Conference Paper

The Effect of Harm Reductions Program on the Injection Behavior of Injection Drug Users in Indonesia

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Abstract

This study aimed to identify the effect of HIV-AIDS harm reduction program on the injection behavior of injection drug users (IDUs). This study used a cross-sectional survey secondary data from the Indonesia Integrated Biological and Behavioral Survey of 2013, selecting 430 IDU respondents who had met with outreach workers in 4 major cities, namely Yogyakarta, Tangerang, Pontianak, and Makassar. Multiple logistic regressions were performed to determine the effect of harm reduction program. The proportion of IDUs who had engaged in risky behavior was 44.3%, and that of IDUs who had not accessed harm reduction programs was 54.1%. The effect of harm reduction programs on the risky injection behavior of these IDUs varied according to marital status. Among unmarried IDUs, those who did not access harm reduction programs had a 1.3 times higher chance of engaging in risky injection (ORa 1.3, 95% CI 0.6-2.7). Among married IDUs, those who did not access harm reduction programs had a 5.4 times higher chance of engaging in risky injection (ORa 5.4, 95% CI 3.6-8.1). Other factors contributing to injection behavior were age, living area, condom use, the duration of injection drugs use, and the total number of injection partners. More effort is required to optimalize harm reduction programs and make them comprehensive in order to decrease risky injection behaviors and thereby prevent HIV-AIDS transmission among IDUs.

Keywords: harm reduction; IDUs; injection behaviors

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1. INTRODUCTION

For more than 3 decades, the world has faced an epidemic of Human Immunodeficiency Virus (HIV), and to this day, a cure for those infected with HIV has not been found. Injection drug abuse is one of the main forces driving the spread of HIV. One in 10 of new HIV infections around the world is caused by contaminated syringes use by injection drug users. Drugs injection has been a global problems and it is estimated

that there are about 15.9 million injection drug users (IDU) worldwide, of which about 3 million are HIV-positive [8]. In some countries, the incidence of HIV infection in the IDU population has increased by 40%. In 2013, a global report showed a high prevalence of HIV in the IDU population (UNAIDS 2013). Since 2000, the prevalence of HIV in Indonesia has increased to over 5% in key populations. According to the Indonesia Integrated Biological and Behavioral Survey (IBBS) of 2013, IDU are the key population with the highest HIV prevalence, i.e. by 39.2%, followed by men who engage in homosexual intercorse (12.8%), transgender (7.4%), and female sex workers (1.6%).

The IDU population has a doubled risk of HIV transmission, namely through the use of hypodermic needles and through sexual transmission. The use of shared needles is a common practice among IDUs. Studies in several countries have that those who angege in group use of injection drugs are very vulnerable to contracting HIV through the interchange of drugs injection without adequate sterilization. Almost half of IDUs have at some point shared drugs in a group and used the share needles [14].

Intervention programs for the prevention of HIV transmission among IDUs are carried out through injection drugs harm reduction program. Harm reduction program is defined as an approach to the individual or group that aims to reduce the risks related to a behavior. Almost all member states of the United Nations support harm reduction programs for drug injection. Until the year 2010, sterile syringe services had been applied in 70 countries, and opioid substitution therapy programs had been implemented in 82 countries, of which 66 countries implemented both interventions [8]. Rapid and appropriate response is urgently needed in Indonesia. This study aimed to determine the effect of an HIV-AIDS harm reduction program of HIV-AIDS on the injection behavior of IDUs in Indonesia.

2. METHODS

The data used in this study were secondary data on IDUs from Integrated Biological and Behavioral Survey from the year 2013. These data were collected by the Ministry of Health in 4 major cities in Indonesia, namely Yogyakarta, Tangerang, Pontianak, and Makassar. The study's design was cross-sectional. The population considered in this study was made up of all IDUs who netted the sample in the four cities. The 430 IDUs who were included in the sample were selected based on the criterion that they had met with outreach or field workers who were with HIV-AIDS prevention programs. IDUs were considered to exhibit no risky injection behavior if the had never shared needles, never used public syringes, and never shared drugs after mixing them with water.

Table 1: Risky Injection Behavior and Access to Harm Reduction Programs of Injection Drug Users (n=430)

Injection Behavior and Harm Reduction	n	%
Risky Injection Behavior	190	44.3
Share needles	88	20.5
Use public syringes	52	12.1
Share drugs	150	34.9
Good Access to Harm Reduction Programs	197	45.9
Sterile syringe services	290	67.4
Opioid Substitution therapy	30	6.8
Counseling and testing for HIV	334	77.6
Sexually transmitted infections services	103	23.9
Promotion of condom	242	56.3
Communication, Information, & Education	389	90.5
Antiretroviral therapy	146	33.9
Hepatitis services	62	14.4
Tuberculosis services	81	18.9

Access to harm reduction programs was measured through 9 questions, which were then composited with the Principal Component Analysis method. Those who score above the median value were considered to have good access to services. Analysis of the data to determine the effects of harm reduction programs on injection behavior was performed by multivariate logistic regression.

3. RESULTS

Most IDUs were men (93%) older than 24 years (83%), who had graduated from high school or higher education (80.9%), were unmarried (53.8%), had no fixed income (69, 9%), poor knowledge about HIV-AIDS prevention (56%), and poor knowledge about HIV-AIDS transmission (54%). The drugs types most commonly injected by IDUs was opioids (92.7%). Most IDUs had been injecting for over 4 years (75.3%), were injecting more than 3 times per month (60.1%), were injecting along with more than 2 other people (74.9%) and had never gone to jail (59.8%).

Table 2: Final Logistic Regression Model of Risky Behavior among IDUs

Independent Variable of IDUs	B	*ORa	95% CI ORa	Sig.
No access to harm reduction programs	0.248	1.3	0.6–2.7	0.237
Aged less than 25 years	1.241	3.5	1.4–8.8	0.011
Unmarried	0.421	1.5	0.7–3.3	0.358
Opioid consumed	0.633	1.9	0.7–5.2	0.221
Injecting drugs for more than 4 years	0.865	2.4	1.0–5.5	0.044
Injecting with more than 2 other persons	1.677	5.3	2.8–10.2	0.001
No access to harm reduction programs * Unmarried	1.442			0.024
No access to harm reduction programs among those unmarried		1.3	0.6–2.7	
No access to harm reduction programs among those married		5.4	3.6–8.1	
*ORa = Adjusted Odds Ratio				

Table 1 shows that of 430 respondents, 44% engaged in risky injection behavior. IDUs who accessed harm reduction programs made up only 46%. Of the 9 components of harm reduction programs, the components to which access was still low were opioid substitution therapy (6.8%), sexually transmitted infections services (23.9%), antiretroviral therapy (33.9%), hepatitis services (14.4%), and tuberculosis services (18.9%).

Based on Table 2, the results of multivariable analysis showed that the effect of harm reduction programs on injection behavior differed according to marital status. Among unmarried IDUs, those who did not have good access to harm reduction programs exhibited 1.3 times more risky injection behaviors than those who were accessing the programs. Meanwhile, among married IDUs, those who did not have good access to harm reduction programs exhibited 1.3 times more risky injection behaviors than those who were accessing the programs. Other factors that increased the likelihood of risky injection behaviors were being younger than 25 (ORa 3.5), using opioids (ORa 1.9), having been IDUs for more than 4 years (ORa 2.4) and having injected together with more than 2 other persons (ORa 5.3).

4. DISCUSSION

Behavior theory mention that the access to a harm reduction programs is one of the enabling factors that influence an individual's or a group's behavior. According to the Asian Harm Reduction Network and the Centre for Harm Reduction, Burnet Institute (2003), IDUs who access harm reduction programs will reduce their risk syringes-sharing so as to reduce the spread of HIV-AIDS epidemic.

The results of this study shows that IDUs who were not accessing harm reduction programs tended to inject at risk. Sterile syringe services are one component of the harm reduction programs. Sartika (2013) showed that IDUs who did not access sterile syringe services had a 1.9 times higher chance risky injection behavior than those who did access these services. A study conducted by Lausevic (2015) showed a 5.7 times higher likelihood of risky injection behavior in those who did not have good access to harm reduction programs. These results were obtained after controlling for age, gender, income, frequency of injection, number of sex partners, and area of injection. Other study conducted by Bluthenthal (2000), Perngmark (2003), and Kral (2004) showed the same results, i.e., lack of access to harm reduction programs led to a greater likelihood of risky injection behaviors.

In addition to sterile injection equipment services, substitution therapy programs using methadone and buprenorphine are also components of harm reduction programs. In this study, of the 9 components of a harm reduction program, the one to which the least access was available was therapy programs; their level of accessibility amounted to 6.8%. Methadone and buprenorphine are believed to encourage IDUs to reduce the frequency of injection drug use, thus reducing the chance of their sharing injection equipment. This was proven by Gowing (2005), whose research showed that there was a significant correlation between access to methadone therapy and a decrease in the frequency of injection drug use.

According to Wodak (2010), opioid substitution therapy and providing sterile syringes widely could halt the HIV-AIDS epidemic and lead to a decline in HIV prevalence among IDUs. Thus, the government and private organizations are expected to make an effort to promote a harm reduction programs by expanding each component of such programs, including sterile injection equipment services and maintenance therapy with methadone and buprenorphine.

Other factors contributing to risky injection behavior were age, marital status, the type of drug use, the length of time since the user' had become an IDUs, and the user's number of injection partner. These results are in line with Mandell's (1994) and

Valente's (2001) results, which showed that younger IDUs had a 1.4 times higher risk of engaging risky injection behavior than older IDUs. Mawarni's study (2008) showed similar results – that youth were 1.9 times more at risk of risky injection behavior compared to older IDUs.

In theory, the long-term use of injection drugs was one of the factors reinforcing IDUs' injection behavior. The results showed that IDUs who had been injecting for more than 4 years had a 2.5 times higher risk of risky injection compared to IDUs who had injected for less than 4 years. Iryawan study (2013) showed that IDUs who are new to or seldom use injection drugs tend to gather with peers who have the same behavioral patterns. Likewise, IDUs who have long used drugs will gather with peers who have similar characteristics.

5. CONCLUSIONS

The proportion of IDUs who engaged in risky injection behavior was 44.3% and IDUs who did not access harm reduction programs was 54.1%. The effect of harm reduction programs on the risky injection behavior of IDUs varied according to marital status. Among unmarried IDUs, those who did not access harm reduction programs had a 1.3 times higher likelihood of engaging in risky injection behavior (ORa 1.3, 95% CI 0.6 - 2.7). Among married IDUs, those who did not access harm reduction programs had a 5.4 times higher chance of engaging in risky injection behavior (ORa 5.4, 95% CI 3.6—8.1). Other factors contributing to injection behavior were age, area of injection, condom use, the duration of injection drugs use, and the total number of injection partner. More efforts are required to optimize harm reduction programs and make them comprehensive in order to decrease risky injection behavior and prevent HIV-AIDS transmission.

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