

AMERICAN JOURNAL OF ARTS AND HUMAN SCIENCE (AJAHS)

ISSN: 2832-451X (ONLINE)

VOLUME 2 ISSUE 3 (2023)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

The Risk Factors Causes Incidence of HIV/AIDS for Peoples Living with HIV/AIDS (PLWHA) : A Systematic Review

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Article Information

Received: July 10, 2023

Accepted: August 03, 2023

Published: September 02, 2023

Keywords

Risk Factor, Causes, People with HIV

ABSTRACT

Human Immunodeficiency Virus (HIV) is an infectious disease leading to the top level of cause of died with high mortality and morbidity rates and requires relatively long diagnosis and therapy. HIV is a virus that attacks white blood cells (lymphocytes) in the body. which causes a decrease in human immunity, causing Acquired Immunodeficiency Syndrome (AIDS) (Dwi Astuti, 2022). In Indonesia, the number of positive HIV cases has been increasing yearly, and it mostly affects the productive age group, specifically individuals aged 25-49 years. HIV is a virus that weakens the human immune system. The occurrence of HIV is influenced by various factors contributing to its spread. This study aims to identify the risk factors associated with HIV incidence in Indonesia. The methodology involves a literature review, examining the risk factors for HIV incidence based on ten health journals published in the last ten years, following specific inclusion and exclusion criteria. Based on the reviewed journals, the risk factors for HIV incidence in Indonesia are as follows: male gender (OR=1.77), age <40 years (OR=7.25), first marriage at age <20 years (OR=5.62), married status (OR=2.54), a low education level (OR=4.70), common knowledge about HIV (OR=3.32), history of alcohol consumption (OR=7.65), history of using non-sterile needles (OR=3.42), history of family members with HIV/AIDS (OR=2.95), history of HIV-positive spouse (OR=83.74), history of sexually transmitted infections (STIs) (OR=2.92), heterosexual behavior (OR=3.15), homosexual behavior (OR=1.97), bisexual behavior (OR=2.08), engaging in combination sexual relationships (OR=4.89), having multiple sexual partners (OR=23.32), engaging in unprotected sexual intercourse (OR=5.34), and alternating injection drug use (OR=9.3). In the future, the Health Department needs to optimize health promotion methods among sex workers regarding condom use, provide HIV education for all age groups, and foster collaboration between HIV advocacy activists, non-governmental organizations (NGOs), healthcare professionals, and relevant institutions.

INTRODUCTION

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) is a global health problem. The World Health Organization (WHO) states that HIV/AIDS is a global threat and has detrimental impacts on all sectors. HIV/AIDS is a top-ranked infectious disease leading to high mortality rates and disease incidence, requiring lengthy diagnosis and therapy (WHO, 2006).

HIV is a significant global health issue. According to the 2019 global HIV epidemiology report by the United Nations Program on HIV and AIDS (UNAIDS), 38 million people worldwide lived with HIV in 2019. Shockingly, 7.1 million individuals were unaware of their HIV infection. HIV epidemiology poses a significant challenge to public health globally, affecting both developed and developing countries, including Indonesia. HIV is the main cause of the deterioration of the secondary immune system, which gradually leads to the AIDS stage. However, the integrity of the immune system is crucial in defending the body against microorganisms and their toxic byproducts (Kresno, 2010).

Globally 2006, more than 56 million people were living with HIV/AIDS. Since 2005, there have been 4.9 million new HIV infections and over 3.1 million AIDS-related

deaths. In the United States, HIV ranked fourth as a cause of death in 2005 (Black & Hawks, 2008). Also reported UNAIDS and WHO (2009), the global AIDS epidemic 2008 had 33.4 million people living with HIV. The estimated number of new HIV infections was 2.7 million. The total number of AIDS-related deaths in Indonesia reached 13,360 people in 2016 (Directorate General of Disease Prevention and Control, Ministry of Health, Indonesia, December 31, 2016). By December 2016, the reported number of new AIDS cases was 86,780, and it is estimated that the number of people living with HIV/AIDS will continue to increase. The cumulative number of AIDS cases was 10.46 per 100,000 population, based on the 2009 data from the Indonesian Central Bureau of Statistics (BPS) with a population of 230,632,700 (Directorate General of Disease Prevention and Control, Ministry of Health, Indonesia, 2011).

Meanwhile, according to Indonesian epidemiology experts in their study on the trend of the HIV/AIDS epidemic, without significant efforts in mitigation, the number of AIDS cases would reach 1 million people with 350,000 deaths by 2015 (National AIDS Commission, 2010a; Nasronudin, 2007). This is due to the iceberg effect, where the number of known HIV cases is smaller than that of unknown cases (Directorate General of

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Disease Prevention and Control, Ministry of Health, Indonesia, 2008).

HIV is a highly deadly virus, and deaths caused by HIV generally occur over a relatively long period, starting from HIV infection until the onset of AIDS. However, one of the most inhumane causes is the decline in social life for individuals who feel marginalized from society at large. AIDS patients are more likely to be found among those with poor social relationships. Patients often face a highly difficult phase of life and encounter difficulties in carrying out daily activities in society, such as losing their jobs, experiencing a loss of love from their loved ones and friends, and even being shunned by social circles and communities. Social pressures make individuals with HIV have a less favorable life and impose special pressures on them (Info Dokter).

Community empowerment is widely accepted in health promotion practices and has become a strategy for program development and implementation (Sulaeman, 2021). WHO (1998) distinguishes between individual and community empowerment. Individual empowerment primarily refers to individuals' ability to make decisions and control their personal lives. Community empowerment involves the social ability of the community to make decisions and control their lives within society.

Table 1: distribution frequency case HIV/AIDS were affected from activities prostitution in Timor Leste

Age group	N	%
< 5 years	6	3
6-14 years	2	1
15 – 24 years	52	27
25 – 44 years	115	60
>45 years	17	19
Total	192	100

Source: MoH-TL, 2021

Health promotion is a revitalization of past health education concepts, where health promotion goes beyond raising awareness and increasing knowledge in the health field. It also aims to facilitate behavioral changes within society and within organizations and their environments (Kenre, 2022). The success of HIV transmission prevention programs is heavily influenced by community empowerment in health. Therefore, HIV transmission prevention programs are crucial in community health empowerment.

METHODOLOGY

The method used in collecting these journals is a systematic literature review, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which involves four stages: identification, screening, eligibility, and inclusion of accepted results. Literature studies were conducted by searching scientific publications from 2011-2020 through online access to electronic databases such as Google Scholar, Science Direct, BMJ Open, and Lontar UI, using the following search combinations: HIV, risk factors, incidence, and occurrence.

The inclusion criteria for the research were using journals published within the last ten years and providing data on the relative risk (RR), odds ratio (OR), or prevalence ratio (PR). The exclusion criteria were incomplete data presentation and journals that did not discuss the risk factors of HIV occurrence. Out of 3,671 journals and articles, 252 journals were identified, consisting of 143 English-language journals and 109 Indonesian-language journals, following the exclusion criteria. Meanwhile, 3,419 of them were deemed irrelevant. Furthermore, there were 49 journals with complete data, which provided relative risk (RR), odds ratio (OR), or prevalence ratio (PR) information. As a result, the authors obtained ten journals, comprising 2 English-language journals and 8 Indonesian-language journals, based on the established criteria (Figure 1).

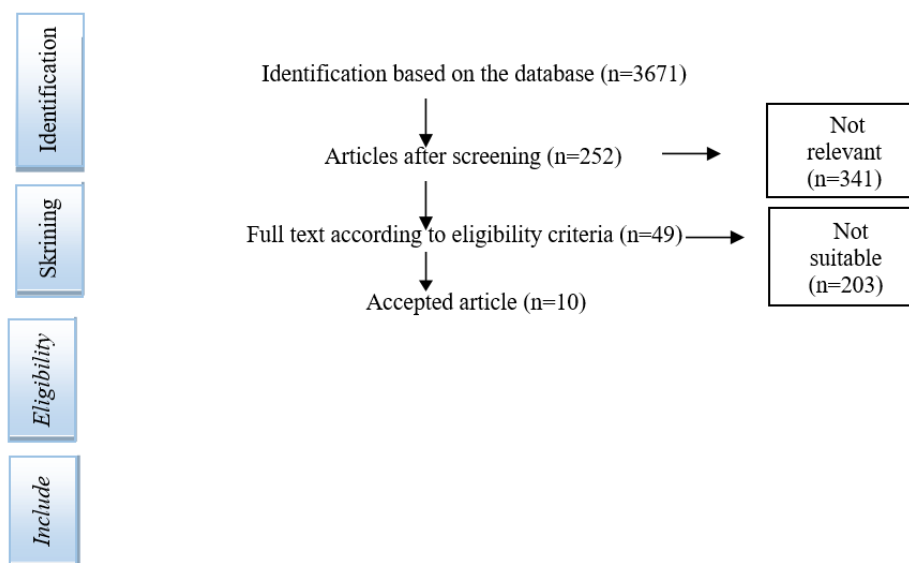


Figure 1: The flow of a systematic review

Table 1: Systematic Review

No	Article Information	Article Summary
1	Title: Factors Related to HIV/AIDS Transmission by People with HIV/AIDS in Dogiyai District Papua Province	Objective: Factors related to HIV transmission by PLWHA in Dogiyai District
	Authors: Isak Waine ¹ , A.L. Rantetampang ² , Yermia Msen ³ , Anwar Mallongi ⁴ (Isak Waine <i>et al.</i> , 2018)	Method: Analytic with cross-sectional study design
	Publish:	Results: Factors related to actions HIV / AIDS transmission in Dogiyai Regency is the marital status (p-value 0.038; RP = 1.498; CI95% (1.077 - 2.063), knowledge (p-value 0,000; RP = 10.376; CI95% (3.488 - 30.861), attitude (p-value 0.025; RP = 1.541; CI95% (1.107 - 2.144) and a long time to suffer from HIV / AIDS against HIV / AIDS transmission in Dogiyai District (p-value 0.599; RP = 0.879; CI95% (0.622 - 1.242). Factors that are not related to the act of transmission of HIV/AIDS in Dogiyai Regency are age (p-value 0.107; RP = 1.595; CI95% (0.899 - 2.830), gender (p-value 0.203; RP = 0.764; CI95% (0,528 - 1,105), education level (p-value 0,145; RP = 1,358; CI95% (0,981 - 1,979) and work (p-value 0,388; RP = 0,827; CI95% (0,587 - 1,165). The dominant factor in HIV/AIDS transmission is marital status, with a risk level of 7.125 times for unmarried respondents to HIV / AIDS transmission.
	Link: https://ijshr.com › IJSHR0013	
2	Title: Influential Host Factors to the Incidence of HIV/AIDS in Key Population in Pati District	Objective: To determine the high-risk modes of HIV/AIDS transmission.
	Authors: Dwi Murtono, Pugu Riyanto, Zahroh Shaluhiyah (Dwi M <i>et al.</i> , 2018)	Method: A case-control study.
	Publish National Journal of Public Health, Vol 13, Issue 1.	Results: Factors influencing the occurrence of HIV/AIDS in key populations are: <ul style="list-style-type: none"> • Inconsistent condom use behavior poses a 5.34 times higher risk of HIV/AIDS compared to key populations who consistently use condoms. • A history of sexually transmitted infections increases the risk of HIV/AIDS by 2.92 times compared to key populations without a history of sexually transmitted infections. • Engaging in combined sexual activities carries a 4.32 times higher risk of HIV/AIDS than engaging in sexual activities without combinations (only oral, anal, or vaginal).
	Link:	
3	Title: Factors Associated with HIV/AIDS Incidence at Bekasi District General Hospital in 2018	Objective: This study explores the risk factors that influence the occurrence of HIV/AIDS.
	Authors: Novita Yunior, Ika Kania, Fatdo Wardani (Novita Y <i>et al.</i> , 2018)	Method: Cross-Sectional
	Published in: Health Journal, STIMIKM Cikarang Bekasi	Results: Factors associated: <ul style="list-style-type: none"> • Gender OR = 1.773 (95% CI = 1.129-2.785). Male respondents have a 1.773 times higher risk of HIV/AIDS than female respondents. • Age OR = 7.252 (95% CI = 12.081-4.354). Respondents below 40 are at a 7.252 times higher risk of HIV/AIDS compared to those above 40 years old. • Education OR = 1.872 (95% CI = 1.189-2.948). Respondents with low education are at a 1.872 times higher risk of HIV/AIDS than those with higher education.
	Link: Health Journal	

		<ul style="list-style-type: none"> • Heterosexual OR = 2.043 (95% CI = 1.311-3.184). Heterosexual respondents are at a 2.043 times higher risk of HIV/AIDS than non-heterosexual respondents. • Homosexual OR = 1.816 (95% CI = 1.049-3.145). Homosexual respondents are at a 1.816 times higher risk of HIV/AIDS than non-homosexual respondents. • Bisexual OR = 2.87 (95% CI = 1.204-3.618). Bisexual respondents are at a 2.87 times higher risk of HIV/AIDS than non-bisexual respondents.
4	Title: Risk Factors for HIV/AIDS Infection at Anutapura Hospital Palu (11)	Objective: To determine the level of HIV/AIDS transmission among men who have sex with men at Anutapura Hospital in Palu.
	Authors: Nurhayati, Sudirman, Nurafni (Nurhayati <i>et al.</i> , 2018)	Method: Case-Control Study
	Published in: Journal of Collaborative Sciences, Vol. 1, No. 1	Results:
	Link:	<ul style="list-style-type: none"> • Respondents who engage in heterosexual relationships have a 2.23 times higher risk of HIV/AIDS than those who do not engage in heterosexual sexual activity. • Respondents who engage in same-sex relationships have a 1.97 times higher risk of HIV/AIDS than those who do not engage in same-sex sexual activity.
5	Title: Trends in HIV Prevalence and risk behaviors among Men who have sex with men from 2013 to 2017 in Nanjing, China (14)	Objective: To determine the occurrence of HIV/AIDS among men who have sex with men (MSM) in Nanjing, China.
	Authors: Zhengping Zhu, Hongjing Yan, SushuWu, I Yuanyuan Xu, Wenjihong Xu, Li Liu, Xin Li, Fei Xu, Roger Detels (2019) (Zhengping Zhu <i>et al.</i> , 2019)	Method: Cross-sectional.
	Publish Research Article BMJ Open 2019.	Results: Factors influencing HIV infection among MSM:
	Link:	<ul style="list-style-type: none"> • History of drug use increases the risk of HIV infection by 3.05 times compared to those who have never used drugs. • Being diagnosed with a sexually transmitted infection (STI) within the last 12 months increases the risk of HIV infection by 1.7 times compared to those without an STI. • Being infected with syphilis increases the risk of HIV infection by 2.6 times compared to those without syphilis infection. • -Engaging in unprotected anal intercourse increases the risk of HIV infection twice compared to those who use protection.
6	Title: Risk Factors Influencing the Occurrence of HIV/AIDS among Injecting Drug Users in Pontianak City	Objective: The objective of this research is to determine the occurrence of HIV among drug users.
	Authors: Sumini, Suharyo Hadisaputro, Anies, Budi Laksono, Muchlis AU Sofro (2017) (Sumini <i>et al.</i> , 2017)	Method: Case-Control.
	Published in: Journal of Community Health Epidemiology, Vol. 2, Issue 1	Results: The risk factors that have been proven to influence the occurrence of HIV/AIDS among injection drug users are:
	Link:	<ul style="list-style-type: none"> • Unemployment status has a 3.33 times greater likelihood of HIV/AIDS occurrence (P = 0.004, OR = 3.33, 95% CI = 1.44 - 7.70). • Being married has a 2.54 times greater likelihood of HIV/AIDS occurrence (P = 0.025, OR = 2.54, 95% CI = 1.12 - 5.79).

		<ul style="list-style-type: none"> • Injecting drugs more than six times per week has a 4.02 times greater likelihood of HIV/AIDS occurrence (P = 0.001, OR = 4.02, 95% CI = 1.71 - 4.38). • Using drugs for more than five years has a 5.31 times greater likelihood of HIV/AIDS occurrence (P = 0.025, OR = 5.31, 95% CI = 1.08 - 26.040). • Engaging in sexual intercourse with more than two partners has a 2.36 times greater likelihood of HIV/AIDS occurrence (P = 0.040, OR = 2.36, 95% CI = 1.03 - 5.40).
7	Title: Risk Factors Influencing the Occurrence of HIV/AIDS among Men Aged 25-44 Years in Dili, Timor-Leste	Objective: To determine the factors associated with HIV/AIDS among men aged 25-44 in Dili.
	Authors: Maria Amelia, Suharyo Adiputro, Budi Laksono, Anies, Muklis AU Sofro. (2016) (Maria Amelia <i>et al.</i> , 2016)	Method: Case-Control.
	Published in: Journal of Community Health Epidemiology, Volume 1	Results: Respondents aged 28-44 years are at a 5.40 times higher risk of HIV/AIDS among men. Respondents with a history of alcohol consumption have a 7.65 times higher risk of HIV/AIDS.
	Link:	
8	Title: Prevention Behavior of HIV Transmission	Objective: To describe the behavior related to HIV/AIDS transmission prevention among PLHIV in Semarang.
	Authors: Yetik Marlinda, Muhamat Azinar. (2017) (Yetik Marlinda, Muhamat Azir <i>et al.</i> , 2017)	Method: Qualitative research using the Snowball Sampling method.
	Published in: Journal of Education	Results: This study shows that the knowledge of HIV/AIDS among the informants is already good. All informants feel at high risk of HIV/AIDS infection and fear social exclusion if reinfected with HIV/AIDS. The perceived barriers to antiretroviral therapy (ARV) include forgetfulness in medication adherence and experiencing side effects. Consistency in condom use is also emphasized.
	Link: https://journal.unnes.ac.id/sju/article	
9	Title: The Relationship between Adolescent Behavior and HIV/AIDS Prevention at SMAN 1 Lasua Kolaka Utara	Objective: To determine the relationship between adolescent behavior and HIV/AIDS prevention.
	Authors: Rais Hendrawan, Nur Ulmi Mahmud, Arman. (2022) (Rais Hendrawan <i>et al.</i> , 2022)	Method: Quantitative research using an analytic surveillance design.
	Published in: Window of Public Health Journal	Results: Gender, knowledge level, attitude, and behavior of adolescents are related to HIV/AIDS prevention. Gender showed a P-value of 0.003, indicating a relationship with HIV/AIDS prevention. The knowledge level of adolescents yielded a P-value of 0.028, indicating a relationship with HIV/AIDS prevention. Attitude showed a P-value of 0.004, indicating a relationship with HIV/AIDS prevention.
	Link: https://www.jurnal.fkm.umi.ac.id/index.php/woph/article/view/woph2609	
10	Title: HIV/AIDS Prevention and Transmission Education for Adolescents in Sidrap District	Objective: To enhance adolescents' knowledge about the prevention and transmission of HIV/AIDS.
	Authors: Darmawansah <i>et al.</i> (2017)	Method: Providing information to adolescents through education sessions.
	Publish: Journal of Community Engagement	Results: Community engagement activities focused on educating adolescents about HIV/AIDS through education sessions in the Sidrap district. The sessions were conducted safely. The implementation of these education sessions aimed to improve knowledge about HIV/AIDS.
	Link:	

11	Title: Risk Factors Associated with HIV Infection among Injecting Drug Users in DKI Jakarta (2018)	Objective: This study aims to determine the level of HIV transmission through needle sharing.
	Authors: Inggariwati and Sudarso <i>et al.</i> (2018)	Method: Cross-Sectional Study
	Publish Journal of Indonesian Health Epidemiology, Volume 2, Issue 2.	Results:
	Link:	<ul style="list-style-type: none"> • Needle-sharing behavior increases the risk of HIV/AIDS infection by 2.42 times. • Being a drug user for 120-240 months increases the risk of HIV infection by 1.78 times.

RESULTS AND DISCUSSION

Conducted a study to determine the factors associated with HIV transmission by People Living with HIV/AIDS (PLHA) in Dogiyai District. The factors associated with HIV/AIDS transmission in Dogiyai District were marital status (p-value 0.038; RP = 1.498; CI95% (1.077 - 2.063)), knowledge (p-value 0.000; RP = 10.376; CI95% (3.488 - 30.861)), attitude (p-value 0.025; RP = 1.541; CI95% (1.107 - 2.144)), and duration of HIV/AIDS (p-value 0.599; RP = 0.879; CI95% (0.622 - 1.242)). The factors that were not associated with HIV/AIDS transmission in Dogiyai District were age (p-value 0.107; RP = 1.595; CI95% (0.899 - 2.830)), gender (p-value 0.203; RP = 0.764; CI95% (0.528 - 1.105)), education level (p-value 0.145; RP = 1.358; CI95% (0.981 - 1.979)), and occupation (p-value 0.388; RP = 0.827; CI95% (0.587 - 1.165)). The dominant factor associated with HIV/AIDS transmission was marital status, with a risk rate of 7.125 times higher in unmarried respondents about HIV/AIDS transmission. (Isak Waive *et al.*, 2018)

To determine the risky transmission of HIV/AIDS, factors influencing the occurrence of HIV/AIDS in key populations are condom usage behavior and inconsistent condom use, which increases the risk of HIV/AIDS by 5.34 times compared to key populations with consistent condom use (Murtono *et al.*, 2018). A history of sexually transmitted infections increases the risk of HIV/AIDS by 2.92 times compared to key populations without a history of sexually transmitted infections. Engaging in combined sexual activities poses a higher risk of HIV/AIDS (4.32 times) than engaging in sexual activities without combinations (only oral, anal, or vaginal). (Novita Y *et al.*, 2018)

This study explores the risk factors influencing the occurrence of HIV/AIDS. Associated factors include gender OR = 1.773 (95% CI = 1.129-2.785), where male respondents are at a 1.773 times higher risk of being infected with HIV/AIDS compared to female respondents. Age OR = 7.252 (95% CI = 12.081-4.354). Respondents under 40 are at a 7.252 times higher risk of being infected with HIV/AIDS compared to those over 40 years old. Education OR = 1.872 (95% CI = 1.189-2.948). Respondents with low education are at a 1.872 times higher risk of being infected with HIV/AIDS compared to those with higher education. Heterosexual OR = 2.043 (95% CI = 1.311-3.184). Heterosexual respondents are at a 2.043 times higher risk of being infected with HIV/AIDS compared to non-heterosexual respondents. Homosexual OR =

1.816 (95% CI = 1.049-3.145). Homosexual respondents are at a 1.816 times higher risk of being infected with HIV/AIDS compared to non-homosexual respondents. Bisexual OR = 2.87 (95% CI = 1.204-3.618). Bisexual respondents are at a 2.087 times higher risk of being infected with HIV/AIDS compared to non-bisexual individuals.

(Nurhayati *et al.*, 2018) To determine the rate of HIV/AIDS transmission among men who have sex with men at Anutapura Palu Hospital. Respondents engaging in heterosexual relationships are at a 2.23 times higher risk of HIV/AIDS than those not engaging in heterosexual sexual activity. Respondents engaging in same-sex relationships are at a 1.97 times higher risk of HIV/AIDS than those not engaging in same-sex sexual activity. (Zhengping Zhu *et al.*, 2019) To understand the occurrence of HIV/AIDS among men who have sex with men in Nanjing, China. Factors influencing HIV infection among men who have sex with men (MSM): Having a history of drug use increases the risk of HIV infection by 3.05 times compared to those who have never used drugs. Being diagnosed with a sexually transmitted infection (STI) within the last 12 months increases the risk of HIV infection by 1.7 times compared to those without an STI. Being infected with syphilis increases the risk of HIV infection by 2.6 times compared to those not infected with syphilis. Engaging in unprotected anal sex increases the risk of HIV infection twice compared to those who use protection.

Risk factors proven to influence the occurrence of HIV/AIDS among injecting drug users include: Being unemployed increases the likelihood of HIV/AIDS by 3.33 times (P = 0.004, OR = 3.33, 95% CI = 1.44-7.70). Being married increases the likelihood of HIV/AIDS by 2.54 times (P = 0.025, OR = 2.54, 95% CI = 1.12-5.79). Injecting drugs more than six times per week increases the likelihood of HIV/AIDS by 4.02 times (P = 0.001, OR = 4.02, 95% CI = 1.71-4.38). Using drugs for more than five years increases the likelihood of HIV/AIDS by 5.31 times (P = 0.025, OR = 5.31, 95% CI = 1.08-26.040). Engaging in sexual intercourse with more than two partners increases the likelihood of HIV/AIDS by 2.36 times (P = 0.040, OR = 2.36, 95% CI = 1.03-5.40) (Sumini *et al.*, 2017)

To determine the factors contributing to HIV/AIDS among men aged 25-44 in Dili. Respondents aged 28-44 are at a 5.40 times higher risk of HIV/AIDS among men. Respondents with a history of alcohol consumption

have a 7.65 times higher risk of contracting HIV/AIDS. (Maria Amelia *et al.*, 2016).

Describe the behavior preventing HIV/AIDS transmission among people living with HIV/AIDS (PLWHA) in Semarang. This study shows that the knowledge of HIV/AIDS among the informants is good. All informants feel at high risk if infected with HIV/AIDS and fear social exclusion if reinfected with HIV/AIDS. The perceived barriers related to antiretroviral therapy (ART) include forgetfulness to take medication and experiencing side effects. Consistency in condom use is emphasized. (Yetik Marlinda, Muhamat Azir *et al.*, 2017) Gender, knowledge level, attitudes, and actions of adolescents are related to HIV/AIDS prevention. Gender obtained a P-value of 0.003, indicating a relationship with HIV/AIDS prevention. The knowledge level of adolescents obtained a P-value of 0.028, indicating a relationship with HIV/AIDS prevention. Attitudes obtained a P-value of 0.004, indicating a relationship with HIV/AIDS prevention (Hendrawan & Mahmud, 2022). To improve adolescents' knowledge about HIV/AIDS prevention and transmission, an HIV/AIDS education activity was conducted among adolescent groups in the Sidrap district. The activity was carried out safely and aimed to enhance knowledge about HIV/AIDS (Darmawansyah, 2017).

This study aims to determine the transmission rate of HIV through syringe needles (Inggariwati & Ronoatmodjo, 2019). Unsafe needle-sharing behavior increases the risk of HIV/AIDS infection by 2.42 times. Being a long-term injector for 120-240 months increases the risk of HIV infection by 1.78 times.

CONCLUSION

From all the journals that have been reviewed, factors that contribute to the transmission of HIV include being male under the age of 40, women marrying at a young age (under 20), being married, having low education, low knowledge, a history of alcohol consumption, a history of the non-sterile needle piercing, a family history of HIV in the husband, a history of sexually transmitted infections, engaging in sexual intercourse without using condoms, and having multiple sexual partners. Therefore, to prevent the transmission of HIV, it is necessary to raise awareness among people living with HIV (PLWHA) themselves. It is also important to be faithful to one's spouse. For those already infected with HIV, it is important to undergo antiretroviral therapy (ARV) to prolong survival. Collaboration between HIV/AIDS care institutions, HIV/AIDS organizations, and health departments is crucial. They should work together and optimize health promotion efforts targeting students and sex workers, emphasizing condom use during sexual

activities, and providing HIV education for all age groups.

Thank You Message

We thank the Ministry of Education and Culture of the Republic of Indonesia and the Institute of Health Sciences Strada Indonesia.

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