

**CHARACTERISTICS AMONG INJECTING DRUG USERS ACCESSING AND NOT ACCESSING NEEDLE AND SYRINGE PROGRAM IN PALEMBANG, SOUTH SUMATERA**

**KARAKTERISTIK PENGGUNA NARKOBA SUNTIK (PENASUN) YANG AKSES DAN TIDAK AKSES LAYANAN JARUM DAN ALAT SUNTIK STERIL DI PALEMBANG, SUMATERA SELATAN**

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**ABSTRACT**

**Background :** HIV/AIDS has become one of international public health problem. One effective method to spread HIV/AIDS is through shared needle and syringe among Injecting Drug Users (IDUs). Needle and Syringe Program has been run in Palembang since 2009. Previous research was limited towards description of IDUs in Palembang city without differentiating both IDUs accessing and not accessing Needle and Syringe Program (NSP). Objectives to identify the differences characteristics between characteristics of IDUs accessing and not accessing NSP

**Methods :** This was a case control study with respondents recruited using snowball technique. Simple and multiple logistic regression tests were performed using statistics program (Stata version 10) to identify association between NSP access status and characteristics of IDUs. Odds ratio, 95 % Confidence interval and P value were reported.

**Results :** Forty six IDUs from NSPS group and 75 IDUs from non-NSPS group were recruited. Mostly, respondents were male with senior high school education level and single status. There is difference of attitude and length of use of Drugs among IDUs accessing and not accessing NSP. The bivariate analysis indicates that IDUs who have positive attitude towards Harm reduction and needle and syringe program tend to 2.76 times to access NSP compared to those who have negative attitude (OR 2.76(1,30-5.89), p.0.008). Then, IDUs who inject drugs tend to access 1.09 times for each increase of year using drugs with moderate significancy to reject the null hypothesis (OR 1.09(95 % CI 1.003-1.19), p. 0.04). however, variables of education, age, income and knowledge about HIV/AIDS and Harm reduction do not differ between IDUs accessing and not accessing Needle and Syringe Programs. After possible confounders adjustment, association between length of use injected drugs and IDU's attitude towards harm reduction and NSP are still found.

**Conclusion :** IDUs who have positive attitude towards harm reduction concept on NSP and longer use of injected drugs will more likely access NSPs. Enhancement peer educators from ex-IDUs is important to increase positive attitude towards harm reduction among IDUs. Moreover, further research with big sample size and qualitative approach are urgently needed.

**Keywords :** Injecting drug users, characteristics, needle and syringe program

**ABSTRAK**

**Latar Belakang :** HIV/AIDS telah menjadi salah satu masalah kesehatan masyarakat internasional. Salah satu metode yang efektif untuk men HIV / AIDS adalah melalui penggunaan jarum dan alat suntik bersama antara Pengguna Narkoba Suntik (Penasun). Layanan jarum dan alat suntik steril (LJASS) telah berjalan di Palembang sejak tahun 2009. Penelitian sebelumnya terbatas terhadap deskripsi penasun di kota Palembang tanpa membedakan karakteristik penasun baik yang akses dan tidak mengakses jarum suntik dan Program (LJASS). Tujuan untuk mengidentifikasi perbedaan karakteristik penasun yang akses LJASS dan tidak akses LJASS.

**Metode :** Penelitian ini menggunakan studi desain kasus-kontrol (*case-control*) dengan responden direkrut dengan menggunakan teknik bola salju (*snowball*). Regresi sederhana dan ganda dengan menggunakan program statistik (Stata versi 10) untuk mengidentifikasi perbedaan karakteristik penasun yang akses LJASS dan tidak akses LJASS. Odds rasio, derajat kepercayaan 95% dan nilai signifikansi dilaporkan.

**Hasil Penelitian :** Empat puluh enam penasun dari LJASS dan 75 penasun yang tidak akses LJASS direkrut. Sebagian besar, responden adalah laki-laki dengan tingkat pendidikan sekolah menengah atas dan berstatus

tidak menikah. Ada perbedaan sikap terhadap pengurangan dampak buruk (*harm reduction*) dan LJASS antara penasun yang akses LJASS dan nono-LJASS. Analisis bivariat menunjukkan bahwa penasun yang memiliki sikap positif terhadap pengurangan dampak buruk dan program LJASS cenderung 2,76 kali untuk akses LJASS dibandingkan dengan mereka yang memiliki sikap negatif (OR 2,76 (1,30-5,89), sig.0.008). Kemudian, penasun yang menyuntik narkoba cenderung untuk mengakses LJASS cenderung 1,09 kali meningkat untuk setiap peningkatan tahun lamanya penggunaan napza suntik dengan signifikansi moderat untuk menolak hipotesis nol (OR 1,09 (95% CI 1,003-1,19), sig. 0,04). Namun, variabel pendidikan, umur, tingkat pendapatan dan pengetahuan tentang HIV /AIDS dan pengurangan dampak buruk (*harm reduction*) tidak berbeda secara signifikan antara penasun yang mengakses dan tidak mengakses LJASS. Setelah penyesuaian faktor pembaur (*confoundings*), hubungan antara lama penggunaan napza suntik dan sikap IDU terhadap pengurangan dampak buruk (*harm reduction*) dan NSP masih ditemukan.

**Kesimpulan :** Penasun yang memiliki sikap positif terhadap konsep *harm reduction* dan LJASS dan lebih lama menggunakan napza suntik lebih cenderung mengakses LJASS. Peningkatan teman sebaya dari ex-penasun adalah penting untuk meningkatkan sikap positif terhadap pengurangan dampak buruk di kalangan penasun. Selain itu, penelitian lebih lanjut dengan ukuran sampel besar dan pendekatan kualitatif sangat dibutuhkan.

**Kata Kunci :** Pengguna napza suntik, Karakteristik, Layanan jarum dan alat suntik steril

## BACKGROUND

One of the most effective means of transmitting HIV and other blood borne viruses (BBVs) is the shared use of drug injecting equipment and drug preparation.<sup>1-3</sup> According to the United Nations Office on Drugs and Crime (UNODC), once the virus is introduced into an injecting drug using (IDU) community, the prevalence of HIV can increase by up to 90% in less than two years.<sup>4</sup> Intravenous injection is the most efficient route of drug administration because it produces the strongest drug effect at the lowest cost.<sup>2</sup> Aceijas et al. suggest that IDUs account for 10% of HIV cases worldwide and are driving the epidemic in some countries, including Indonesia.<sup>5</sup>

In Indonesia, HIV prevalence among Injecting Drug Users (IDUs) increases significantly in a short time. In 2000, HIV prevalence among IDUs reached above 5% in 2000. Then, this level increase between 21% and 52% in 2006 and 52.4% in 2007.<sup>6</sup> HIV among IDUs has highest prevalence among high risk groups in Indonesia, estimated about 55-58%.<sup>7</sup> In Indonesia, use of shared needle among IDUs always occurred and high unsafe sexual behaviours; high number of sexual partners and low use of condoms.<sup>8</sup>

Although there is the potential for extremely rapid transmission of HIV, there is also the possibility of extremely effective prevention of HIV transmission in this same population.<sup>2</sup> UNAIDS (2005), cited in Des Jarlais et al states that there is no single intervention or approach that will effectively prevent or control HIV epidemics associated with the high risk groups; however, a comprehensive intervention package centering on harm reduction is required.<sup>2</sup> One of this package that aim to prevent the spread of HIV quickly,<sup>9,10</sup> is needle and syringe programmes (NSP). Many studies reviewed the benefits of NSPs in reducing the spread of HIV among IDUs effectively without evidence of exacerbating of injecting drug use at either individual or social level.<sup>10</sup>

In Indonesia, results of HIV/STI Integrated Biological behavioral Surveillance (IBBS) indicates that NSPs services have reached high access in some city and has low use of shared needles among IDUs.<sup>11</sup> However, a quick survey of IDUs Behavior Survey (SCP) which carried the city of Palembang Aids Commission showed that injecting drug users is still a high risk group in the spread of HIV AIDS with the high use of heroin, unsafe sex and needle disposal in public areas (sewers, litter box).<sup>12</sup> However, in this study, results did not differentiate IDUs characteristics among NSP access and no NSP

access. Therefore, study related to the differences IDUs who accessing NSP and no access to NSPs was conducted. Therefore, this study aims to analyse the differences of IDUs characteristics who access and not access Needle and Syringe Program (NSP).

**RESEARCH METHODOLOGY**

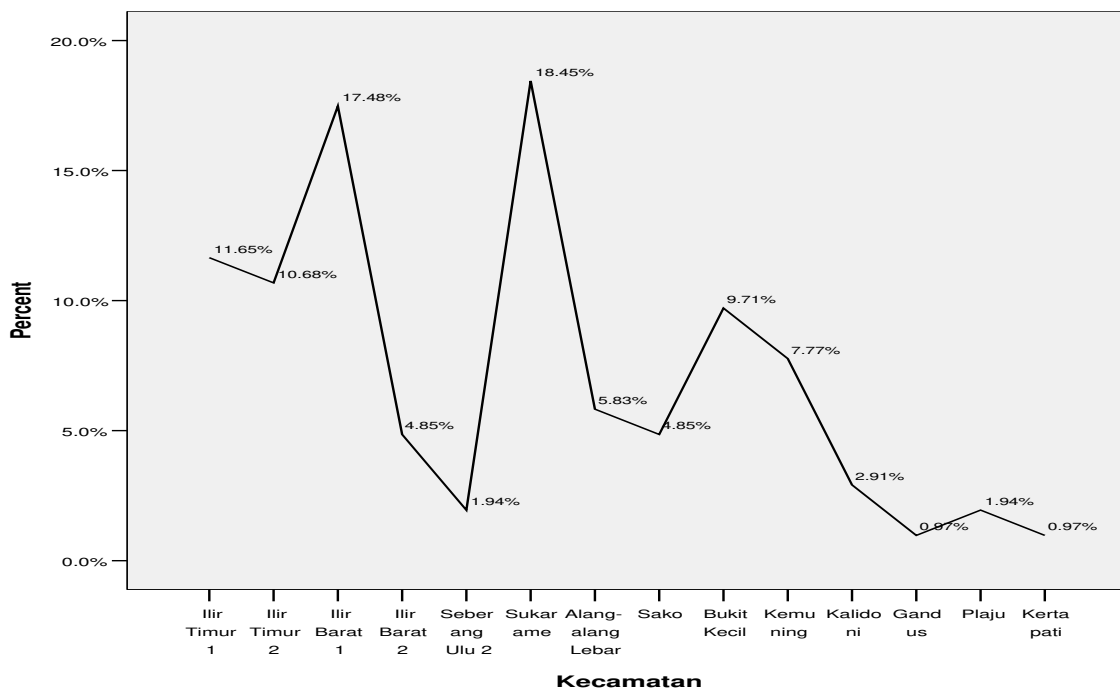
This was a case control study with respondents recruited using snowball technique in Palembang. Groups of cases are injecting drug users who do not access NSP either directly to public health centre or through the outreach team. The control group is injecting drug users who do not access to a health clinic either directly or through the outreach team.

Initially, univariate analysis was conducted. Characteristics of the respondents including age, and socioeconomic factors, were performed. Means and standard deviation was reported for numeric variables with normal distribution, while the median and range was reported to the asymmetric distribution. In the categorical variables, the proportion of each variable was reported.

Furthermore, the simple and multiple logistics analysis was performed to analysed differences in the characteristics of respondents who access and no access NSPs. P values, odds ratios and 95% degree of confidence was reported.

**RESULTS**

Table 1 showed that 75 people were IDUs Non NSPs. Mostly respondents lived in Sukarame, Ilir Barat 1 and Ilir Timur 2 districts in Palembang (Figure 1). Majority of them is male sex, and have graduated from senior high school. Among 46 IDU accessing NSPs have jobs about 80.4 % in which 64.9% IDUs working as a entrepreneur and 18 (48.6%) IDUs had a source of income in the from of salaries. In addition, among IDUs who access NSPs, most IDUs (50%) aged on average 30 years with the length of stay in Palembang about 29 years (see table 1). For injecting behaviour, mostly IDUs accessing NSP and non-NSP were very active in using injecting drugs and around 30 % among them ever shared needle and syringe in both groups (Table 1).



**Figure 1.**  
**District among respondents in Palembang**

**Table 1.**  
**Characteristics of IDU in NSPS and Non NSPs Group**

Characteristics	NSPs (n,%) N= 46	Non NSPs (n.%) N= 75
<b>Sex</b>		
male (n,%)	45 (97,8%)	75 (100%)
<b>Education</b>		
Never (n,%)	1 (2,2%)	-
Junior High School (n,%)	2 (4,3%)	5 (6,7%)
Senior High School (n,%)	29 (63%)	49 (65,3%)
Academy (n,%)	8 (17,4%)	10 (13,3%)
University (n,%)	6 (13%)	10 (13,3%)
Others (n,%)	-	1 (1,3%)
<b>Employment Status</b>		
Yes (n,%)	37 (80,4%)	50 (66,7%)
<b>Occupation</b>		
Entrepreneur (n,%)	24 (64,9%)	29 (58%)
Civil Servant (n,%)	4 (10,8%)	4 (8%)
Private Employers (n,%)	9 (19,6%)	17 (34%)
<b>Source of Fund</b>		
Employee salary (n,%)	18 (48,6%)	24 (48%)
Independent work (n,%)	16 (43,2%)	24 (48%)
Others(n,%)	3 (6,5%)	2 (4%)
<b>Income/month</b>		
Rp.500.000- 1 million (n,%)	7 (18,9%)	10 (20%)
Rp.1 juta- 1,5 million (n,%)	13 (35,1%)	16 (32%)
Rp.1,5 juta- 2 million (n,%)	7 (18,9%)	14 (28%)
Rp.2 juta- 2,5 million (n,%)	8 (21,6%)	6 (12%)
Rp.2,5 juta- 3 milllion (n,%)	1 (2,7%)	4 (8%)
Up to Rp.3 million (n,%)	1 (2,7%)	-
<b>Religion</b>		
Islam (n,%)	45 (97,8%)	73 (97,3%)
<b>Marital Status</b>		
Singletons (n,%)	21 (45,7%)	47 (62,7%)
Marriage (n,%)	22 (47,8%)	26 (34,7%)
Divorced living (n,%)	2 (4,3%)	2 (2,7%)
Divorced death (n,%)	1 (2,2%)	-
<b>Median (Minimum-Maximum)</b>		
Length of living in Palembang	29 (3-37)	27 (1-40)
Age, year	30 (20-38)	30 (18-41)

Based on table 2. IDUs who have a positive attitude towards the concept of harm reduction with a sterile syringe program services 2.76 times more likely to access the NSPS than IDUs who have negative attitudes (OR 2.76 (95% CI 1,30-5.89), p .0008). Then, IDUs who inject drugs longer access NSPS 1.09 times for each year of duration of

use of drugs with the power of significance was (OR 1:09 (1.003-1.19), p. 0.04). After adjusting for education, income, age and knowledge, association between duration of injecting drug use and attitudes towards harm reduction is still found towards IDUs behaviorus on accessing NSPS.

**Tabel 2.**  
**Characteristics among IDUs accessing and not accessing NSPs**

<b>Variable (Outcome, Behaviours of accessing NSPs P, 1=Yes, 0=No)</b>	<b>Odds Ratio/OR(95% CI)</b>	<b>P value</b>
Education(<Junior High School, reference category)	1,18(0.61-2.28)	0.62
Income (< Rp 1 Million, reference category)	1.05(0.69-1.57)	0.82
Age (year)	0.98(0.90-1.07)	0.71
Duration of Using Injection Drugs (Year)	1.09(1.002-1.19)	0.04
	1.19 (1.03-1.40)*	0.02*
Knowledge of Prevention HIV and Harm reduction(0=less, 1=high)	1.95(0.50-7.63)	0.33
Attitude towards Harm reduction(1=negative, 2=positive)	2.76(1.30-5.89)	0.008
	2.89(1.02-8.19)*	0.05*

\*Adjusted by education, income, age and knowledge.

## DISCUSSION

Majority of characteristics of IDUs is male sex, middle age group with senior high school and working as a entrepreneur. In Injecting drug behaviour, mostly IDUs injected illicit drugs in one week and one month ago and only small percentage IDUs has injected drugs in other provinces in both groups. Also, there is around 30 % among them ever shared needle and syringe in both groups. These characteristics in table 1 for both NSP and non-NSP groups is similar with IDUs characteristics in a survey in Palembang 2010. Mostly IDUs were male, and most of them in middle age (21-30 year) with senior high school education level.<sup>12</sup>

There is association between length of time injection drugs and accessing NSPs status, attitude towards harm reduction towards accessing NSPs status and the history of injecting drugs one week ago with the behaviours of IDUs before and after adjusting with other variables. While, there is no association of other variables; education, income, age, knowledge of harm reduction and having shared needle and syringe towards IDUs behaviors on accessing NSPs. This research is supported by a research by Zamani et al,<sup>13</sup> that length of using drugs related to NSP access (OR 0.93, 95 % CI 0.88-0.99).In Tehran, Iran, education of IDUs in area with NSP program and without NSP Program is

also similar (OR 0.99(95% CI 0.59-1.68)), however age indicated an association with the access of NSP (OR 1.05 (95%CI 1.01-1.09)).<sup>13</sup> In Dhaka, India,<sup>14</sup> IDUs (48.3%; 95% CI: 44.4–52.6%) obtained their needles/syringes from the NEP(Needle Exchange Program) as well as drug stores were balanced. Therefore, IDUs are rarely to share the injection and syringe among them.

A theory of behavioural changes by Hosland et al described that a learning process of invidual starting from stimulus, attention towards stimulus, attitude to process stimulus, availability of facility and environment to support the behavioral changes.<sup>15</sup> Positive attitudes towards harm reduction and availability of NSP in Palembang would likely support IDUs to access NSPs. Needle and Syringe Programme (NSP) or Needle Syringe Exchange Program (NSEP) is a public health measure that provides sterile needles, syringes and other injecting equipments to IDUs, information on safe injecting practices, general health information, advice on harm reduction, primary health care such as vein and health checks and first aid treatment. Moreover, some NSPs provide crisis counseling such as active referral to medical, legal, housing and social welfare. Condoms are generally distributed at the NSPs.<sup>16</sup>

Harm reduction offers the implementation of a comprehensive package of strategy that decrease drug-related harms or

negative consequences of drug use. This method is accorded an even higher priority than reduction of drug consumption.<sup>9,17</sup> The short term goal of harm reduction programs is to implement efforts to prevent HIV transmission as quickly as possible.<sup>18</sup> The hierarchy of harm reduction goals is, (1) don't use drugs, (2) if you use drugs, don't inject, (3) if you inject drugs, use sterile injecting equipment and never share injecting equipment, and (4) if you use non-sterile equipment and share equipment, use bleach to clean equipment between injections.<sup>18,19</sup> The hierarchy indicates that abstinence-based drugs remains the most effective way of reducing the negative consequences of drug use. However, if IDUs are unable or unwilling to stop using drugs, harm reduction offers other methods to reduce drug-related harms at an individual, family and community level. As

a result, this program has positive impacts on the health, social life, and economic status.<sup>9,19</sup>

## CONCLUSION

Harm reduction offers the implementation of a comprehensive package of strategy that decrease drug-related harms or negative consequences of drug use. This method is accorded an even higher priority than reduction of drug consumption.<sup>9,17</sup> One of them is Needle and Syringe Programme.

This reseach indicates that IDUs who have positive attitude towards harm reduction concept on NSP AND longer use of injected drugs will more likely access NSPs. Enhancement peer educators from ex-IDUs is important to increase positive attitude towards harm reduction among IDUs. Moreover, further research with big sample size and qualitative approach are urgently needed.

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