FACTORS THAT AFFECTING THE UTILIZATION OF HIV TESTS IN INDIRECT FEMALE SEX WORKERS (IFSW) IN INDONESIA

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ABSTRACT

HIV test is the most critical "entrance" for prevention, care, support, and treatment services for people at risk of HIV/AIDS, such as FSW groups. Based on data from Biological and Behavioral Integrated Survey (BBIS) 2015 in Indonesia, this research uses a Cross-Sectional research design with the sampling technique of Multistage Random Sampling. The population of this study was all indirect female sex workers, with as many as 3,153 respondents, with samples following inclusion and exclusion criteria of as many as 2,514 respondents. Data analysis was done univariate, bivariate, and multivariate. The prevalence of indirect female sex workers with the utilization of HIV Tests was 51.6%. The result of analysis showed that there are correlation between age (PR: 1.67 95% CI: 1.308-1.876), education level (PR: 0.829 95% CI: 0.692-0.994), knowledge (PR: 2.521 95% CI: 2,081-3.055), age of first sex (PR: 0.635 95% CI: 0.484-0.833), risk perception (PR: 1.553 95% CI: 1.297-1.859), history of STI (PR: 1.436 95% CI: 1.009-2.042), number of sex customers (PR: 1.603 95% CI: 1.310-1.962), and pimps support (PR: 2.459 95% CI: 2.067-2.924) with the utilization of HIV test in indirect female sex worker (IFSW). The most dominant variable associated with the utilization of HIV tests is knowledge after being controlled by age, education level, age of first sex, risk perception, history of STI, number of sex customers, and pimp's support. This research recommends that the government improve the implementation of HIV/AIDS prevention and control programs like the VCT test not only among indirect sex workers but also among sex customers.

Keywords: HIV Test Utilization, Indirect Female Sex Worker, Indonesia

Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a set of symptoms and infections that arise from damage to the human immune system due to HIV infection or other similar virus infections that attack other species. The virus itself is called the Human Immunodeficiency Virus, abbreviated as HIV, a virus that weakens the human body's immune system. People affected by this virus will be susceptible to opportunistic infections or easily affected by tumors[1]. The United Nations Programme on HIV / AIDS (UNAIDS) shows that there are 1.6 million deaths from AIDS, consisting of around 1.4 million cases of adults and 210,000 cases of children aged <15 years throughout 2012. The number of cases of HIV in the world in 2015, according to UNAIDS, was 36.7 million people, and deaths caused by AIDS were 1.1 million people, consisting of 1 million adults and 110,000 children (<15 years)[2].

HIV infection is one of the infectious diseases with prevalence in adults, reaching 1% of the total population in the world. Female sex workers (FSWs) are at a high risk of contracting this

disease. Many factors make FSWs more vulnerable to contracting HIV than other groups in the population.[2,1] The prevention and treatment of STIs / HIV-AIDS at the basic service level are still aimed at risky groups in preventing and treating STIs with a syndrome approach. This time, sociocultural barriers often lead to incomplete treatment, which causes the HIV epidemic rate to increase, primarily through sexual intercourse.[3,4]

HIV testing is the most critical "entrance" to prevention, care, support, and treatment services for people at risk of HIV / AIDS, such as the female sex workers (FSW) group.[1] According to the Indonesian Ministry of Health (2014), prevention, care, support, and treatment services for HIV/AIDS are realized through Voluntary Counseling and Testing (VCT). According to WHO (2012), VCT services refer to the five basic principles of HIV subscription globally, namely: 1) informed consent, 2) confidentiality, 3) counseling, 4) correct test results, and 5) connections to care, treatment, and prevention services. These principles have become Indonesia's reference for national development. VCT plays a role in preventing and treating HIV / AIDS clients.

The coverage of health programs, such as the utilization of VCT services for indirect female sex workers (IFSW), is still relatively low. Only 39% of IFSW from nine cities that have been studied were tested for HIV. Besides, 81% of IFSW have never interacted with health workers in the last three months, and 71% of IFSW have never received free condoms in the last three months.[5] According to the Indonesian Ministry of Health (2014), HIV / AIDS prevention, care, support, and treatment services are realized through Voluntary Counseling and Testing (VCT).[1] The factors that influence the FSW not to take an HIV test are the stigma and discrimination they get, the fear of HIV-positive status, the lack of guaranteed confidentiality, and the long distances to access VCT clinics directly.[6] this study aims to analyze the factors that influence the use of HIV testing in indirect female sex workers (IFSW) in Indonesia (Data Analysis of Biological and Behavioral Integrated Survey/BBIS in 2015).

Methods

The study design used in this study was a cross-sectional design with the sampling technique of Multistage Random Sampling. Meanwhile, the population of all indirect female sex workers (IFSW) in Indonesia with the used sample was 2,514 indirect female sex workers. This study used secondary data from the Biological and Behavioral Integrated Survey (BBIS) 2015. The data were obtained from interviews using the BBIS 2015 questionnaire. Data analysis was carried out in the form of univariate analysis, bivariate analysis (Chi-Square test), and multivariate analysis using the double logistic regression prediction model. The dependent variable in this study was the utilization of HIV testing with independent variables of age, marital status, education level, knowledge of HIV/AIDS, first sex age, length of time working as IFSW, perception of risk, history of STIs,

history of injecting drug use, number of sex customers, consistency of condom use, and support of the pimps.

Results

The results of the univariate analysis show that indirect female sex workers (IFSW) who have run the HIV test were 51,6%, the majority of IFSW was more than 25 years old at 66.1%, the majority of respondents were single or divorced as much as 76.8%, the majority. Of IFSW education level graduated from high school as much as 3.3%. The majority of indirect female sex worker have good knowledge as much as 67.4%, most IFSW have sex for the first time at the age of more than 15 years as much as 85.5%, the majority of respondents work as IFSW more than one years, which is 83.1%. Most indirect female sex workers felt they were at risk of suffering from HIV (83.1%; the majority of IFSW did not have a history of STI (93.5% and the majority of respondents also did not have a history of injection drug usage, which is 75.5%. Most of the IFSW customers in the past week were less than eight people, 76.5%, and most indirect female sex workers have not consistently used condoms in the past week, as much as 81.3%. 57.6% of indirect female sex workers have no support from the pimps (Table 1).

The results of the bivariate analysis show that the variables associated with the HIV Test in indirect female sex workers included Age (PR=1,227), Knowledge of indirect female sex workers (PR=1.831), Age of first sex (PR=0.563), Risk perception (PR=.,480), Number of customers (PR=1.295), Consistency of condom use (PR=0.878), and the Pimps support (PR=1.573). In contrast, the unrelated variables were marital status, level of education, working period of IFSW, history of STI, and history of injection drug usage (Table 2).

Table 1. Dependent and Independent Variable Frequency Distribution

Variable	Frequency (n)	Percentage (%)
HIV tests		
Ever	1,298	51.6
Never	1,216	48.4
Age		
≥ 25 years	1,663	66.1
< 25 years	851	33.9
Marital status		
Single/Divorce	1,930	76.8
Married	584	23.2
Level of Education		
Never go to school	19	0,8
Not graduating elementary school/equivalent	126	5,0
Graduated from elementary school	316	12.6
Not graduating from junior high school/equivalent	252	10.0
Graduated from junior high school	713	28.4
Not graduating from high school/equivalent	189	7.5
Graduating from high school	837	33.3
Academy / Collage	57	2.3
No Answer	5	0.2
Knowledge		
High	1,695	67.4
Low	819	32.6
Age of first sex		
< 15 years	364	14.5
≥ 15 years	2,150	85.5
Working period of IFSW		
≥ 1 year	2,089	83.1
< 1 year	425	16.9
Risk perception		
Feeling risk	1,550	61.7
No feeling risk	964	38.3
History of STI		
Yes	163	6.5
No	2,351	93.5
History of injection drug usage		
Yes	617	24,5
No	1,897	75,5
Number of customers		
≥ 8 people	590	23.5
< 8 people	1,924	76.5
Consistency of condoms use		
Inconsistent	2,043	81.3
Consistent	471	18.7
Pimps support		
Support	1,067	42.4
No Support	1,447	57.6

Tabel 2. Relationship of Independent Variable with The Utilization of HIV Test in Indirect Female Sex Workers in Indonesia

Variable	HIV Test						p-value	PR 95%CI
	Ever		Never		Total			
	N	%	n	%	n	%		
Age								
≥ 25 Years	916	55.1	747	44.9	1,663	100	<0.0001*	1.227
< 25 Years	382	44.9	469	55.1	851	100		1.126-1.338
Marital Status								
Single/Divorce	1006	52.1	924	47.9	1,930	100	0.394	1.042
Married	292	50.0	292	50.0	584	100		0.951-1.143
Level of Education								
High (≥ High School)	475	53.1	419	46.9	894	100	0.281	1.046 0.967-1.131
Low (< High School)	823	50.8	797	492	1,620	100		
Knowledge								
High	1027	60.6	668	39.4	1,695	100	<0.0001*	1.831
Low	271	33.1	548	66.9	819	100		1.649-2.033
Age of First Sex								
< 15 Years	113	31.0	251	69.0	364	100	<0.0001*	0.563
≥ 15 Years	1185	55.1	965	44.9	2,150	100		0.481-0.660
Working Period of IFSW								
≥1 Years	1093	52.3	996	47.7	2,089	100	0.138	1.085
< 1 Years	205	48.2	220	51.8	425	100		0.975-1.207
Risk Perception								
Feeling Risk	914	59.0	636	41.0	1,550	100	<0.0001*	1.480
No Feeling Risk	384	39.8	580	60.2	964	100		1.356-1.617
History of STI								
Yes	96	58.9	67	41.1	163	100	0.066	1.152
No	1202	51.1	1149	48.9	2,351	100		1.007-1.371
History of Injection Drug Usage								
Yes	305	49.4	312	50.6	617	100	0.226	0.944
No	993	52.3	904	47.7	1,897	100		0.863-1.034
Number of Customers								
≥ 8 people	369	62,5	221	37,5	590	100	<0.0001*	1.295
< 8 people	929	48,3	995	51,7	1924	100		1.198-1.400
Consistency of Condoms Use								
Inconsistent	1028	50,3	1015	49,7	2043	100	0.007*	0,878
Consistent	270	57,3	201	42,7	471	100		0,803-0,960
Pimps Support								
Support	697	65,3	370	34,7	1067	100	<0.0001*	1.573
No Support	601	41,5	846	58,5	1447	100		1.459-1.696

* Significant at 5% alpha

The analysis results show that the most dominant variable influencing the HIV test in indirect female sex workers was the knowledge after being controlled by the age, level of education, age of first sex, risk perception, history of STI, number of customers, and pimps support. The analysis results are known by the table above that the knowledge variable obtained an enormous PR value of 2.521 (95% CI: 2.081-3.055). Indirect female sex workers who have good knowledge are 2.521 times higher for HIV testing compared to indirect female sex workers who have low knowledge (Table 3).

Tabel 3. Multivariate Analysis Results

Variable	*p-value*	**PR (95% CI)**
Age	<0.0001	1.567 (1.308-1.876)
Level of Education	0.043	0.829 (0.692-0.994)
Knowledge	<0.0001	2.521 (2.081-3.055)
Age of First Sex	0.001	0.635 (0.484-0.833)
Risk Perception	<0.0001	1.553 (1.297-1.859)
History of STI	0.044	1,436 (1.009-2.042)
Number of Customers	<0.0001	1,603 (1.310-1.962)
Pimps Support	<0.0001	2,459 (2.067-2.924)

Discussion

The data used by researchers in analyzing analyze the factors that influence the use of HIV testing in indirect female sex workers (IFSW) in Indonesia are data from the Biological and Behavioral Integrated Survey (BBIS) 2015 with cross-sectional design in order to collect data of BBIS respondents. This research needs to improve because the study design makes it difficult to see the causal relationship or explain which conditions are first of a condition of health problems studied because of the measurement of variables carried out simultaneously. Another area for improvement in this study is using secondary data with different purposes from the research.

This study shows that the % of IFSWs aged ≥ 25 years who have run the HIV test was 55.1%. The p-value is <0.0001 (*p-value<0.05*) based on the chi-square calculation. Respondents over 25 years have an opportunity of 1,227 times to be at risk of HIV testing compared with respondents under 25. The results of this study are supported by the study of Ranonto et al., which states that there is a significant relationship between age variables and VCT utilization in FSW in Palu with a frequency distribution of groups of respondents less than 25 years, only 30% use VCT and 20% do not use VCT. While groups aged 25 years or over use VCT around 59.6% and not using VCT around 40.4%.[7], more mature Ages tend to prioritize the risks that will occur before acting. The older a person is, the more the experience will increase so that he will increase his knowledge of a particular object.

The statistical test analysis results stated that there was no relationship between marital status and utilization of HIV testing. This study's results align with Khairurrahmi's research, stating that marital status has no effect on the use of VCT.9 Referring to the results of this study, the development of the community thoughts that perceives HIV / AIDS status with negative connotations is the main barrier for IFSW to go to VCT services for testing their HIV status; this is no different either for the IFSW who are married or unmarried/divorced. Based on the observations of the researchers, the need for health examinations further encouraged those at risk of HIV / AIDS, including IFSW, to go to VCT services related to the positive HIV status suffered by IFSW and the possibility of partners being infected as well.

The statistical test analysis results stated a statistically significant relationship between the level of education and the use of HIV testing. This study's results align with the research conducted by G.K.Medhi et al., who said that one of the factors associated with HIV testing in FSW injecting drug users is having a history of education for 5-10 years. Those who have an education history of 5-10 years are four times more likely to have been tested for HIV status than the illiterates.[10] According to researchers, the education level does not influence health services because the information about HIV / AIDS does not focus on educational facilities. Knowledge about the causes, transmission, and treatment of HIV / AIDS has so far been more obtained from the mass media or support groups of ODHA so that people with HIV/AIDS and people at risk of HIV/AIDS with any educational background can access information about prevention, transmission, to treatment for HIV/AIDS.

The results of the statistical test analysis stated that there was a significant relationship between knowledge and the use of HIV testing. This study's results align with the research by Ranonto et al., saying that there is a significant relationship between knowledge about HIV / AIDS and the use of VCT in FSW in Palu.[7] Knowledge is one of the factors that influence behavior. If someone has good enough knowledge about an issue, then the individual or group tends to behave according to what they already know.[24]

The results of the multivariate analyses showed that the knowledge of indirect female sex workers was the most dominant factor affecting the utilization of HIV tests (PR= 2,521 95% CI: 2,081-3,055). Indirect female sex workers who have good knowledge are at 2,521 times higher risk for utilization of HIV tests compared to indirect female sex workers who have low knowledge.

The results of the statistical test analysis stated that there was no long relationship between working sex and the use of HIV testing. The results of this study are also in line with Setlhare and Menyeagae's research, which states that the variable length of sex work has no relationship with the use of HIV testing.[6] The period of employment of FSW is one of the critical variables related to the risk of contracting STIs or HIV. The risk of transmission can increase with the length of time being an FSW. Being an FSW may not be a lifelong job; there are times when the FSW stops, and the

number of their customers decreases.[12,13] The length of work as IFSW is one of the critical variables related to the risk of contracting STIs or HIV. Because the longer the working period of the IFSW, the more likely it is that they will serve customers who have been infected with STIs. However, if someone is aware of this, they will likely take precautions by visiting health services such as VCT to determine whether their HIV status is positive or negative and get health counseling from the health workers.[22]

The results of the statistical test analysis stated that there was a relationship between pimp support and the use of HIV testing. This study's results align with Budiono's research in Argorejo Semarang, stating that the support of pimps has an influence on efforts to prevent HIV/AIDS in FSWs and customers.[19] The same thing was said in a study conducted by Ranonto et al. in Palu, that almost all FSW respondents claimed they could not take an HIV test or go to a VCT clinic because there was no permission from the pimps. According to L. Green, support is an example of a reinforcing factor that is very influential in behavior, where the support of pimps who are the foster parents of the FSW is very influential in the behavior of regular VCT visits.[11,20]

Conclusion

There is a significant relationship between age, level of education, knowledge, age of first sex, risk perception, history of STI, number of customers, pimps support, and no relationship between marital status, working period as an indirect female sex worker, history of injecting drug usage, and consistency condoms use with the utilization of HIV test in indirect female sex workers in Indonesia. The most dominant variable effect on the utilization of HIV tests in indirect female sex workers is knowledge with PR value 2,521 (95% CI: 2,081-3,055). For the government, improving the implementation of HIV/AIDS prevention and control programs like the VCT test is not only among indirect sex workers but also needs to be done for the sex customer.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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