

# Knowledge of HIV Transmission and Factors Related to the Incidence of HIV/AIDS in Adolescents in Indonesia

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## Abstract

Adolescents are vulnerable to various health risk, especially caused by social interactions, like juvenile delinquency and drug abuse, premarital sex and unwanted pregnancy to an increased incidence of sexually transmitted infections including HIV/AIDS. The number of AIDS cases in students is 282 cases, more than double prostitutes who are 137 cases. The purpose of this study is to find out how is the knowledge of young people about HIV / AIDS, how HIV are transmitted and what are the factors that associated with HIV incidence in adolescents in Indonesia. This paper uses a qualitative method with literature study or library research, then data obtained is analyzed using descriptive analysis methods. HIV/AIDS can be transmitted through bodily fluids contact and is related to several factors such as gender, family factors, community environment, technology and communication. Cooperation of all sectors, parents, social institutions, and society to support government programs for HIV/AIDS-free Indonesia.

**Key words:** *Transmission, HIV, AIDS, adolescents, Indonesia*

## Introduction

Adolescents in both men and women experience puberty which is maturation very quickly both physically, psychically and socially in preparation for maturity. One of the characteristics of teenagers is having a high curiosity, liking challenges and adventures, starting to find yourself and daring to risk what is done without thinking long. Based on these traits, if the youth do not have strong faith, do not make decisions or the youth are too free without proper control back from the family or the environment then the youth will very easily fall into a bad thing that can damage their morals and future <sup>(1)</sup>.

Adolescents are derived from the Latin word *Adolescentia* which means “to grow” or “to grow into adulthood”. Children considered to be adults have been able to perform or conduct reproductive activities <sup>(2)</sup>. When it’s about determining age to define youth, some

sources have different age restrictions but the differences aren’t far off. According to the WHO, teenagers are residents aged 10 -19 years. Teenagers are residents aged 13 - 20 years. While according to National Population and Family Planning Board (NFPB), teenagers are residents aged 10 - 21 years. Thus, adolescents are a younger generation or population that is approximately 10 -21 years old and is going through puberty or transitioning from childhood to maturity to be ready to reproduce <sup>(3)</sup>.

Adolescence is a critical phase in the formation of teenage characters in both male and female adolescents as a result of changes in each individual. Physical changes in some parts of the body, psychic changes and ways of thinking up to social and environmental changes have a huge impact on adolescents. Teenagers who are unable to control themselves will easily get carried away by currents that can damage the morale and future of adolescence. Based on this, problems in adolescents are complex and interconnected problems, ranging from large numbers, social problems to health problems <sup>(4)</sup>. The number of youth population in Indonesia every year is increasing. According to Ministry Of National

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Development Planning, Central Bureau of Statistic and NPFP, in 2015 the youth population was 66.0 million and in 2016 increased to 66.3 million or about 25% of the total population of 258.7 million <sup>(5)</sup>. This means that one in four people in Indonesia is a teenager. A large proportion of teenagers have their own problems that cannot be ruled out, one of which is social and health problems.

Adolescence is the age of self-search that allows teenagers to connect with peers. Friends and the environment have a profound effect on the condition of adolescents, especially in social lives that have an impact on health. Adolescents tend to experience increased susceptibility to various health risk threats, especially those caused by poor social interactions, ranging from adolescent delinquency and drugs abuse, sexual and reproductive health problems such as premarital sex and out-of-wedlock pregnancies to an increase in the incidence of Sexual Trafficking (STI) diseases including HIV/AIDS <sup>(6)</sup>.

HIV or Human Immunodeficiency Virus is a virus that attacks the human immune system. People with HIV will experience a decrease in the immune system so that it is easily infected with diseases including AIDS (Acquired Immuno-Deficiency Syndrome). The trend of HIV incidence in Indonesia tends to increase every year. In 2014, HIV positive cases in Indonesia totaled 32,711 cases, in 2016 as many as 41,250 cases and 2018 as many as 46,659 cases. As of 2018, the number of HIV positive cases in Indonesia reached 327,282 cases, while AIDS cases reached 114,065 cases. The highest percentage of HIV-positive cases by age group was in the productive age group of 25 - 49 years old by 70.4% followed by adolescents 15 - 24 years old by 18.2%. According to the work, the number of AIDS cases in schoolchildren/

students is 282 cases, more than double the number of sex offenders in 137 cases <sup>(7)</sup>.

UNICEF noted that the trend in the number of teen deaths aged 10-19 from HIV/AIDS worldwide was 71,000 adolescents in 2005 and increased to 110,000 in 2012 and there were 2.1 million adolescents in the world living with HIV/AIDS in 2012. The death rate or Case Fatality Rate (CFR) due to HIV/AIDS from year to year tends to decrease. In 2018 CFR AIDS in Indonesia amounted to 1.03%. based on this description, researchers are interested in studying adolescents' knowledge of HIV/AIDS, HIV transmission and factors related to the incidence of HIV/AIDS in adolescents in Indonesia <sup>(8)</sup>.

## Methods

This writing uses qualitative methods with the type of writing of literature studies. Data and information are obtained from data libraries or scientific research. In retrieving data or information must ensure that the source taken throughout its contents can be held accountable for its truth and validity.

## Results

HIV/AIDS disease in the world, especially in Indonesia, is a complex problem. The cause of the occurrence of the disease is strongly related to environmental factors, namely social influence and physical social interaction. Transmission of HIV/AIDS disease from sufferers to others can occur through the exchange of bodily fluids. HIV that enters the body will destroy CD4 cells. CD4 cells are part of white blood cells that serve to fight infection. The fewer CD4 cells in the body, the weaker the immune system, so sufferers will be easily exposed to or contracted other diseases.

**Table 1. Percentage of adolescents knowledge of HIV/AIDS**

Adolescent knowledge of HIV/AIDS	IDHS 2012	IDHS 2017
- Male	84.7%	86.1%
- Female	89.0%	91.8%
HIV/AIDS prevention methods (intercourse sexual), Using condoms		
- Male	63.1 %	58.2 %
- Female	66.5 %	50.8 %

**Cont... Table 1. Percentage of adolescents knowledge of HIV/AIDS**

Restrict sexual intercourse in one partner who is not infected with HIV and does not have another partner		
- Male	58.8 %	63.6 %
- Female	45.9 %	73.7 %

Source : IDHS 2012, IDHS 2017

Based on the above data, adolescent knowledge that restricting sexual intercourse to only one partner who is not infected with HIV and does not have another partner can prevent HIV transmission increases by 4.8% in men and 27.8% in women.

**Table 2. Knowledge of HIV transmission from mother to child**

Characteristics	IDHS 2012	IDHS 2017
Mother-to-child HIV transmitted during pregnancy		
- Male	61.0%	63.1%
- Female	74.3%	76.1%
Mother-to-child HIV transmitted during childbirth		
- Male	52.5%	55.2%
- Female	63.7%	67.1%
Mother-to-child HIV transmitted during breastfeeding		
- Male	61.1%	61.5%
- Female	73.7%	75.5%

Source : IDHS 2012, IDHS 2017

The above data shows that knowledge of the transmission of HIV from mother to child during pregnancy, childbirth and breastfeeding increased in both male and female. The most likely cause of HIV transmission in adolescents is the contact of bodily fluids in the form of blood, semen and vaginal fluids during intercourse. This relates to juvenile delinquency and free association. Many teenagers enter the world of drugs, especially teenage boys. In addition, free sex and pre-nuptial sex are also increasingly becoming among adolescents so that the incidence of HIV in adolescents is increasing.

**Table 3. A teenager’s comprehensive knowledge of HIV/AIDS**

Characteristics	IDHS 2012	IDHS 2017
Male	11.6%	12.8%
Female	13.0%	15.6%

Source : IDHS 2012, IDHS 2017

**Table 4. Knowledge of Voluntary HIV Counseling and Testing (VCT)**

Characteristics	IDHS 2012	IDHS 2017
Male	6.3%	32.2%
Female	11.0%	48.8%

Source : IDHS 2012, IDHS 2017

The above data shows that there is a comprehensive increase in knowledge in both women and men about HIV/AIDS (knowing that condom use is consistent during sexual intercourse and having only one faithful partner who is not infected with HIV can reduce the risk of HIV transmission as well as rejection of misunderstandings such as mosquito bites and sharing food with HIV sufferers can transmit HIV).

### Discussions

HIV/AIDS disease not only occurs in adults and the elderly but can also attack newborns, children and adolescents. The large incidence of HIV in adults indicates that the sufferer contracted in adolescence and began to be detected in adulthood, because the incubation period of HIV takes years. That's not surprising considering that teenagers are starting to have a lot of friends from different backgrounds and will have a lot of relationships or interact with people. Then from such interactions will have an influence on the adolescent individual, can be a positive influence as well as a negative. Negative influences that can't be controlled by teenagers can lead teenagers into the world of free association and impact adolescent delinquency including acts of drug abuse, free sex and leading to HIV infection. Adolescent knowledge of HIV/AIDS is a fundamental aspect of HIV transmission prevention efforts <sup>(9)</sup>.

HIV/AIDS is transmitted through the exchange or entry of infected bodily fluids. Bodily fluids that can be a medium of HIV transmission include <sup>(10)</sup>:

#### a. Sperm and vaginal fluids

HIV transmission can occur through sexual intercourse, both homosexual and heterosexual. HIV transmission can occur through intercourse both vaginally, anally and orally. People who have intercourse

with a changing partner have a greater risk of contracting HIV.

HIV prevention programs are focused on three aspects of behavior, namely condom use, restricting sexual intercourse to only one partner who is not infected with HIV and has no other partner, and delaying first-time sexual intercourse.

#### b. Blood

Contact between open wounds, blood transfusions and the use of syringes can transmit HIV. The use of syringes that can transmit HIV is interchangeable use, syringes should be used in sterile and disposable conditions only. But usually users of narcotics injectable (composer) and tattoo maker will use the syringe alternately. In addition, medical patients such as doctors or nurses who are impaled by syringes after use by patients with HIV can also transmit HIV.

#### c. Mother-to-child transmission

HIV can be transmitted from a mother with HIV-positive status to her child or called Mother to Child Transmission. Transmission can occur in both pregnancy, childbirth and breastfeeding through breast milk. Transmission occurs through the mother's blood that is directly exposed to her child during pregnancy, the labor process, and through breast milk during lactation.

Various factors related to the incidence of adolescent HIV in Indonesia are largely influenced by the social environment. These factors include <sup>(4, 2, 1, 3, 11, 9)</sup> :

#### a. Gender

Teenage boys are more likely to experience HIV incidence than teenage girls. Teenage boys tend to be more daring to perform risky sexual behaviors such as risky courtship behaviors even to have sexual

intercourse by changing partners. In addition, the social environmental factors that are quite influential in teenage boys are free association and drug abuse. Many drug users use syringe media interchangeably to insert substances into the body (composer). The use of syringes is what causes the contracting of HIV.

#### b. Family

Families especially parents are the closest neighborhood to teenagers. Tatana and family education is the first education that forms the character of youth. Adolescents who have good control and are supervised for their association have a lower risk of developing HIV. In addition, the wholeness of the family also has a connection to the incidence of HIV in adolescents. Teenagers from broken home families are more likely to get HIV because they tend to be stressed and more free to get along.

#### c. Community Environment

The environment has a considerable connection and influence on the incidence of adolescent HIV/AIDS. The community environment in this case starts from the scope of the school, peers, groups / communities / organizations and the community in general in the environment around the youth residence. Peer and group or community influences are most prone to HIV/AIDS-risk behaviors so desperately need more attention. The scope of the school includes a safe environment due to the monitoring and supervision of the school, especially teachers, during the scope and hours of the school.

#### d. Technology and Communication

Increasingly today the development of technology is getting more sophisticated especially mobile phones. Advanced technology is like a double-edged knife for teenagers. On the one hand, it makes it easy to access knowledge and information around the world, making it easy to gain insights. But on the other hand, the misuse of smartphone and internet technology by teenagers can have an adverse impact. Teenagers can freely access anything including pornography sites that can then influence his sexual behavior. Coupled with social media that facilitates communication often abused teenagers to transact illicit goods such as drugs for consumption. The wrong way around seems facilitated by the ease

of internet access on smartphones. Freedom without control in adolescents will have an impact on free association and juvenile delinquency that can increase risky behaviors for contracting HIV.

According to the description above, teenagers who live freely without control from both themselves and others will be very easily plunged into bad things that can damage the morale and future of adolescence. Especially in adolescents who have less knowledge about things related to adolescents will be more concerned about their future, including the possibility of having an HIV/AIDS disease<sup>(8)</sup>.

Knowledge of HIV status as early as possible can be a method of preventing HIV transmission in people with HIV-negative status and effective coping or health care for people with HIV-positive status. HIV testing and counseling service called Voluntary HIV Counseling and Testing (VCT) is a service for early detection of HIV and access to supportive therapy, opportunistic infectious therapy and anti-retroviral therapy (ART) for both HIV negative and positive status. HIV tests are intended to ensure the appearance of HIV antibody in the body, while counseling is provided to determine the level of infection risk from this behavior and how it should behave later after learning the results of HIV tests<sup>(12)</sup>.

### Conclusion

Adolescent knowledge of HIV/AIDS is a fundamental aspect that should be instilled in adolescents as early as possible in efforts to prevent HIV transmission. HIV/AIDS infection can be transmitted through bodily fluids such as semen, sperm, vaginal fluids, blood and breast milk. The incidence of HIV/AIDS in adolescents is most transmitted through contact with bodily fluids when intercourse, namely contamination of semen, sperm and vaginal fluids due to free association and juvenile delinquency. Factors related to HIV/AIDS transmission in adolescents include adolescent gender, family factors, soy environmental factors and technological and communication factors.

Therefore, it is expected that the cooperation of all sectors of both parents, social institutions, and society in general to pay attention to and supervise adolescents from juvenile delinquency and free association to save

the future of adolescents as well as an effort to support government programs for HIV/AIDS-free Indonesia.

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