

### **Result and Discussion**

All respondents in HIV and methadone clinic and 83% of PWID in community were HIV positive. Twenty seven percent of total respondents engaged with sexual risk behaviors in the last one month with the largest percentage in PWID in community (39%,  $p < 0,01$ ). Almost half of them used drugs in the last 6 months with the largest percentage in PWID in methadone clinic.

Table 1 showed the comparison of the sociodemographic characteristics of subjects from HIV Clinic, Methadone Clinic, and Community Clinic. PWIDs in Bandung are

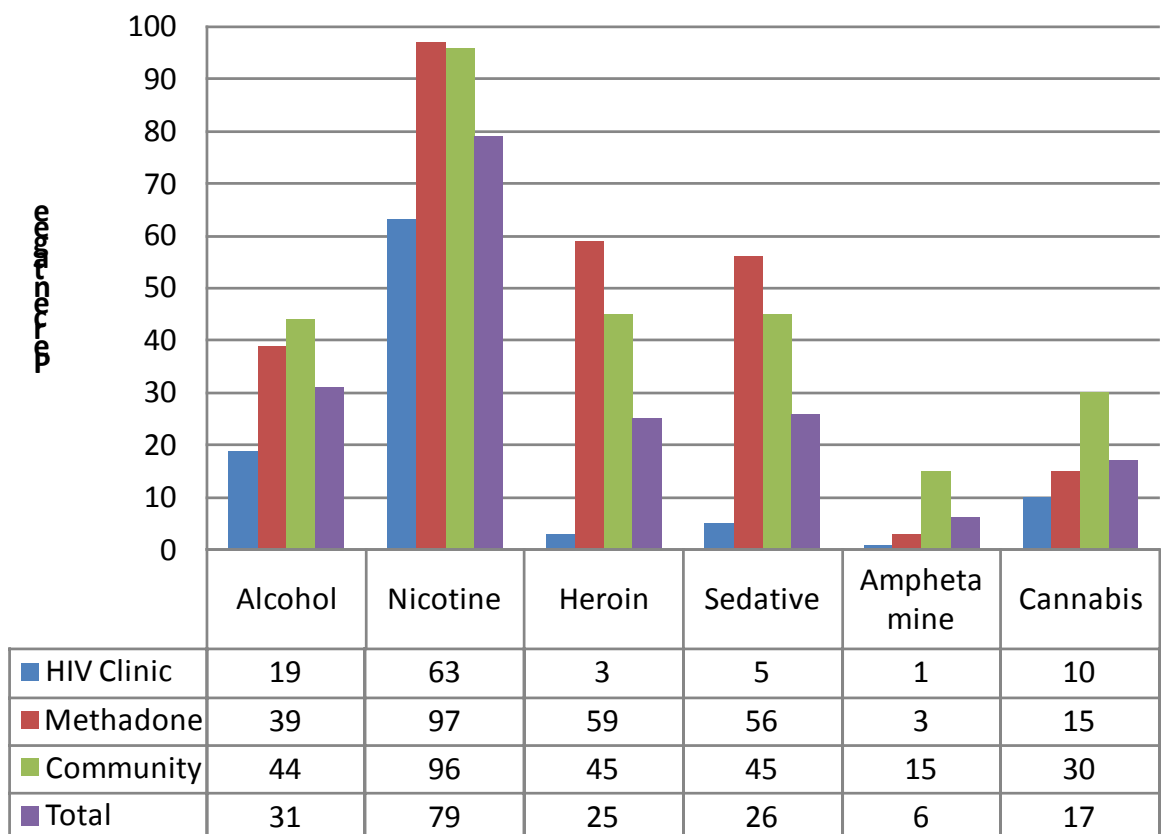
relatively young ( $31 \pm 6$ ) years old and a higher percentage of them in our study completed their senior high education (58%) compared to data from 2006 that showed that only 22,6 % of the citizens in Indonesia completed senior high school (Hartono and Kusumobroto, 2007).

Table 1 The comparison of sociodemographic characteristics of subjects from HIV Clinic, Methadone Clinic, and Community Clinic

	Total (N = 281)	HIV Clinic (N = 144)	Methadone Clinic (N = 39)	Community (N =98)	p
Age (mean, SD)	31(6)	32 (5)	32 (3)	28 (7)	< 0,01
Gender, male (N (%))	220 (78)	93 (65)	37 (95)	90 (92)	< 0,01
Marital status (N (%))					0,01
Single	65 (23)	29 (20)	7 (18)	29 (30)	
Married	125 (44)	72 (50)	19 (49)	34 (35)	
Relationship	38 (14)	12 (8)	5 (13)	21 (21)	
Divorce	29 (10)	13 (9)	5 (13)	11 (11)	
Widow	24 (9)	18 (13)	3 (7)	3(3)	
Education(N (%))					0,03
No education	3 (1)	0 (0)	0 (0)	3 (3)	
Primary school	5 (2)	4 (3)	0 (0)	5 (2)	
Junior high school	42 (15)	21 (15)	1 (3)	20 (20)	
Senior high school	165 (58)	81 (56)	27 (69)	57 (58)	
College/ University	66 (24)	38 (26)	11 (28)	17 (17)	
Occupation (N (%))					0,13
Regular full time	93 (33)	49 (34)	9 (23)	35 (36)	
Regular part time	11 (4)	3 (2)	3 (8)	5 (5)	
Irregular work	8 (3)	4 (3)	1 (3)	3 (3)	
Bussiness owner	81 (28)	46 (32)	16 (41)	19 (19)	
Unemployed	75 (27)	37 (26)	10 (25)	28 (29)	
Other	13 (5)	5 (3)	0 (0)	8 (8)	

All patients in HIV and Methadone clinic were HIV positive. Only 69 PWID in community (70%) have been tested for HIV and from those tested, 59 people (85%) were HIV positive. Those in HIV treatment were 209 people (86%). The percentage of drug use among these subjects were 24% patients in HIV Clinic, 87% patients in methadone, and 67% PWID in community used drugs (except nicotine). Graph 1 showed the comparison of each type of drug used by subjects from HIV Clinic, Methadone Clinic, and Community Clinic.

The drugs were most used by methadone patients. Among those drugs, heroin was the most frequently used drug by methadone patients. Subjects in HIV clinic used less drugs compared to methadone patients and PWIDs in community. The most used drugs were alcohol over threshold (30%), benzodiazepines (25%) and heroin (25%). Using drugs (OR 2.4; 95% CI 1.4 - 4.2) was significantly associated with sexual risk behavior.



Graph 1 The comparison of drug use in the last one month of subjects from HIV Clinic, Methadone Clinic, and Community Clinic

The injecting risk behaviour was higher in subjects from methadone clinic and community (table 2) since all of them were former or current PWIDs. The percentage of IDUs engaged in injecting risk behavior is lower compared to previous research in Indonesia (BPS et al., 2005, FHI, 2006, Heriawan et al., 2005, Pisani et al., 2003) but it is still a problem for spreading HIV. Sexual risk behaviour was higher in PWIDs in community. It was shown that accessing a treatment centre will reduce the risk behaviour (Iskandar et al., 2012).

Table 2 The risk behavior among subjects from HIV Clinic, Methadone Clinic, and Community Clinic

Risk Behavior	Total (N = 281) N (%)	HIV Clinic (N = 144) N (%)	Methadone Clinic (N = 39) N (%)	Community (N =98) N (%)	P
Injecting risk behavior	34 (12)	5 (4)	8 (21)	21 (21)	p<0,01
Sexual risk behavior	74 (27)	26 (18)	10 (26)	38 (39)	<0,01
Other skin penetration risk behavior	91 (32)	50 (35)	12 (31)	29 (30)	0,69

## Conclusion

Sexual risk behavior and drug use problems among key population still have to be addressed in the HIV intervention program.

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