



ANALYSIS OF RISKY SEXUAL BEHAVIOR IN THE DRUG USER POPULATION

Intiyazi Nabila¹, Rico Januar Sitorus², Mohammad Zulkarnain¹

¹Faculty of Public Health, Universitas Sriwijaya, Jln Raya Palembang-Prabumulih, KM 32, Indralaya, Ogan Ilir, Sumatera Selatan 30662, Indonesia

²Department of Epidemiology, Faculty of Public Health, Universitas Sriwijaya, Jln Raya Palembang-Prabumulih, KM 32, Indralaya, Ogan Ilir, Sumatera Selatan 30662, Indonesia

*nabilaimtiyazi@yahoo.com

ABSTRACT

Drug abuse is one of the serious public health problems in Indonesia, especially because it can increase risky sexual behavior for HIV/AIDS transmission. Transmission of HIV can occur not only through the use of injection needles but also through unsafe sexual contact (not using condoms) with fellow injecting drug users or between injecting drug users and FSWs. This study aims to analyze risky sexual behavior in the drug user population at the Palembang City Drug Rehabilitation Center Foundation. This study is a descriptive analytical study with a cross-sectional design. The research instrument used a questionnaire based on the 2023 Integrated Biological and Behavioral Survey (STBP) of the Indonesian Ministry of Health 7. The study sample consisted of 130 people, selected based on the study's inclusion criteria. The majority of respondents were male (100%), age >29 years (63.8%), senior high school (67.7%), unmarried (60.8%), and had a permanent residence (96.2%). Then, the age of first using drugs was 15-19 years (55.4%), with a duration of use >5 years (63.8%), and they did not use injectable drugs (94.6%). From sexual behavior, 56.9% had had sex (vaginal), 28.5% with a permanent female partner, 13.8% with a paid woman. The analysis showed a significant relationship between age, marital status, age of first drug use, and knowledge of HIV/AIDS risk behavior. In contrast, education, current residence status, selling or buying sex, duration of drug use, injection drug use and attitudes were not significantly related. Education efforts and prevention programs need to be more focused on factors that have been proven to have an influence.

Keywords: drug users; HIV/AIDS; risk behavior

How to cite (in APA style)

Nabila, I., Sitorus, R. J., & Zulkarnain, M. (2025). Analysis of Risky Sexual Behavior in the Drug user Population. *Indonesian Journal of Global Health Research*, 7(5), 637-650. <https://doi.org/10.37287/ijghr.v7i5.6946>.

INTRODUCTION

HIV (Human Immunodeficiency Virus) is a virus that attacks the immune system. HIV infects white blood cells, weakening the immune system, making people more susceptible to various diseases. AIDS (Acquired Immunodeficiency Syndrome) is a collection of symptoms and signs of infection that arise from a weakened immune system caused by HIV infection (WHO, 2022). Indonesia ranks 14th in the world for the number of people living with HIV (ODHIV) and 9th for new HIV infections. By 2025, the number of people living with HIV is estimated to reach approximately 564,000. Of these, 67% are on antiretroviral therapy (ARV). Only about 55% have achieved a suppressed viral load, meaning the virus is undetectable and the risk of transmission is very low (Ministry of Health of the Republic of Indonesia, 2025).

Indonesia's HIV control program aims to end the AIDS and Sexually Transmitted Infections (STIs) epidemic by 2030 with a target of 95-95-95, meaning 95% of people living with HIV are aware of their disease status, 95% of whom are on ARV treatment, and 95% of those on treatment are virally suppressed. Furthermore, the three zeros targets must be achieved: zero new infections, zero deaths from AIDS, and zero stigma and discrimination (Ministry of Health of the Republic of Indonesia, 2025). In 2024, out of 6,986,402 people tested for HIV in 38 provinces in Indonesia, 63,707 (0.9%) ODHIV were found and 50,441 (79.2%) of them received ARV treatment (Executive Report on the Development of HIV AIDS and Sexually

Transmitted Infections for the Period January-December 2024). The percentage of ODHIV found in the period from January to December 2024 based on the highest risk population was ODHIV partners (28.4%), PS clients (14.7%), ODHIV children (13.6%), MSM (7.3%), high-risk couples (5.9%) (SIHA, 2024).

According to SIHA data as of January 2025, South Sumatra Province ranked 7th in terms of HIV testing, with 205,800 people tested. Of the 91% of people tested for HIV, 0.9% (63,707) were found to be living with HIV, and 79.2% (50,441) were receiving ARV treatment. Of the 986 people living with HIV in South Sumatra identified between January and December 2024, 808 began antiretroviral therapy (SIHA, 2024). The South Sumatra Health Office (Dinkes Sumsel) recorded 846 new cases of HIV/AIDS from January to October 2024, up from 870 cases from January to December 2023. Palembang City recorded the highest number of cases compared to other regencies/cities in South Sumatra, with 109 new cases as of October 2024.

The spread of HIV/AIDS has the potential to cause a lost generation due to deaths resulting from the transmission and spread of HIV/AIDS. This increasing spread of HIV/AIDS is certainly very worrying because it affects all levels of society in almost all provinces, especially within communities. Drug users are a particular subpopulation vulnerable to HIV infection. Based on data from the National Narcotics Agency (BNN) in 2024, 46,768 drug cases were found in Indonesia, dominated by people of productive age between 15-49 years old, with the types of drugs most commonly consumed being crystal methamphetamine and marijuana (BNN, 2024). The South Sumatra Provincial National Narcotics Agency (BNNP) recorded a drug abuse prevalence rate of 5.5 percent of the population, or 359,363 people, in 2021. This figure is the second highest in Indonesia after North Sumatra Province. Drug users in South Sumatra are predominantly male, accounting for 84.70 percent, or 304,380 people. Female users account for 15.30 percent, or 54,983 people.

One way HIV/AIDS is transmitted is through injection drug use. For example, if a person with HIV has blood on a needle, it can be transmitted to others. When the needle is used by an injecting drug user (IDU), the person can become infected. Transmission occurs immediately when someone uses the same needle without first sterilizing it. In a 2021 report by the United Nations Office on Drugs and Crime (UNODC), the agency that administers the UNAIDS (United Nations Programme on HIV/AIDS) program for HIV prevention, treatment, and care for drug users, 11.2 million people inject drugs and 1.4 million are infected with HIV. Injecting drug users are 35 times more likely to contract HIV than adults in the general population. Globally, UNAIDS states that drugs contribute to 10% of new HIV cases.

Based on Law Number 35 of 2009 concerning Narcotics, narcotics are substances or drugs derived from plants or non-plants, both synthetic and semi-synthetic, which can cause a decrease or change in consciousness, loss of feeling, reduce or even eliminate pain and can cause dependency. Sitorus (2016) in his research stated that the impact of drug use can cause behavioral changes such as being unrealistic, changing lifestyles and engaging in illegal activities. Behavioral changes tend toward negative behaviors that contribute to health and social problems. Drug users tend to engage in risky behaviors such as persistent smoking, alcohol consumption, and unsafe sex. Regarding risky behavior, HIV infection transmission can occur not only through the use of syringes but also through unsafe sexual contact (not using condoms) with other injecting drug users or between injecting drug users and sex workers (FSW). Another population related to injecting drug users and at risk of HIV infection is the drug user population undergoing rehabilitation programs at drug rehabilitation centers. In densely populated areas, the prevalence of infectious diseases such as HIV, Hepatitis B and C, and tuberculosis (TB) among drug users tends to be much higher (up to 50 times) than in the general population. Meanwhile, in many countries, particularly in low-

income developing countries, the need to provide good health services within rehabilitation centers remains a significant challenge or problem. Another area that needs attention and improvement is the development of rehabilitation services aimed at drug users with specific sexual orientations (transvestites/gays). To date, several challenges encountered in the rehabilitation environment when accepting patients/clients with specific sexual orientations (transvestites/gays) is the lack of special infrastructure provided for them. The choice of room placement is only available for men or women, this will certainly have an impact on the comfort and sense of security for service recipients while in drug rehabilitation services. The increasing number of HIV/AIDS cases among at-risk populations is certainly a serious concern, requiring a deeper understanding of the factors contributing to the spread of this disease. Social and economic factors, knowledge, attitudes, individual behavior, access to health services, and various environmental dynamics have played a role in the spread of HIV/AIDS in these communities. From the description above, this study aims to analyze the determinants related to risky sexual behavior in the drug user population at the Palembang City Drug Rehabilitation Center Foundation.

METHOD

This study is quantitative, using a cross-sectional design and using primary data from questionnaire interviews. The population in this study were all drug users in two Palembang Drug Rehabilitation Center Foundations, namely the Ar-Rahman Drug Rehabilitation Center Foundation and the Nawasena Abhipraya Sriwijaya Drug Rehabilitation Center Foundation. A sample of 130 was taken using a simple random sampling technique. This study used the Chi-Square Test and Multiple Logistic Regression. The independent variables of this study were age group, education level, marital status, current residence status, age of first drug use, duration of drug use, history of injecting drug use, selling or buying sex, knowledge, and attitudes. While the dependent variable is the risky sexual behavior.

For primary data obtained by researchers through questionnaire sheets filled out by researchers. While secondary data obtained by researchers from the Health Service and the Drug Rehabilitation Center Foundation related to the research topic. The instrument used is a questionnaire based on the 2023 Integrated Biological and Behavioral Survey (STBP) of the Indonesian Ministry of Health. The activities in the data processing process are editing, coding, data processing, and data cleaning. Meanwhile, data analysis is carried out through univariate analysis, bivariate analysis, and multivariate analysis. Bivariate analysis to analyze the relationship between dependent variables and independent variables using chi-square. Multivariate analysis in this study used multiple logistic regression tests with a prediction model. The ethics adopted in this study are consent, anonymity, confidentiality, justice, and the principle of doing good and not hurming. This research has passed ethical review with number 668/UN9.FKM/TU.KKE.2025.

RESULT

Table 1. Shows that the majority of respondents were male (100%), age category >29 years (63.8%), senior high school education (67.7%), unmarried (60.8%), and have a permanent residence (96.2%). Drug-related behavior, age of first drug use 15-19 years (55.4%), with duration of drug use >5 years (63.8%), and do not use injecting drugs (94.6%). From sexual behavior, 56.9% had sex (vaginal), 3.1% had sex (anal), 28.5% with a permanent female partner, 13.8% with a paid female partner, 13.1% with a casual female partner and 64.1% did not use condoms during sex.

Table 1.
Frequency Distribution of Respondents

Variable	f	%
Gender		
Man	130	100
Woman	0	0

Variable	f	%
Age		
<20 Years	6	4,6
20-24 Years	30	23,1
25-29 Years	11	8,5
>29 Years	83	63,8
Education		
No School	2	1,5
Elementary School	20	15,4
Junior High School	42	32,3
Senior High School	88	67,7
Marital status		
Not Married	79	60,8
Married	35	26,9
Not Living Together	4	3,1
Divorced	10	7,7
Refuse to Answer	2	1,5
Current Residence Status		
Having a Permanent Residence	125	96,2
Not Having a Permanent Residence	5	3,8
Age of First Drug Use		
<15 Years	18	13,8
15-19 Years	72	55,4
20-24 Years	20	15,4
>25 Years	20	15,4
Duration of Drug Use		
<1 Years	6	4,6
1-3 Years	30	23,1
3-5 Years	11	8,5
>5 Years	83	63,8
Injection Drug Use		
Yes	7	5,4
No	123	94,6
Have Had Sexual Intercourse		
Yes, Anal	4	3,1
Yes, Vaginal	74	56,9
Never	52	40
Sexual Partners		
Paid Woman	18	13,8
Women Who Pays	3	2,3
Female Permanent Partner	37	28,5
Male Permanent Partner	1	0,8
Female Casual Partner	17	13,1
Male Casual Partner	2	1,5
Level of Knowledge		
Good	6	4,6
Enough	22	16,9
Less	102	78,5
Attitude		
Negative	19	14,6
Positive	111	85,4
Risky Sexual Behavior		
Risk	50	38,5
Not Risk	80	61,5

Table 2. The analysis showed a significant association (p value <0.05) between age, marital status, age at first drug use, and knowledge of HIV/AIDS risk behaviors. In contrast, education level, current residential status, selling or buying sex, duration of drug use, injecting drug use, and attitudes did not show a significant association.

The Relationship Between Age and Risky Sexual Behavior

Based on the table above, of the 43 respondents in the age category <25 years (16.3%) had risky sexual behavior, while of the 87 respondents in the age category >25 years (49.4%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.001$ (<0.05) was obtained, meaning there is a significant relationship between age and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship between Education and Risky Sexual Behavior

Based on the table above, of the 42 respondents with low education (31%) had risky sexual behavior, while of the 88 respondents with high education (42%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.306$ (> 0.05) was obtained, meaning there was no significant relationship between education and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship Between Marital Status and Risky Sexual Behavior

Based on the table above, of the 81 unmarried respondents (17.3%) had risky sexual behavior, while of the 49 married respondents (73.5%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.0001$ (<0.05) was obtained, meaning there is a significant relationship between marital status and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship Between Current Residential Status and Risky Sexual Behavior

Based on the table above, of the 125 respondents who have a permanent residence (38.4%) have risky sexual behavior, while of the 5 respondents who do not have a permanent residence (40%) have risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 1$ (> 0.05) was obtained, meaning there is no significant relationship between current residence status and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship between Buying and Selling Sex and Risky Sexual Behavior

Based on the table above, of the 21 respondents with a history of buying and selling sex (19%) had risky sexual behavior, while of the 109 respondents with no history of buying and selling sex (42.2%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.08$ (> 0.05) was obtained, meaning there was no significant relationship between buying and selling sex and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship between Age of First Drug Use and Risky Sexual Behavior

Based on the table above, of the 90 respondents whose age of first drug use was <20 years (30%) had risky sexual behavior, while of the 40 respondents whose age of first drug use was >20 years (57.5%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.005$ (<0.05) was obtained, meaning that there is a significant relationship between the age of first drug use and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship Between Long-Term Drug Use and Risky Sexual Behavior

Based on the table above, of the 36 respondents with a duration of drug use <3 years (44.4%) had risky sexual behavior, while of the 94 respondents with a duration of drug use >3 years (36.2%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.505 (> 0.05)$ was obtained, meaning there was no significant relationship between the duration of drug use and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship Between Injection Drug Use and Risky Sexual Behavior

Based on the table above, of the 7 respondents who used injecting drugs (28.6%) had risky sexual behavior, while of the 123 respondents who did not use injecting drugs (39%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.707 (> 0.05)$ was obtained, meaning there was no significant relationship between injecting drug use and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship Between Knowledge and Risky Sexual Behavior

Based on the table above, of the 102 respondents with insufficient knowledge (31.4%) had risky sexual behavior, while of the 22 respondents with sufficient knowledge (59.1%) had risky sexual behavior and of the 6 respondents with good knowledge (83.3%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.004 (<0.05)$ was obtained, meaning there is a significant relationship between knowledge and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

The Relationship between Attitude and Risky Sexual Behavior

Based on the table above, of the 19 respondents with negative attitudes (15.8%) had risky sexual behavior, while of the 111 respondents with positive attitudes (42.3%) had risky sexual behavior. Based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.052 (> 0.05)$ was obtained, meaning there was no significant relationship between attitudes and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation.

Table 2.
Relationship with Risky Sexual Behavior

Variable	Risky Sexual Behavior				Total		P Value	OR (95%CI)
	Risk		No Risk		f	%		
	f	%	f	%				
Age								
<25 Years	7	16,3	36	83,7	43	100	0,001	0,329 (0,162-0,67)
>25 Years	43	49,4	44	50,6	87	100		
Education								
Low Education	13	31	29	69	42	100	0,306	0,736 (0,44-1,231)
Higher Education	37	42	51	58	88	100		
Marital status								
Not Married	14	17,3	67	82,7	81	100	0,0001	0,235 (0,142-0,39)
Married	36	73,5	13	26,5	49	100		
Current Residence Status								
Having a Permanent Residence	48	38,4	77	61,6	125	100	1	0,96 (0,321-2,873)
Not Having a Permanent Residence	2	40	3	60	5	100		
Selling or Buying Sex								
Yes	4	19	17	81	21	100	0,08	0,451 (0,182-1,12)
No	46	42,2	63	57,8	109	100		
Age of First Drug Use								
<20 Years	27	30	63	70	90	100	0,005	0,522 (0,345-0,789)
≥20 Years	23	57,5	17	42,5	40	100		

Duration of Drug Use								
<3 Years	16	44,4	20	55,6	36	100	0,505	1,229 (0,781-1,933)
≥3 Years	34	36,2	60	63,8	94	100		
Injection Drug Use								
Yes	2	28,6	5	71,4	7	100	0,707	0,732 (0,222-2,411)
No	48	39	75	61	123	100		
Knowledge								
Less	32	31,4	70	62,8	102	100	0,004	10,937 (1,227-97,474)
Enough	13	59,1	9	40,9	22	100		
Good	5	83,3	1	16,7	6	100		
Attitude								
Negative	3	15,8	16	84,2	19	100	0,052	0,373 (0,129-1,077)
Positive	47	42,3	64	57,7	111	100		

Multivariate Analysis

Based 2, it can be seen that from the multivariate analysis there are twelve variables that influence risky sexual behavior, namely the variables of Education, age, marital status, attitude, sufficient knowledge, insufficient knowledge, age of drug use, duration of drug use, residential status, engaging in sex trading, using injecting drugs. Among these variables, the most dominant predictor factor influencing risky sexual behavior is the variable of duration of drug use. The results of the analysis obtained OR from the variable of duration of drug use is 4.178 (95% CI 1.047-16.677), meaning that respondents with duration of drug use >3 years have a 4.178 times greater possibility of influencing risky sexual behavior compared to respondents with duration of drug use <3 years after taking into account (controlling) other variables, namely the variables of education, age, marital status, attitude, sufficient knowledge, insufficient knowledge, age of first drug use, residential status, engaging in sex trading, and injecting drug use with 95% probability of OR in the population ranging from 1.047-16.677.

Table 3.
Final Model

Variable	P Value	PR	95% CI	
			Lower	Upper
Education	0,365	0,586	0,184	1,862
Age	0,141	0,363	0,094	1,4
Marital status	0,0001	0,043	0,012	0,152
Attitude	0,148	0,261	0,042	1,611
Good Knowledge	Reff			
Sufficient knowledge	0,128	0,062	0,002	2,231
Lack of knowledge	0,009	0,008	0,0001	0,309
Age of First Drug Use	0,206	0,449	0,13	1,553
Duration of Drug Use	0,043	4,178	1,047	16,677
Current Residence Status	0,478	2,696	0,175	41,636
Selling or Buying Sex	0,013	0,113	0,02	0,634
Injection Drug Use	0,793	0,698	0,047	10,282

DISCUSSION

Relationship between Age and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $p = 0.001 (<0.05)$ was obtained, meaning that there is a significant relationship between age and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. Age is one factor that influences a person's level of knowledge. As a person ages, their maturity in thinking processes, patterns, and comprehension develop, resulting in better knowledge acquisition (Notoatmodjo, 2014). The

average age (mean) of drug users in this study was 29.57 years. According to the Indonesian Ministry of Health (2025), the age range of 18-59 years is included in the adult category (productive age). The health of productive age is very important to support productivity and quality of life. In this study, the lowest age of respondents was 14 years and the highest was 55 years. The lowest age in this study based on the age category of the Indonesian Ministry of Health (2025) is the adolescent category. The percentage of adolescents in this study was only 4.6% (6 respondents). The majority of drug users were aged >29 years (adults), this is in accordance with the respondent characteristics table that most of the respondents (87.7%) already had an identity card/NIK. In theory, adolescents are at greater risk of unsafe sexual behavior than adults because adolescence is a transitional period both physically, psychologically, and socially from childhood to adulthood. During adolescence, psychological and biological development occurs, so it is greatly influenced by various factors that occur in various areas of society. In some cases, adults can also engage in risky behavior related to HIV/AIDS. This is related to the level of knowledge that influences attitudes and behavior.

Relationship between Education and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.306 (> 0.05)$ was obtained, meaning that there is no significant relationship between education and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. Education is related to knowledge; good knowledge will influence a person's attitudes and behavior. Furthermore, individual perceptions, through educational attainment, have a long-term impact on behavior. The majority of drug users in this study, 56.9%, had a high school education. Although most respondents were in the higher education category, 78.5% had insufficient knowledge. This is related to the remaining 15.4% of respondents having a lower education level (elementary and junior high school). Rohmatullailah et al. (2021) stated that HIV incidence is influenced by low education levels. Low education levels are 4.709 times more likely to be affected by HIV/AIDS. The perception and processing of health-related information is influenced by education level. The higher a person's education, the easier it is to receive information. The more information received, the easier and faster the process of updating knowledge and forming a comprehensive cognitive foundation on a topic. An educated person has a better ability to absorb and understand information, particularly health information. Education is one of the most powerful weapons in preventing HIV transmission.

Relationship between Marital Status and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.0001 (<0.05)$ was obtained, meaning that there is a significant relationship between marital status and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. In this study, the majority of drug user respondents, 60.8%, were unmarried and 26.9% were married. 7.7% were married but divorced, and 3.1% were married but not living together. The results of this study support research conducted by Puspita (2020), which showed that respondents with high-risk sexual behaviors for contracting HIV/AIDS were more common among unmarried respondents (36.4%) compared to married respondents (13.0%). Unmarried respondents were more likely to engage in sexual relations with FSW than married respondents. Marital status indicates whether a person is married or not. Marriage is a way to strengthen a relationship, strengthening a bond between people. This bond, among other things, involves sexual intercourse, which is related to reproductive function and the goal of producing offspring. According to the Health Belief Model (HBM), marital status, as part of an individual's characteristics, is a modifying factor that influences an individual's perception or beliefs about a particular issue.

Relationship between Current Residential Status and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 1 (> 0.05)$ was obtained, meaning that there is no significant relationship between current residential status and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. In this study, the majority of drug user respondents (96.2%) had a permanent residence, while 3.8% did not. Permanent residence refers to a place to sleep or rest, including houses, boarding houses, and rented accommodation. The majority of respondents in this study lived in urban areas. 24.6% of respondents lived with a sexual partner, while 75.4% did not live with a sexual partner. This information about their living status with a sexual partner influences sexual activity. For married couples who live with a sexual partner, they can channel their sexual desires with their sexual partner, making it less likely to engage in risky behaviors such as engaging in sexual relations with FSW.

In social learning theory, environmental factors can reciprocally influence a person's behavior. Behavior is formed through the process of observing and learning everything they see and hear in their environment, including the people they interact with. HIV/AIDS risky sexual behavior is strongly influenced by regional characteristics. Compared to those living in rural areas, urban residents tend to have a good level of knowledge about HIV/AIDS. Rural life is characterized by limited infrastructure and limited networks, resulting in less access to information sources compared to urban areas. Consequently, rural residents receive limited health information, including information about HIV/AIDS. Furthermore, rural areas are difficult to reach, making health interventions more time-consuming. Conversely, those living in urban areas are more exposed to information, including information related to HIV/AIDS prevention and control interventions through mass media, training, and counseling.

Relationship between Buying and Selling Sex and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.08 (> 0.05)$ was obtained, meaning that there is no significant relationship between buying and selling sex and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. This study is not in line with the study conducted by Winahyu et al., (2019) which found a significant correlation between sexual transaction actions and risky sexual behavior, with a P-value = 0.001. Mardalina (2019) also stated that there is a relationship between the affordability of sex transactions and risky sexual behavior, with a P-value = 0.000. Of the respondents who had had sexual intercourse, 13.8% had had sex with a paid woman, 13.1% had had sex with a casual partner, and 2.3% had sex with a paid woman. Changing sexual partners is a risky sexual behavior that can increase the risk of contracting and transmitting HIV. Research by Sari (2021) shows a relationship between the number of sexual partners and HIV incidence, with a P-value of 0.013 (<0.05) and an OR of 3.32, meaning that respondents with more than one sexual partner are 3.32 times more likely to experience HIV than those with only one sexual partner.

During sexual intercourse, 61.5% of respondents used condoms while 38.5% did not use condoms. Contraceptive use (condoms) during sexual intercourse also influences HIV transmission. In their study, Winahyu (2019) stated a significant association between condom use and HIV-risk sexual behavior, with a P-value of 0.009 and an OR of 0.571 (95% CI: 0.47-26.89). This means that respondents who did not use condoms during sex had a 0.571-fold greater risk of contracting HIV. Murtono et al. (2018) also stated that inconsistent condom use during sex increased the risk of HIV/AIDS by 5.34 times compared to consistent condom use. This study also found that 3.1% of respondents had engaged in anal sex. Anal sex without a condom doubled the risk of HIV infection compared to using a condom (Zhu Z et al., 2019). The study also found that 1.5% of respondents had had sex with a casual male partner, and

0.8% had had sex with a regular male partner. All respondents were male, indicating that some respondents were MSM (Men Who Have Sex with Men). Nurhayati (2018) in her research stated that MSM who have high-risk sexual intercourse have a 1.97 times greater chance of contracting HIV/AIDS compared to those who do not have MSM.

Relationship between Age of First Drug Use and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $p = 0.005 (< 0.05)$ was obtained, meaning that there is a significant relationship between the age of first using drugs and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. The average age of first drug use in this study was 19.54 years. The median age was 18 years with a standard deviation of 7.408, the lowest age of respondents was 10 years and the highest was 50 years. The majority of drug users, 55.4%, first used drugs at the age of 15-19 years, 15.4% at the age of 20-24 years, 15.4% at the age of >25 years, and 13.8% at the age of <15 years. The age category of 18 to 25 years is the emerging adulthood phase, this phase is a transition from adolescence to adulthood. In this phase, individuals begin to explore their identity, especially in love, work, and perspectives on the world. Changes experienced in the emerging adulthood phase include changes in relationships with family. Previously, individuals tended to rely on family, especially their parents. However, in this phase, feelings of reluctance and embarrassment arise to do so because they feel they are adults and should no longer rely on their parents. Many individuals will feel ambiguous about their status, which involves emotional factors. When individuals focus on the future, they tend to feel fear and anxiety, and when they focus on the past, they feel depressed. Therefore, individuals in emerging adulthood will have difficulty making decisions, tending to rely on fear and the expectations of others in the process. Extrinsic motivation, such as the recognition of others, usually results in little personal involvement in life decision-making. This is one of the factors that influence someone to engage in drug use. Yellisni (2019) in her research stated that environmental factors, lack of attention from parents/family, and shortcuts to solutions to problems are factors that cause adolescents to be interested in using drugs. Nawi (2021) in her research also stated that adolescents at a critical age (18-25 years) have a strong tendency towards experimentation, curiosity, vulnerability to peer pressure, rebellion against authority, and poor self-esteem, thus encouraging adolescents to initiate drug use. Harwati's (2022) research found a significant correlation between drug use and sexual behavior, with a P-value of 0.000. The ease of access to drugs has led to an increase in drug use. Drug use can negatively impact the physical and mental health of users, and drug users are more likely to engage in risky sexual behavior due to the effects.

Relationship between Duration of Drug Use and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $p = 0.505 (> 0.05)$ was obtained, meaning that there is no significant relationship between the duration of drug use and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. The average duration of drug use (months) (mean) in this study was 104.49 months. The median was 96 months with a standard deviation of 76.361, the minimum duration of drug use was 1 month and the maximum was 360 months. The majority of drug users (63.8%) had a duration of drug use >5 years, 23.1% had a duration of drug use 1-3 years, 8.5% had a duration of drug use 3-5 years, and 4.6% had a duration of drug use <1 year. The most commonly consumed types of drugs were Amphetamine (shabu) and Marijuana (ganja). These types of drugs are the types of drugs with the most cases in Indonesia. A total of 36,050 cases of methamphetamine and 3,814 cases of marijuana (BNN Polri, 2024). Classification based on its influence/effect on the central nervous system (CNS), Amphetamine (shabu) is a stimulant substance that has the effect of increasing CNS activity in the brain. This substance increases heart rate and breathing, and increases the sensation of euphoria. Meanwhile, according to the Appendix to

Minister of Health Regulation 9/2022, marijuana (hashish, Ganja/Cimeng/Gele/Gelok) is a Class I narcotic. Marijuana comes from the *Cannabis sativa* plant, which produces narcotics in its seeds. Marijuana abuse can cause euphoria and prolonged, unprovoked pleasure. This is illustrated by the frequency distribution table for drugs and alcohol, which shows that the majority of respondents (95.4%) use drugs for fun, or to engage in highs, flakes, boating, or fantasizing. Long-term drug use impacts the body's immune response. A weakened immune system makes a person susceptible to disease. Under these conditions, engaging in risky sexual behavior increases the risk of contracting HIV. Long-term drug use can also increase the risk of developing an interest in injecting drugs. Initially, people may be reluctant to try, but as drug dependence develops, a curiosity about injecting drugs develops, which can be influenced by environmental factors.

The Relationship Between Injectable Drug Use and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $p = 0.707 (> 0.05)$ was obtained, meaning that there is no significant relationship between the use of injected drugs and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. Based on research by Sudaryo (2020), it was found that the behavior of injecting drug use has a very strong and statistically significant influence on HIV-risk sexual behavior as seen from the OR from 3 studies of OR = 11.4; (95% CI: 2.2–59.1) and adjusted OR = 104.8 (95% CI: 30.9–355.3). In a study conducted on inmates of correctional institutions and detention centers in Indonesia, it was explained that inmates who had been infected with HIV before entering prison were at high risk of HIV infection in prison/correctional facility, especially through the behavior of injecting drugs and the use of needles with other inmates (sharing needles) contaminated with HIV and unprotected sex. In addition to being vulnerable to being tempted or influenced to use needles, inmates are also vulnerable to engaging in unsafe sexual contact. The results of the study also showed a relationship between unsafe sex and HIV infection. Among drug users, including inmates living in drug prisons, the triad of sex-drug-alcohol interactions can also apply (Sudaryo, 2020). Injecting drug users (IDUs) not only contribute to HIV/AIDS cases through shared needles but also through unsafe sexual behavior. These risky sexual behaviors have the potential to spread HIV/AIDS to the general public. There are three ways to prevent the risk of HIV transmission through sexual intercourse: abstaining from sex (abstaining from sex altogether), being faithful (having sex only with one's spouse), and consistently using condoms (always using condoms during sex).

Relationship between Knowledge and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $p = 0.004 (< 0.05)$ was obtained, meaning that there is a significant relationship between knowledge and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. Based on the processed data, the majority of respondents, 102 respondents (78.5%), had insufficient knowledge regarding HIV. This indicates that most respondents do not have an adequate understanding of the dangers, risks, or impacts of HIV/AIDS. Conversely, 22 respondents (16.9%) had sufficient knowledge, and 6 respondents (4.6%) had a good level of knowledge. This indicates that a small proportion of respondents have understood various aspects related to HIV/AIDS, both in terms of risks, health impacts, and prevention efforts. These results depict a fairly positive condition, where some respondents have good awareness and knowledge regarding HIV/AIDS. However, the presence of 78.5% of respondents with insufficient knowledge indicates the need for further efforts, such as counseling or education focused on increasing knowledge. Respondents with good knowledge about HIV/AIDS tend to have low-risk behavior, while those with less knowledge tend to have high-risk behavior. This theory aligns with the results of this study, which found a bivariate analysis with a P-value of 0.004, indicating a significant relationship between knowledge level and risky sexual behavior. A

person's knowledge of something can change and develop according to their abilities, needs, experience, and the level of information mobility in their environment. A process based on knowledge, awareness, and a positive attitude will lead to lasting behavior. Conversely, if the behavior is not based on knowledge and awareness, it will not last long.

Relationship between Attitude and Risky Sexual Behavior

From the results of this study, it is known that based on the results of the statistical analysis of the Chi-Square Test, the value of $\rho = 0.052 (> 0.05)$ was obtained, meaning that there is no significant relationship between attitudes and risky sexual behavior in drug users at the Palembang City Drug Rehabilitation Center Foundation. This study supports research conducted by Arfiani (2023), which found no significant correlation between attitudes and risky sexual behavior, with a P-value of 0.286. Abdi (2020) also stated that attitudes were not related to HIV/AIDS risk behavior, with a P-value of 0.075 (>0.05). Attitudes consist of various levels, namely: receiving, meaning a person (subject) is willing and attentive to a given stimulus (object). Responding, meaning providing an answer when asked. Valuing, meaning inviting others to work on or discuss a problem. Being responsible, meaning being prepared to accept all risks associated with a chosen activity (Notoatmodjo, 2014).

A good attitude is not only influenced by knowledge but also by other factors such as emotional states, personal experiences, mass media, educational institutions, the influence of others, and culture. If there is a mismatch between attitudes and HIV/AIDS prevention, it is usually due to knowledge not being aligned with attitudes, and a lack of effort to change actions or behavior. Even having good knowledge and attitudes toward HIV/AIDS does not preclude the possibility of not taking HIV/AIDS prevention efforts; this is due to a lack of awareness of the dangers of HIV/AIDS. Changing a person's behavior from risky to less risky is influenced by emotional changes and knowledge in a process that encourages conscience and logic.

CONCLUSION

Based on the research results, analysis, and discussion of the study entitled "Analysis of Knowledge and Attitudes of Drug Users Towards HIV/AIDS Risk Behaviors at the Palembang City Drug Rehabilitation Center Foundation," the following conclusions were reached: Based on the frequency of respondent characteristics, the majority (63.8%) of drug users were aged >29 years, 100% were male, 67.7% had a high school education, 60.8% were single, and 96.2% had a permanent residence. Based on the frequency of drug-related behavioral characteristics, the majority (55.4%) were aged 15-19 years when they first started using drugs, 63.8% had used drugs for more than 5 years, and 94.6% did not inject drugs. Based on the frequency of sexual behavior characteristics, the majority (56.9%) had ever had sex, 28.5% had sex with a regular female partner, 13.8% had sex with a paid female partner, and 13.1% had sex with a casual female partner. There is a significant relationship between age, marital status, age at first drug use, and knowledge with risky sexual behavior. There is no significant relationship between education, current residential status, duration of drug use, injecting drug use, buying or selling sex, and attitudes with risky sexual behavior. The most dominant predictor of risky sexual behavior is the variable of duration of drug use with a value of 4.178 (95% CI 1.047-16.677). This means that respondents with a duration of drug use of >3 years are 4.178 times more likely to influence risky sexual behavior compared to respondents with a duration of drug use of <3 years. This influence is related to HIV/AIDS risky sexual behavior among drug users at the Drug Rehabilitation Center Foundation in Palembang City.

REFERENCES

- Abdi, G. S., Muhaimin, T., Lita, N., Riva'i, S. B., & Fahmi, M. M. (2019). Perilaku Berisiko HIV/AIDS Pada Remaja Sma Di Wilayah Kerja UPTD Puskesmas Harapan Raya Pekanbaru Tahun 2018. *Photon: Jurnal Sain dan Kesehatan*, 9(2), 35-47.

- Amelia, M., Hadisaputro, S., Laksono, B., & Anies, A. (2016). Faktor risiko yang berpengaruh terhadap kejadian HIV/AIDS pada laki-laki umur 25-44 tahun di Kota Dili, Timor Leste. *Jurnal Epidemiologi Kesehatan Komunitas*, 1(1), 39-46.
- Ardianti, I., & Julianto, E. K. (2024). Hubungan tingkat pendidikan norma agama dan norma keluarga dengan perilaku seksual pranikah pada remaja. *Jurnal ilmu kesehatan makia*, 14(2), 42-51.
- Arfiani, A., Khatimah, H., & Akhfar, K. (2023). Faktor-Faktor Yang Berhubungan Dengan Perilaku Seksual Remaja Di Kabupaten Bulukumba. *Jurnal Riset Ilmu Kesehatan Umum Dan Farmasi (JRIKUF)*, 1(4), 131-146.
- Depkes, R. I. (2012). Pedoman Pelayanan Konseling dan Testing HIV/AIDS Secara Sukarela.
- Gobel, F. A., & Yusriani, Y. (2020). Gambaran Pengetahuan dan Sikap Anak Buah Kapal (ABK) Terhadap Perilaku Berisiko Tertular HIV/AIDS.
- Harwati, A. R., & Laksmi, P. (2022). Determinants of Sexual Behavior in Adolescent Girls Aged 15-19 Years Old in Indonesia. *Jurnal Ilmiah Kesehatan (JIKA)*, 4(2), 239-251.
- Infodatin, K. R. (2016). Situasi Penyakit HIV/AIDS di Indonesia. *Jakarta Selatan: Kementerian Kesehatan RI. diakses pada Selasa, 7.*
- Mardalina, A. (2017). Faktor-faktor yang berhubungan dengan perilaku seks berisiko HIV/AIDS pada Tenaga Kerja Bongkar Muat (TKBM) di pelabuhan Tanjung Emas Semarang. *Jurnal Kesehatan Masyarakat*, 3(3), 869-876.
- Nawi, A. M., Ismail, R., Ibrahim, F., Hassan, M. R., Manaf, M. R. A., Amit, N., ... & Shafurdin, N. S. (2021). Risk and protective factors of drug abuse among adolescents: a systematic review. *BMC public health*, 21(1), 2088.
- Notoatmodjo, S. (2014). Promosi Kesehatan Dan Perilaku Kesehatan Rineka Cipta.
- Nurhayati, N., Sudirman, S., & Afni, N. (2018). Faktor Risiko Kejadian Infeksi HIV/AIDS di RSUD Anutapura Palu. *Jurnal Kolaboratif Sains*, 1(1).
- Pasaribu, R. S., & Andayani, L. S. (2019). Faktor Faktor Yang Berhubungan Dengan Kejadian Hiv Pada Wps (Wanita Pekerja Seks) Di Klinik Vct (Voluntary Counseling And Testing) Wilayah Kerja Puskesmas Padang Bulan Kota Medan. *Jurnal Mutiara Ners*, 2(1), 168-177.
- Rohmatullailah, D., & Fikriyah, D. (2021). Faktor risiko kejadian HIV pada kelompok usia produktif di Indonesia. *Jurnal Biostatistik, Kependudukan, Dan Informatika Kesehatan*, 2(1), 4.
- Sari, P., Sayuti, S., & Razi, P. (2021). Determinan Perilaku Seksual Berisiko Tertular Hiv/Aids Dan Infeksi Menular Seksual (Ims) Pada Pekerja Perusahaan Di Tanjung Jabung Barat Provinsi Jambi. *Jurnal Bahana Kesehatan Masyarakat (Bahana of Journal Public Health)*, 5(1), 31-40.
- Saliu, A., & Akintunde, B. (2014). Knowledge, attitude, and preventive practices among prison inmates in Ogbomoso prison at Oyo State, South West Nigeria. *International journal of reproductive medicine*, 2014(1), 364375.
- Sitorus, R. J. (2016). Use of narcotics supports risk behaviors. *Jurnal Ilmu Kesehatan Masyarakat*, 7(1), 58000.
- Sudaryo, M. K. (2019). Determinan yang Meningkatkan Risiko Terinfeksi HIV pada Wargabinaan Lembaga Pemasyarakatan dan Rumah Tahanan di Indonesia: Studi Tinjauan Pustaka 2007-2017. *Jurnal Epidemiologi Kesehatan Indonesia*.

- Sugiarto, M. (2017). Hubungan Status Pernikahan dan Kepemilikan Kondom dengan Penggunaan Kondom Saat Melakukan Hubungan Seksual pada Pasangan Tidak Tetap Pengguna NAPZA Suntik. *Jurnal Kesehatan Terpadu*, 1(2), 44-48.
- Sumini, S., Hadisaputro, S., Anies, A., Laksono, B., & Sofro, M. A. (2017). Faktor Risiko yang Berpengaruh terhadap Kejadian HIV/AIDS pada Pengguna Napza Suntik (Studi Epidemiologi Di Kota Pontianak). *Jurnal Epidemiologi Kesehatan Komunitas*, 2(1), 36-45.
- Unaid.org (2021,02 Februari). Global HIV and AIDS statistics : 2020 fact sheet. Diakses pada 02 Februari 2021, dari <http://unaid.org/en/resources/fact-sheet>
- World Health Organization (WHO). HIV drug resistance report 2022. Geneva: WHO. 2022.
- Winahyu, L., Husodo, B. T., & Indraswari, R. (2016). Faktor-faktor yang berhubungan dengan perilaku seksual berisiko pada trucker di Pelabuhan Tanjung Emas Semarang. *Jurnal Kesehatan Masyarakat*, 4(5), 330-338.
- Yellisni, I., 2019. Studi Fenomenologi: Pengalaman Penyebab Kenakalan Remaja Pengguna Narkoba di Rumah Sakit Ernaldi Bahar. *Masker Medika*, 7(2), pp.494-516.
- Yunior, N., & Wardani, I. K. F. (2018). Faktor-faktor yang berhubungan dengan kejadian HIV/AIDS di RSUD Kabupaten Bekasi tahun 2018. *Bikfokes: Jurnal Kesehatan STIKM Cikarang*, 2(1), 45-52.
- Zhu, Z., Yan, H., Wu, S., Xu, Y., Xu, W., Liu, L., ... & Detels, R. (2019). Trends in HIV prevalence and risk behaviours among men who have sex with men from 2013 to 2017 in Nanjing, China: a consecutive cross-sectional survey. *BMJ open*, 9(1), e021955.