HIV/AIDS AT RISK BEHAVIOR AMONG STUDENTS IN JAKARTA POLYTECHNIC OF HEALTH INDONESIA

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Ayu Anggraeni Dyah Purbasari

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ABSTRACT

This cross-sectional descriptive study aimed to identify HIV/AIDS at risk behavior and factors related among students in Jakarta Polytechnic of Health Indonesia. The study, with a quantitative design, was conducted in January 2006. Data were collected from 260 students in Jakarta Polytechnic of Health Indonesia with self-administered questionnaires. The instrument elicited information about socio-demographic factors, knowledge on HIV/AIDS, attitude toward HIV/AIDS, sources of information about HIV/AIDS, and HIV/AIDS at risk behavior of the students.

The results revealed most of the students (96.9%) had low risk on HIV/AIDS at risk behavior**.** Concerning the socio-demographic factors, the majority of the students were female (92%), 94.6% were of the Islamic religion, more than half (55.4%) were ethnic Javanese, 83.1% were residing with their parents at the time of the study, and 58.1% of had a monthly allowance less than the mean average. More than half (55.0%) had a high level of knowledge on HIV/AIDS, 64.6% had a good attitude toward HIV/AIDS, and more than half (52.6%) answered that they used media as source of information about HIV/AIDS.

There were associations between socio-demographic factors, knowledge, attitude, and source of information with HIV/AIDS at risk behavior. In this study statistically significant associations were found between religion, residence and attitude with HIV/AIDS at risk behavior among students by using chi-square and fisher exact test.

The results of the study can be used for a comprehensive educational program to train the students and promote prevention of HIV/AIDS.

KEY WORDS : STUDENTS / HIV/AIDS AT RISK BEHAVIOR / JAKARTA / INDONESIA

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LIST OF ABBREVIATIONS

HIV	:	Human Immune AIDS
AIDS	:	Acquired Immune Deficiency Syndrome
STD	:	Sexual Transmitted Disease
WHO	:	World Healt Organization
UNAIDS	:	United Nation Acquired Immune Deficiency Syndrome
IDU	:	Injecying Drug Users
PLWHA	:	People Live With HIV/AIDS
UNDP	:	United Nation Developing Program

CHAPTER 1
INTRODUCTION

1.1 Rationale and Justification

Human Immune-deficiency Virus (HIV) causes to Acquired Immune Deficiency Syndrome (AIDS) is a fatal illness which breaks down the body immune system, leaving the victim vulnerable to a host of life threatening opportunistic infections, neurological disorders or unusual malignancies. Among the spread features of HIV infections are that once infected, it is probable that a person will be infected for life. AIDS can be called a modern pandemic, affecting both industrialized and under developed countries.

AIDS are urgent problems worldwide with broad social, cultural, economic, political, ethical, and legal implications. Sexual intercourse is the predominant mode of transmission of HIV infection. HIV infection and AIDS is everyone problem. Nobody deserves to get the HIV.

There are more than 1.5 billions young people between the ages 15-24 years in the world, out of this 85% are in the developing countries. In many countries more than 2/3 of young adults have had sexual intercourse and this group accounts for 16% of AIDS.

In USA one in four peoples newly infected with HIV/AIDS are under the age of 25 years. Here in every hour at least two Americans under the age of 25 years become infected and number of new infected HIV teenagers are doubled in fourteen months.

Young people within certain age groups share different values, are effected by different pressures and receive information through different channels. Therefore HIV prevention must be closely associated with knowledge and attitude among young people. In order to promote healthy behavior it is need to understand what factors play an influencial role in their preventive behavior. In the absence of cure or vaccination, good knowledge and attitude on HIV/AIDS is the most effective way to prevent the spread of the disease. It may also lead to change in attitude towards HIV/AIDS and infected people. According to David et.al., knowledge about AIDS has also been seen to play a role in motivating initial behavior change such as later onset of sexual intercourse and increase of condom use.

Over the past years various studies have been conducted among adolescents with regard to HIV/AIDS. Data which were reported by Karnyaria (1997) on a survey about attitude and sexual behavior of 4,789 male college students from 17-21 years old showed that 73% had premarital sex with their girlfriends and 11% did not use condom. It also revealed that 49% of the male students had intercourse with CSW.

In South East Asia region, the number of reported cases continue to increase and is likely to do so well into the early part of the 21st century. The potential for continued spread of HIV/AIDS in Asia and Western Pacific is real and requires determined and sustained prevention efforts.

In Thailand the number of new infections has fallen from peak of around 140,000 a year in 1991 to around 21,000 in 2003. This remarkable achievement came about mainly because men began to use condom regularly, and they also reduced their visits to brothels. Despite Thailand's indisputable success in dealing, the current level of prevention activities is still inadequate to address the existing HIV/AIDS situation.

Among developing countries, the first AIDS case in Indonesia was reported in1987. For many years very few HIV infections were found. However in the last three years this situation has begun to change. The main modes of transmission in

Indonesia are injecting drug use and sexual transmission. HIV prevalence is rapidly rising in a number of at-risk populations. Registered cases up until December 2004 are 3,368 HIV infections and 2,682 AIDS cases.

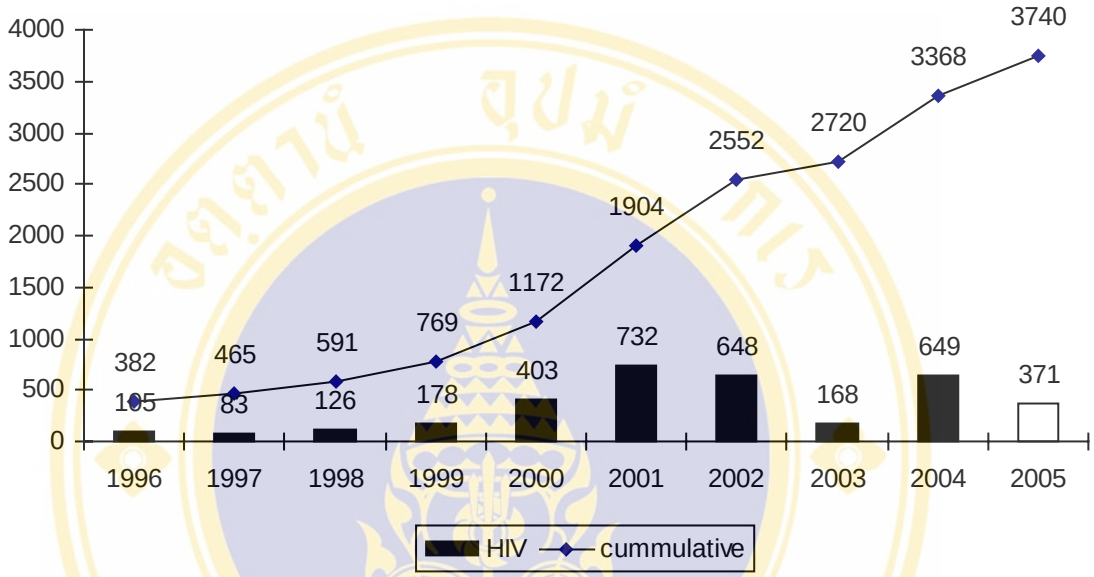


Figure 1 Number of HIV Positive in Indonesia in Last 10 Years up to June 30, 2005

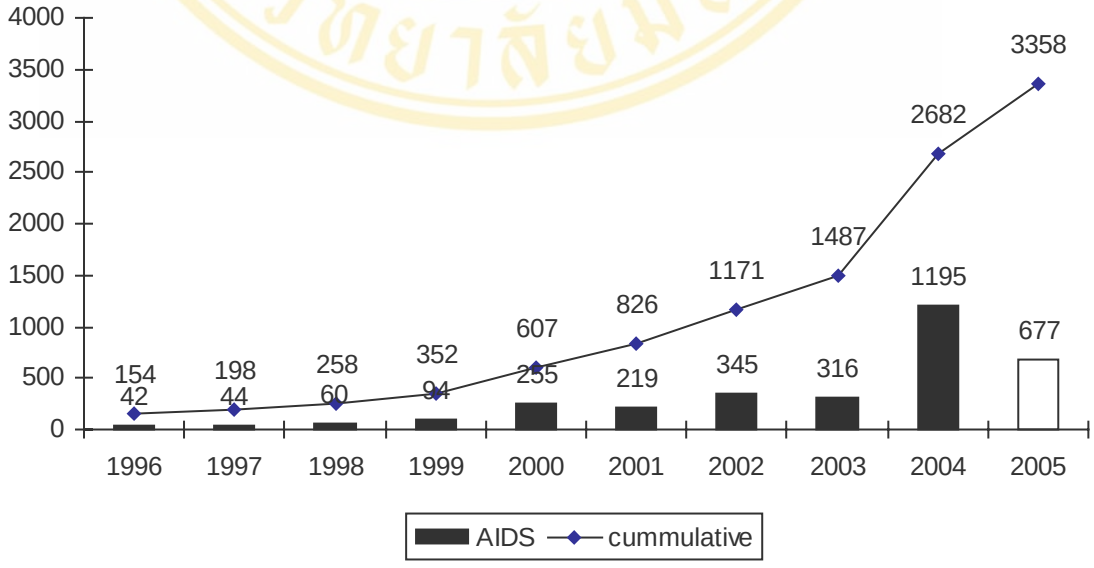


Figure 2 Number of AIDS Cases in Indonesia in Last 10 Years up to June 30, 2005

Indonesia's epidemic is currently unevenly distributed across this archipelago nations of 210 million people. Six of 31 provinces are particularly seriously affected. DKI Jakarta is the province with highest AIDS cases. The country's epidemic is also driven largely by the use of contaminated needles and syringes for drug injection.

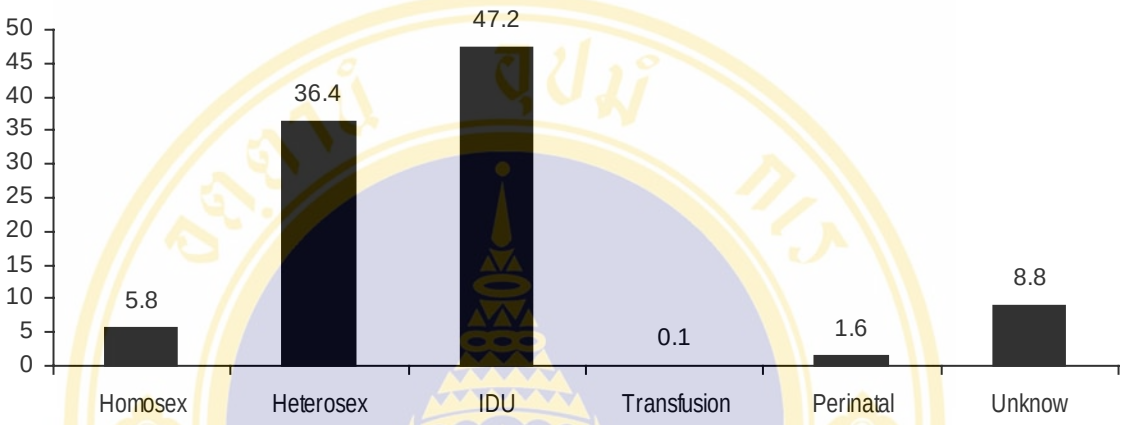


Figure 3 10 Provinces in Indonesia with Highest AIDS Cases up to June 30,2005

With an increasing number of people living with HIV/AIDS in Indonesia, the government has initiated a HIV/AIDS control program. The objective of this program is to prevent HIV infection from spreading, thus reducing the suffering of affected populations and the socio-economic impact of HIV/AIDS.

Students in Jakarta Polytechnic of Health will become the health manpower in Indonesia, can be future leaders and health work force of the country. By studying their preventive behavior HIV/AIDS, this will provide database to set program for train them to promote HIV/AIDS prevention. In other side, reducing their risk to HIV/AIDS infection this will increase productivity, decrease health care cost, and increase quality of life.

This study was identified the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health in Indonesia and factors which are related to HIV/AIDS

at risk behavior such as socio-demographic factors, knowledge on HIV/AIDS, attitude toward HIV/AIDS, and source of information about HIV/AIDS.

1.2 Research Questions

1. What is the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia?
2. What are the factors related to the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia?

1.3 Research Objectives

1.3.1 General Objective

To study the HIV/AIDS at risk behavior and factors related among students in Jakarta Polytechnic of Health Indonesia.

1.3.2 Specific Objectives

1. To identify the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia.
2. To identify the socio-demographic factors such as gender, religion, ethnicity, present residence, and monthly allowance of the students in Jakarta Polytechnic of Health Indonesia.
3. To identify psychosocial factors such as level of knowledge on HIV/AIDS and attitude towards HIV/AIDS among students in Jakarta Polytechnic of Health Indonesia.
4. To identify the sources of information about HIV/AIDS among students in Jakarta Polytechnic of Health Indonesia.
5. To assess association between socio-demographic factors, level of knowledge, attitude, and source of information with the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia.

1.4 Research Hypothesis

1. There is an association between socio-demographic factors such as gender, religion, ethnicity, present residence, and monthly allowance of the students with the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia.
2. There is an association between psychosocial factors such as level of knowledge on HIV/AIDS and attitude towards HIV/AIDS with the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health.
3. There is an association between sources of information with the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health

1.5 Conceptual Framework

In this study, dependent variable is HIV/AIDS at risk behavior categorized into two groups, low risk and high risk. HIV/AIDS at risk behavior as dependent variable was studied against socio-demographic factors, knowledge on HIV/AIDS, attitude towards HIV/AIDS, and source of information about HIV/AIDS which are classified as independent variables to identify statistically significant associations.

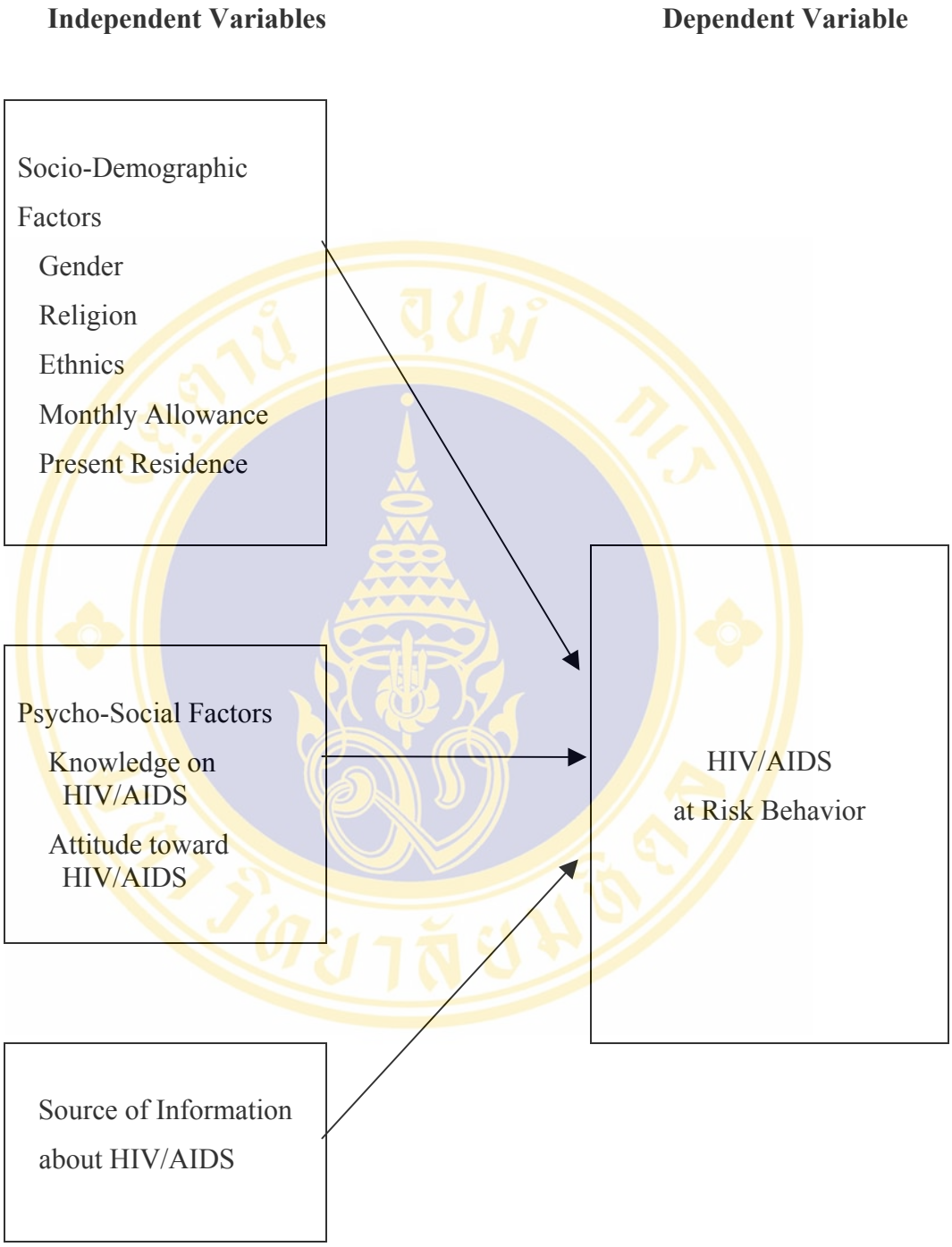


Figure 4 Conceptual Framework

1.6 Operational Definition

1.6.1 HIV/AIDS at risk behavior

In this study, HIV/AIDS at risk behavior of the students divides in to two groups:

1. Low risk, refers to students who:
   - Practice safe-sex (according to WHO criteria: abstinent, single sex-partner, or always using condom when have sex)
   - and not using drug abuse injection.
2. High Risk, refers to students who:
   - Not practice safe-sex (not abstinent, or not single sex-partner, not using condom every time when have sex)
   - or ever using drug abuse injection.

1.6.2 Socio-Demographic Characteristics

In this study, socio-demographic factors of the students are:

1. Gender, means gender of the students which are male and female.
2. Religion, means students religion which are Islam, Protestant, Catholic, Buddhist, Hindu, others.
3. Ethnicity, means student's ethnic group which are Javanese, Sumateranese, Sundanese, Betawinese, Sulawesinese, others.
4. Monthly Allowance, refers to student's monthly allowance average spending every month.
5. Present residence, refers to residence and persons with whom the student currently living. It is categorized as into: with parents, with relatives, at a dormitory, rented house without parents, others.

1.6.3 Knowledge about HIV/AIDS

In this study, knowledge means the general concept and understanding of HIV/AIDS, causative agent, modes of transmission, high risk groups, risk factors and prevention of HIV/AIDS.

1.6.4 Attitude towards HIV/AIDS

In this study, attitude refers to the student individual feelings and beliefs toward concerning with causes, modes of transmission, high risk groups, risk factors, and prevention of HIV/AIDS.

1.6.5 Source of Information

In this study, source of information refers to persons and media which give information about HIV/AIDS.

1.7 Strength of the study

Self-administered questionnaires are used for collecting information in order to minimize sensitive issues and information bias.

1.8 Limitation of the study

HIV/AIDS at risk behavior among students in this study is a cross sectional study. It is not based on direct observation but according to respondent answered in questionnaire.

Most of the population in this study are female which is low risk group to HIV/AIDS infection and appropriate to become an agent for HIV/AIDS prevention, but in this study cannot identify the real situation about HIV/AIDS at risk behavior of the students.

CHAPTER 2
LITERATURE REVIEW

Concerning to the objectives of this study, the literature review will cover as below:

2.1 Cause of HIV/AIDS
2.2 HIV Transmission and Prevention
2.3 Young People and HIV/AIDS
2.4 HIV/AIDS in Indonesia
2.5 Related Theory
2.6 Source of Information on HIV/AIDS
2.7 Attitude on HIV/AIDS
2.8 Sexual Practice and HIV/AIDS
2.9 Drug Abuse Injection and HIV/AIDS

2.1 Cause of HIV/AIDS

The first AIDS case was described in Los Angeles USA in 1981. In 1983 Luc Montagnier from the Pasteur Institute in France isolated a virus from AIDS patient which was later called HIV. Since then it is possible to screen different groups and determine the infection with the virus. It was found that there could be a period of up to ten years between being infected and develop symptoms of AIDS. The fact that in the stage without symptoms the person is able to infect others with the virus, has made it a difficult task to fight the disease.

The virus has been found in all body fluids of infected persons and is transmitted special by blood, semen, vaginal discharge and breast milk to a much lesser extend. The chance of transmission through saliva or tears is said to be very rare. The virus can also cross the placenta during pregnancy and infect the fetus.

However the virus does not spread very easily. It is delicate virus and can be destroyed very easy by heat and drying. The reason for the rapid spread is today's world development in communication, transportation, and massive human movement into different continents for tourism, business migration and other purposes. Revolution on sex and social problems like prostitution, migration, and drug addiction has been a major cause for epidemic.

2.2 HIV Transmission and Prevention

There are four routes of transmission of HIV:

2.2.1 Sexual Transmission

HIV can be transmitted from an infected person to his/her sex partner. High sexual transmission by having many sex partners and by having sex with those people who have many sex partners. Prevention of HIV transmission by having no sexual and by only having sex with a monogamous uninfected partner. Reduction of risk of HIV infection by using condom correctly and by reducing number of sex partner.

2.2.2 Transmission through Contaminated Instrument

HIV contaminated instruments usually are needles, syringes, or other skin piercing instruments (e.g. sharp pointed objects for tattooing). Transmission through HIV contaminated needles and syringes can occurs where there are not sterilized before re-use. This is common situation among indictable drug users (IDU's) and in developing countries, where needle, syringes and instrument for dental and minor surgery are widely used in many places.

2.2.3 Transmission through Blood

Transmission through infected blood has almost disappeared industrialized countries following the introduction of screening methods in 1985 and with the implementation of self exclusion of at risk people from blood donation. Still some small risk exist due to false negative HIV test in blood donors.

2.2.4 Prenatal Transmission

Transmission of HIV infection from a mother to her baby may occur before, during, or shortly after delivering. The risk that baby will be infected by the mother is reported to be 14-32% in developed countries and 25-48% in developing countries. Transmission shortly after delivery can be through breast milk.

2.3 Young People and HIV/AIDS

Today's generation of young people is the largest age-cohort in history, nearly half of the global population is less than 25 years old (UNFPA, 2003). Young people between the age 15-24 years are both the most threatened globally, accounting for half of all new cases of HIV, as well as the greatest hope for turning the tide against AIDS. The future of the epidemic will be shaped by their actions. In several countries that have successfully decreased national HIV prevalence have achieved these gains mostly by encouraging safe behavior choice among young people.

Young people are exposed to HIV in different ways. In eastern Europe and central Asia HIV prevalence among young people is rising rapidly due to drug injecting use with contaminated equipment and unsafe sex.

Most young people become sexually active in their teens and many before 15th birthday. Studies show that adolescents who began sexual activity early are likely to have sex with more partners and with partners who have been at risk to HIV exposure, they are not likely to use condoms (WHO, 2000).

A variety of factors placed young people at the center of HIV vulnerability. These include lack of HIV/AIDS information, education, and services. Many of them must take in order to survive, and the risks that accompany adolescent experimentation and curiosity.

2.4 HIV/AIDS in Indonesia

As recently as 1999 Indonesia barely registered on AIDS map with fewer than 1,000 of the nation's 220 million inhabitations known to be HIV-positive. After the monetary crisis in 1998, the rise of illegal drug trafficking gave AIDS workers concern about emerging high risk group heroin addicts who share infected needles. There are estimated between 124,000 to 196,000 drug users injection, yet the number could be closer to 1 million. HIV infection among drug addicts have soared from nearly zero in1998 to more than 50% in cities like Jakarta.

Indonesia's infection's rate remains low comparison with other Southeast Asian countries, but the HIV rate is increasing sharply not only among drug users injection, but also among the estimated 190,000 to 270,000 sex workers and 1 million migrant workers. Report from Nation AIDS Commission demonstrates that 6% to 26% of sex workers are HIV positive and about 10% of migrant workers have tested HIV positive.

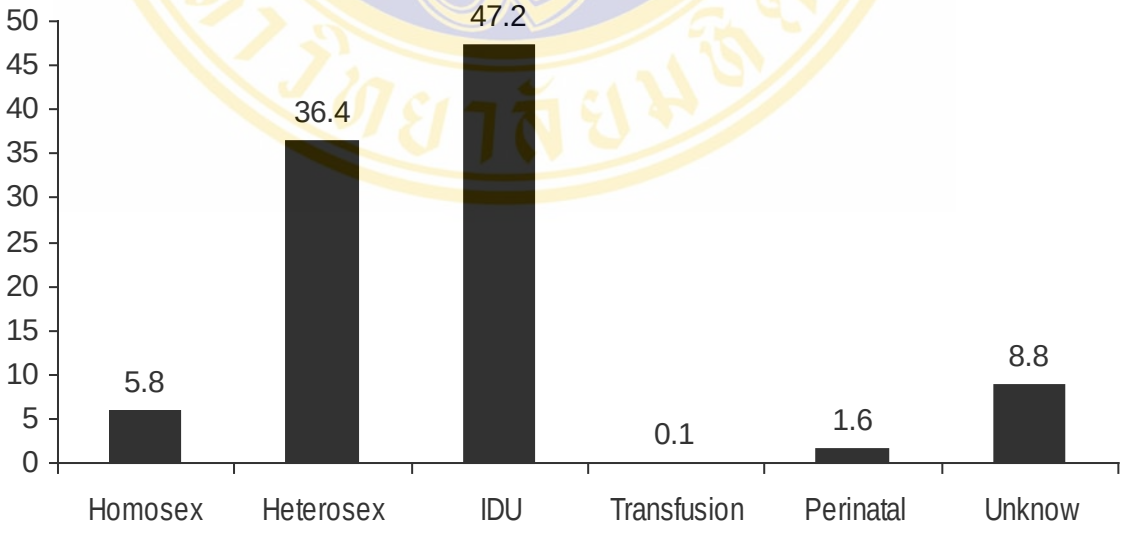
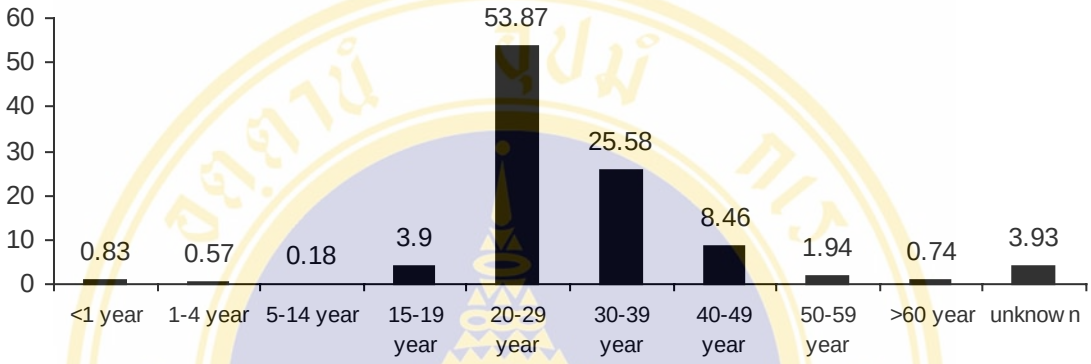


Figure 5 Cummulative Percentage on AIDS Cases in Indonesia by Mode of Transmission up to June 30, 2005

Until now, Indonesia have focused on HIV/AIDS prevention and education. UNICEF survey showed of 1,000 youth that 84% knew little or nothing about HIV/AIDS. More than fifty percent of AIDS Cases in Indonesia is young people with age between 20-29 years.



Figur 6 Cummulative Percentage on AIDS Cases in Indonesia by Age Group up to June 30, 2005

2.5 Related Theory

There are many explanations as to why behavior changes, in part this depends on different populations and cultures. However, every HIV prevention program relies on theories about why people change their behavior. A greater understanding of determinants of risk related and preventive behavior in target population is an important precursor to the development of a successful AIDS preventive program. Major models of transmission of HIV relate to behavior of people that is associated with demographic, socio-economic, cultural, and behavioral aspects of society, therefore the determinants of changing behavior related to HIV prevention is very complex.

There are several models and communities cited theories in HIV/AIDS prevention programs. There are four commonly held theories of behavior change in HIV prevention are Health Belief Model, Theory of Reasoned Action, AIDS Risk

Reduction Model, and Social Cognitive Theory. In this study Theory of Reasoned Action was used.

Theory of Reasoned Action was first introduced by Martin Fishbein and Icek Ajzen in 1974 and modified several times. According to Ajzen and Fishbein, attitudes are evaluation made on the effective (or feeling, or emotional) dimension. Thus an attitude reflects an affective evaluation of the attitude object. In the Theory of Reasoned Action outlined that an attitude is effective response to a person, object or concept, especially an attitude towards a health behavior. Attitude may correlate with behavior but they do not bring them about single-handedly.

Based on the Theory of Reasoned Action said that a person intention is a function of two basic determinants, one personal in nature and the other reflecting social influence. The personal factor is the individual's positive evaluation in the person's perception or performing the behavior name "Attitude toward the behavior". Person perception of the social pressure putting on him to perform or not perform the behavior in question, this factor is termed "Subjective Norm". Generally individuals will intend to perform a behavior when they evaluate it positively and when they believe that important others think they should performed it. The most predominant theories proposed that attitude consist of three component parts: a cognitive component (made up belief), an affective component (the individual evaluation of the attitude object, usually positive or negative), and a behavioral orientation to the object.

According to social group may influence the behavior, it was note that social group is a collesction of other person to whom the individual is related or compared in some way (for example age, sex, social class, neighborhood, club or family). The concept of socialization is basic of the individual's relationship to others because it refers to the process by which an individual's adopts the values and behavior of other people.

2.6 Socio-demographic Factors

Human are born with biological differences between the sexes, either male or female. Their roles, responsibilities, and feelings are controlled by environments, culture or the society they live. Many literature authors have documented that there is male-female differential in health behavior. According to Mehta (1999) the male-female differential in sexual activity may explained by the existence of double standards regarding sexual relations in most developing countries. Based on the literature review of existing research literature, it can be summary that gender is likely to be associated with their sexual behavior. Males are more prone to high risk behavior than females.

Living allowance of students an indicator their financial status which affects their ways of life. Result study of Haohan (1996) indicate that monthly allowance was statistically significant correlated with sexual behavior. Saisung (1998) explored risk behavior is high among those with high allowance. Review of existing literature has conclusion that monthly allowance is correlated with behavior among students or adolescents. This shows that students with high monthy allowance have more spending power to visit entertaining places or freedom of spending money for their enjoyment.

Many studies cited that students who lived by themselves or dormitory are free from rules imposed by their family, living atmosphere and environment easily leads tosexual behavior. Haohan found that students who used to stay in dormitory had more sexual relationships than those who lived with parents. Based on the review of existing research literature, student's present address is likely to be associated with their behavior.

2.7 Knowledge on HIV/AIDS

According to David Ostrow et.al., knowledge about HIV/AIDS has been seen to play a role in motivating initial behavioral change, particularly in persons who see themselves as being a relatively low risk and are initially less informed about the disease and the routes of HIV transmission.

Different studies show that although a person has a good knowledge and attitude, also peoples are aware of the basic facts about AIDS but more complex issues are often misunderstood or misinterpreted. The AIDS in the World survey states that misconceptions and misinterpretations are common in AIDS information programs and become barriers to adapting preventive attitude and behavior. However, there is evidence that even with complete and accurate information, adoption of preventive behavior is far from assured. It is also a well known fact proved in different studies that the majority of population knew about the routes of transmission and prevention, but misunderstanding and false belief are common, as other people belief that by living with HIV/AIDS patient will infect them of this disease. (Tammara, dated not specified)

Another studies shows that the belief and thought process of 340 students immediately associated with decision of unprotected sex and the type of occasion when they were likely to occur. The most common belief not to use condom was that heterosexuals were perceived as low risk group, and contraceptives measures were already taken, suggesting that condom are still seen rather as contraceptive than HIV/AIDS prophylaxis. That appearance was an important factor to determine the probability of the partner being infected, with healthier the appearance, the lower chance of being infected.

In earlier studies it was assumed that lack of knowledge plays an important role in the disseminations of the HIV/AIDS but it has been seen that youth inspite of

having a very good knowledge and attitude do not seem to apply their knowledge to their sexual practices. (Khattak Fakhruddin, 2001)

2.8 Attitude towards HIV/AIDS

An attitude is a tendency to act toward or against something in the environment which becomes thereby positive or negative value. (Bogardus, 1931). Other definition, an attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon individual's response to all objects and situations with which related. (Martin Fishbein, 1967).

Attitudes are divided into the following two characteristics:

a. Positive attitudes or good attitudes
   A tendency in which an individual will approach an arousal or a situation because of personal linking or satisfaction.
b. Negative attitudes or bad attitudes
   A tendency in which an individual will retreat or step back from an arousal or situation because of personal dislike or dissatisfaction.

Orachorn A. (1991) has contented that attitudes are opinion, beliefs, or feelings of individual toward certain thing and their readiness to respond in accordance with such opinions, beliefs, and feelings. As such, attitudes are one variable which can indicate the behaviors of an individual who is likely to act upon the attitudes he or she was.

2.9 Source of Information on HIV/AIDS

Information sources are cues to action. These information can be given through health personnel, teachers, family members, source information includes mass media with radio, television and newspaper are the most important as well as

valuable source of information about HIV/AIDS. Interpersonal and friends also play role in supporting.

The AIDS in the world media found that mass media is creating an awareness, information in the context of talking and discussion provides an opportunity to ask questions, clarify misunderstandings and misconception and can be a motivational encouragement to put information in practice such as condom use. (Juta Arenath, 1999).

A study of Rosenthal and Smith among high school students revealed that even though TV was the most common source of information, the most trusted source of information were those who were perceived as having legitimate knowledge namely health personnel and teachers. (Rosenthal and Smith, 1995)

However there are contradictory results. A recent study conducted by Ha M among high school in Thailand found that 42.9% of students considered that TV and radio was the most important source of information about HIV/AIDS. (Ha M, 1998)

2.10 Safe Sexual Practice and HIV/AIDS

In this study, safe sexual practice refers to prevent HIV/AIDS. It is focus on the abstinent and intention of students to use condom in every sexual intercourse to prevent HIV/AIDS.

Young age groups are more at risk as compared to the older one because of their prematurity, their tendency towards experiments with sex and drugs, emotional status and unthoughtful decision regarding the unsafe sexual behaviors which is fueling the HIV/AIDS epidemic in these teenagers group.

These teenagers are very sexually active and this increase in their sexual activities which is brought by a number of martial movies, through friends, computer

and internet, media, sex provocative digests, co-education, naked pictures in the shops and big departmental stores which causes innovation for doing a sex in a risky way and in this process they may get HIV/AIDS at a very early stage of life and affect their rest of life with sufferings.

The close relationship between puberty and development, the puberty hormones that control development and the social interpretation of physical maturity has resulted in an emergence of teens sexuality. In addition at this stage, they have an ambition to have a beloved, not for marital purposes, and in some instants, they have had a sex with risky behavior. In some instances, there are more than two sexual partners at a time, to whom they have sex in risky behavior (unsafe sex).

Therefore it is the utmost need that the sexual behavior of youth should be determined particularly the factors affecting male and female behavior and safe sex for HIV/AIDS prevention. (Poonsook Shuaytong, 1999).

2.11 Drug Abuse Injection and HIV/AIDS

Behavioral research on AIDS that has considered substance abuse variables reveals a strong positive association between potential HIV transmitting sexual behaviors and multiple measures of drug abuse, including use of drugs during sex, number of drug used, and frequency of combining drugs and sex. (Martin Fishbein, 1967).

It was found that the number of Injectable Drug Users (IDU's) are the second largest high group of diagnosed cases of HIV/AIDS. This is because these IDU's shares their needles and also such type of peoples are also involved in attending commercial sex workers and they often do not use condom in their sexual activities, so all these factors are high risk factors in spread of HIV/AIDS. (Shane Dark et.al.)

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Study Design

The study design is a cross sectional descriptive study, which aims to know the HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health Indonesia, to determine the socio-demographics factors, level of knowledge on HIV/AIDS, attitude toward HIV/AIDS, and source of information about HIV/AIDS. The data collected on 30th January 2006 trough a self-administered questionnaire after briefing to the students about the objectives of study and contents of the questionnaire.

3.2 Study Population

The target population in this study is the students in Jakarta Polytechnic of Health Indonesia. There are 22 Polytechnic of Health which located in 20 of 33 provinces in Indonesia. These Polytechnics of Health are the college under administration of Health Manpower Development Central Board Ministry of Health Indonesia, which produced health staff for health manpower. Jakarta Polytechnic of Health is located in Jakarta the capital city of Indonesia was purposely selected for this study.

3.3 Population Sample

All students in Jakarta Polytechnic of Health was selected as respondent for data collection in this study, with the total number 260 students from the 1st to 3rd year students, age between 18-21 years, and all of them not married yet.

3.4 Research Instruments

The instrument for data collection is self-administered structured questionnaire. The questionnaire was pre-tested on the target population for validity and reliability of the questionnaire before the final copy is drawn and used to collect the necessary data for this study. The questionnaire has four parts as follows:

Part 1: Socio-demographic Factor

This part consist five numbers of question including:

1. Gender, divide into 2 groups: male and female
2. Religion, after found the frequency of each religion, divide into two groups: Islam and others.
3. Ethnicity, after found the frequency, divide into two groups: Javanese and non Javanese.
4. Present residence currently living, after found the frequency, divide into two groups: with parents and without parents.
5. monthly allowance, after found the frequency and the mean, divide into two groups: <= mean and > mean.

Part 2: Knowledge on HIV/AIDS

This part included 25 questions with a score of 1 given for the correct answer and 0 for the incorrect answer. A total of score 25 was given. Mean was taken as cutting point for categorizing level of knowledge as follows:

- High level of Knowledge : score equal and more than mean
- Low level of Knowledge : score less than mean

Part 3: Source of Information

This part included five questions concerning exposure to source of information and valuable source.

Part 4: Attitude on HIV/AIDS

In this part the students was asked by 20 statements which is combine positive and negative statements. Based on Likert Scale, the answers were scored as the following:

Score	Negative statement	Positive statement
Strongly Agree	1	5
Agree	2	4
Not Sure	3	3
Disagree	4	2
Strongly Disagree	5	1

The total scores of scale ranged from 20 to 100. Mean was taken as cutting point for categorizing attitude groups as follows:

- High level of Attitude : score equal and more than mean
- Low level of Attitude : score less than mean

Part 5: HIV/AIDS at risk behavior

This part consist 10 questions to measures HIV/AIDS at risk behavior of the students. Based on their answer, the students divide into two group:

- Low risk on HIV/AIDS at risk behavior
  if the students abstinent or have single sex-partner, and always using condom when have sex, and not use share drug injection
- High risk on HIV/AIDS at risk behavior
  if the students not-abstinent, or not have single sex-partner, or not using condom when have sex, or use share drug injection.

3.5 Pre-test of questionnaire

Before the questionnaire was used in this study, a pre-test was done on a sample of students (n=30) in another Polytechnic of Health in Jakarta. It was believed that these students were similar to target population. Data collected in this pre-test was analyzed for validity and reliability of the questionnaire by using Cronbach Alpha

Coefficient with alpha value was found 0.72. It was considered that the questionnaire was easy enough, as in research value of alpha in between 0.50-0.60 is considered satisfactory. According to the result of the pre-test and the feedback from the respondent, the questionnaire was changed slightly.

3.6 Data Collection

Data was collect on January 30, 2006 by self-administered questionnaire. The questionnaire originally prepared in English and then translated in to bahasa Indonesia, because students are not familiar with English language. In the classroom setting, all 260 students fill the questionnaire with the average time taken to fill about 30 minutes. Before administering the questionnaire purpose of study was explained to the students. The students were instructed not to write their names on the questionnaire so that confidentially of their responses could be maintained.

The data collection included the following steps:

- Request permission to collect data from Director of Jakarta Polytechnic of Health Indonesia
- Collect data from the students in Jakarta Polytechnic of Health Indonesia
- Editing and verifying the questionnaire for data analysis.

3.7 Data Analysis

After examined and correcting of returned questionnaires, the data collected through the questionnaire was edited, coded, and entered into the computer for the analysis. The data collected processed and analyzed by using the computer statistical program.

Descriptive Statistics was used for frequency and percentage distribution, mean, standard deviation of the dependent and independent variables. Chi-square was used to describe the relationship between level of knowledge and attitude with the

HIV/AIDS at risk behavior. The level of significance was set at p-value less than 0.05.

CHAPTER 4
RESULTS

This study was conducted to describe the HIV/AIDS at risk behavior among all students in Jakarta Polytechnic of Health Indonesia. Data was collected through self-administered questionnaire on January 30, 2006 from the 260 students with level of education 1st year (33.5%), 2nd year (33.5%) and 3rd year (33.0%). All distributed questionnaire were fully completed.

The aim of this study was to find out the socio-demographic factors, level of knowledge on HIV/AIDS, attitude toward HIV/AIDS, source of information about HIV/AIDS and relationship with HIV/AIDS at risk behavior. The result of this study presented into two parts, one is descriptive information using table of frequency and percentage for all variables, the other is association between dependent and independent variables using chi-square as statistics tool.

4.1 Frequency and Percentage distribution of independent and dependent variables

4.1.1 Socio-demographic Factors

Socio-demographic factors of students in Jakarta Polytechnic of Health was identify in this study are gender, religion, ethnicity, present residence and monthly allowance. Table 1 showed the socio-demographic factors of the 260 respondents.

According to the table, among 260 students mostly of them were female (92%) while the small percentage were male (8%). Most of them have religion Islam (94.6%) and the rest are Protestant (3.9%) and Catholic (1.5%).

More than half respondents come from ethnic Javanese (55.4%) followed by other ethnicity are Sundanese (14.6%), Sumateranese (14.6%), Betawinese (14.2%), with minority ethnicity are Kalimantanese (0.8%) and Sulawesinese (0.4%).

The result also revealed most of the students was currently living at present residence with parents (83.1%) while the rest living at dormitory (6.2%), rental accommodation (6.5%), and with relative (4.2%).

Regarding their monthly allowance average per month, more than half (58,1%) fall in the range of allowance between 250,000 to 499,999 rupiah per month and between 500,000 to 749,000 rupiah per month (24.6%). The minority of monthly allowance of respondent was equal and more than 1,000,000 rupiah per month. The average monthly allowance was 446,407 rupiah with ± 245,915 rupiah standard deviation. The lowest allowance was 100,000 rupiah per month and the highest allowance is 2,400,000 rupiah per month.

Table 1 Number and percentage of the respondents by the socio-demographic factors

Socio-demographic variables	Number (n=260)	Percentage (%)
Gender		
Male	23	8
Female	237	92
Religion		
Islam (Moslem)	246	94.6
Protestant	10	3.9
Catholic	4	1.5

Table 1 Number and percentage of the respondents by the socio-demographic factors (Cont.)

Socio-demographic variables	Number (n=260)	Percentage (%)
Ethnicity		
Javanese	144	55.4
Sundanese	38	14.6
Sumateranese	38	14.6
Betawinese	37	14.2
Kalimantanese	2	0.8
Sulawesinese	1	0.4
Present Residence		
Parents	216	83.1
Dormitory	16	6.2
Rental Accommodation	17	6.5
Relative	11	4.2
Monthly Allowance (1 $ = 9,000 rupiah)		
Less than 250,000 rupiah	22	8.8
250,000 – 499,999 rupiah	151	58.1
500,000 – 749,999 rupiah	63	24.6
750,000 – 999,999 rupiah	15	5.8
Equal and more than 1,000,000 rupiah	9	3.7
Mean Score: 100,000 < 446,407 < 2,400,000 rupiah		
Standard deviation= ± 245,915 rupiah		

4.1.2 Knowledge on HIV/AIDS

Students of Jakarta Polytechnic of Health need to have knowledge on HIV/AIDS as they study in a health field and they will work as health personnel in future. Table 2 showed the number and percentage distribution of respondent by their level of knowledge on HIV/AIDS.

More than half students (55.0%) have high level of knowledge, the students in this level can answer correctly the questions equal or more than mean score (20.14) of the group about knowledge on HIV/AIDS. The rest students (45.0%) have low level of knowledge, in this level they answer correctly less than mean score (20.14) of the group about knowledge on HIV/AIDS. The mean score or average score of the group about knowledge on HIV/AIDS was 20.14. The lowest score of knowledge on HIV/AIDS was 15 and the highest was 24.

Table 2 Number and percentage of respondents by level of knowledge on HIV/AIDS

Level of Knowledge	Number (n=260)	Percentage (%)
High	143	55.0
Low	117	45.0

Mean score: 15 < 20.14 < 24

Table 3 displayed the number and percentage distribution of students by correct answer on questions about HIV/AIDS. For every question have grade according to the number of students can answer correctly. Among the questions, the minimum correct answer is 99 and the maximum correct answer is 258 by the number of the students. Good grade if the question was answered correctly by 205 to 258 students. Fair grade if the question was answered correctly by 152 to 205 students. Poor grade if the question was answered correctly by 99 to 152 students. There are 15

questions have good grade, 5 questions have fair grade, and 5 questions have poor grade.

Less than 40% of students can answer correctly "how long the incubation period of HIV infection" (38.0%) and "A healthy looking person can have HIV/AIDS" (39.6%).

On the question about HIV/AIDS transmission, a few students can answered correct that HIV/AIDS cannot be transmitted by sharing meals with HIV infected person (38.8%), shaking hand, touching, hugging with them (38.0%), and living and working with HIV infected person (44.6%).

More than 90% of students can answered correctly about HIV/AIDS prevented. Majority students answered correctly that HIV/AIDS can be prevented by abstinent (99.2%), avoid having sex with sex-worker (98.8%), always using condom every time have sex (96.9%), using only sterilized needle and syringe (96.5%), having sex with one partner only (95.7%) and screening blood before transfusing (93.4%).

Table 3 Number, percentage, and grade of the respondents related to correct answer of questions about knowledge on HIV/AIDS by items

Questions about Knowledge on HIV/AIDS	Correct answer		Grade
	N	%	
1. What is the causal agent of HIV/AIDS	257	98.8	Good
2. How can HIV be detected	210	80.7	Good
3. How long the incubation period of HIV infection	99	38.0	Poor
4. What age group the highest percentage on AIDS cases in Indonesia	156	60.0	Fair
5. Which groups with high-risk behavior to HIV infected	208	80.0	Good

Table 3 Number, percentage, and grade of the respondents related to correct answer of questions about knowledge on HIV/AIDS by items (cont.)

Questions about Knowledge on HIV/AIDS	Correct answer		Grade
	N	%	
6. A healthy looking person can have HIV/AIDS	103	39.6	Poor
7. Only one time have unsafe sex intercourse can cause to HIV infection	199	76.5	Fair
8. HIV/AIDS cannot be cured	234	90.0	Good
9. All person with HIV/AIDS will eventually die	249	95.7	Good
HIV/AIDS can be transmitted by:			
10. Having sex intercourse	258	99.2	Good
11. Pregnant woman to infant	173	66.5	Fair
12. Blood transfusion	235	90.3	Good
13. Sharing drug injection	198	76.1	Fair
14. Un-sterilized medical/dentist instrument	184	70.7	Fair
15. Insect bite	208	80.0	Good
16. Sharing meals with HIV infected person	101	38.8	Poor
17. Shaking hand, touching, hugging with them	99	38.0	Poor
18. Living and working with HIV infected person	116	44.6	Poor
19. Swimming in the public place	207	79.6	Good
HIV/AIDS can be prevented by**:**			
20. Abstinent (not having sex)	258	99.2	Good
21. Always using condom every time have sex	252	96.9	Good
22. Having sex with one partner only	249	95.7	Good
23. Avoid having sex with sex-worker	257	98.8	Good
24. Using only sterilized needle and syringe	251	96.5	Good
25. Screening blood before transfusing	243	93.4	Good

4.1.3 Attitude toward HIV/AIDS

Table 4 showed the number and percentage of students by attitude toward HIV/AIDS. Based on total score of attitude toward HIV/AIDS, the students were divided into two groups by using mean as cutting point for categorizing attitude groups. It was found that the mean of the group for attitude toward HIV/AIDS was 69.9. The lowest value of attitude toward HIV/AIDS was 32 and the highest was 86. About two-third of students (64.6.0%) were have high level of attitude toward HIV/AIDS while the rest about one third of students (35.4%) were have low level of attitude toward HIV/AIDS.

Table 4 Number and percentage of respondents by level of attitude toward HIV/AIDS

Level of Attitude	Number (n=260)	Percentage (%)
High	168	64.6
Low	92	35.4

Mean score: 32 < 69.6 < 86

Table 5 showed the number and percentage of students by each question about attitude toward HIV/AIDS enumerated in the questionnaire. Almost all the students (99.2%) agree and strongly agree with the statement that HIV/AIDS is a serious problem, and 98.8% agree and strongly agree with the statement that every person has equal chance to get HIV/AIDS. All of the students (100%) agree and strongly agree with the statement that one must stop the kind of unsafe sexual acts that can lead to high risk of getting HIV/AIDS.

Regarding condom using to prevent HIV/AIDS, it was found that 40.1% students not sure whether always using condom during sexual intercourse can prevent HIV/AIDS. Almost all the students were stating not sure whether using of condoms

make sex less enjoyable (98.1%); and 97.7% were not sure whether to use condom it is not appropriate because will cause the sex partner feel distrusted.

According to the statement that it is possible to be infected with HIV/AIDS by having sex with a healthy looking person, 24.2% students were not sure. 31.1% students also were not sure with the negative statement whether AIDS occurs only among people with abnormal sexual behavior.

In this study, high percentage of students (82.4%) were agree and strongly agree that students who are infected with HIV/ AIDS should not be allowed to study in the college. 73.5% of students were agree and strongly agree that people who are infected with HIV/AIDS should be separated from communities while 25.4% not sure.

Table 5 Number and percentage of the respondents by attitude toward HIV/AIDS

Statement	Strongly Agree (%)	Agree (%)	Not Sure (%)	Dis-Agree (%)	Strongly Disagree (%)
1. HIV/AIDS is a serious problem	66.1	33.1	0.8	-	-
2. Every person has equal chance to get HIV/AIDS	65.0	33.8	1.2	-	-
3. It is possible to contract HIV/AIDS by having sex with a healthy looking person	22.3	53.5	24.2	-	-
4. One must stop the kind of unsafe sexual acts that can lead to high risk of getting HIV/AIDS	75.4	24.6	-	-	-
5. Have one time unsafe sex intercourse cannot make someone get HIV/AIDS	-	0.8	16.5	0.55	26.2
6. A person can avoid getting HIV/AIDS through sex by restricting to one regular sexual partner in life	25.0	62.7	13.5	0.8	-
7. AIDS occurs only among people with abnormal sexual behavior	-	17.7	31.1	51.2	-

Table 5 : Number and percentage of the respondents by attitude toward HIV/AIDS (Cont.)

Statement	Strongly Agree (%)	Agree (%)	Not Sure (%)	Dis-Agree (%)	Strongly Disagree (%)
8. Always using condom during sexual intercourse can prevent from HIV/AIDS	-	54.2	40.1	5.0	-
9. Using share drug injection (needle, syringe, etc) together with other people cannot make infected by HIV	-	1.9	16.9	56.9	24.3
10. Donor blood or receive transfusion without screening can make people infected by HIV	24.6	55.0	14.2	6.2	-
11. Use of condoms make sex less enjoyable	-	1.9	98.1	-	-
12. It is not suitable to use condom, it will cause the sex partner feel distrusted	-	0.8	97.7	1.5	
13. It is shameful to buy and carry condom around, even it was hidden	52.3	37.7	10.0	-	-
14. Person who always carry condom are being careful and practice safe sex	23.9	64.6	11.5	-	-
15. Premarital sex is a common style among undergraduate students	-	9.2	5.0	52.3	33.5
16. People should keep virginity before married	53.5	44.2	1.5	0.8	-
17. Students who are infected with HIV/ AIDS should not be allowed to college	25.4	58.8	12.7	3.1	-
18. People who are infected with HIV/AIDS should be separated from communities	10.0	63.5	25.4	1.1	-
19. Person who using drug injection should always use sterilized needle and syringe	42.7	45.0	12.3	-	-
20. Screening to detecting HIV should be done before blood transfusion	65.0	35.0	-	-	-

4.1.4 Source of Information

Table 6 showed number and percentage of students by source of information group about HIV/AIDS. More than half (52.6%) of students answered media while 47.4% of students answered person as source of information.

Table 6 Number and percentage of the respondents by source of information group (media and person) about HIV/AIDS

Source of Information	Number (n)	Percentage (%)
From Media	137	52.6
From Person	133	47.4

But for the number and percentage of students by source of information about HIV/AIDS, parents was choosed as source of information about HIV/AIDS by almost all students (92.6%), then followed by radio/television/cinema (88.8%) and newspaper/magazine/book (83.4%).

Table 7 Number and percentage of the respondents by source of information about HIV/AIDS

Source of Information	Number (n)	Percentage (%)
Media:		
Newspaper/magazine/book	217	83.4
Poster/leaflet/advertisement	98	37.6
Radio/television/cinema	231	88.8
Internet	46	17.6

Table 7 Number and percentage of the respondent by source of information about HIV/AIDS (Cont.)

Source of Information	Number (n)	Percentage (%)
Person:		
Parents	241	92.6
Family/ Relative	39	15.0
Teacher	162	62.3
Friend	185	71.1
Association/Organization	203	78.0
Health Personnel/doctor	72	27.6

4.1.5 HIV/AIDS at risk behavior

Table 8 showed the number and percentage of students by HIV/AIDS at risk behavior. More than half percentage of students were have boyfriend/girlfriend (55.4%) while 44.6% of students were not have boyfriend/girlfriend. Of those students who have boyfriend/girlfriend, the number of boyfriend/girlfriend they ever have in range 1-12 boyfriends/girlfriends. Most of them ever have one boyfriend/girlfriend (39.2%) followed by two boyfriends/girlfriends (24.1%) and three boyfriends/girlfriends (19.8%). Only few students ever have more than ten boyfriends/girlfriends (1.4%).

Among 260 students, 2.7% replied that they ever engaging in sexual intercourse, while 97.3% stated never engaging in sexual intercourse. It means that most of the students in this study (97.3%) were abstinent. All the students (100%) who ever engage in sexual intercourse stated that they have sex with one partner. It means that all the students who ever engage in sexual intercourse have single sex-partner.

All students (100%) who stated never engaging in sexual intercourse replied that they have intention to always practice safe-sex when have sexual intercourse in the future for having sex with one partner only. For always using condom every time have sex in order to practice safe-sex when have sexual intercourse in the future 69.6% of students stated not sure while 30.4% of students stated no.

Those students who stated ever engaging in sexual intercourse, 14.2% answered they ever make sex-intercourse with sex-workers. Of the students who stated ever engaging in sexual intercourse, all of students(100.0%) answered not using condom always when have sex; all of them (100.0%) stated they never discussed about safe sex practice in order to HIV/AIDS prevention with their sex-partner.

Among 260 students only 3.8% stated using drug abuse injection and ever using share drug injection (needle, syringe, etc) together with other people.

Table 8 Number and percentage of the respondents by HIV/AIDS at risk behavior

HIV/AIDS at risk behavior	Number (n=260)	Percentage (%)
Have boyfriend/girlfriend		
Yes	141	53.4
No	116	44.6
If have boyfriend/girlfriend, how many boyfriend/girlfriend do you ever have?	(n=141)	
1 boyfriend/girlfriend	51	36.2
2 boyfriends/girlfriends	34	24.1
3 boyfriends/girlfriends	28	19.8
4 boyfriends/girlfriends	13	9.2
5 boyfriends/girlfriends	12	8.5
6 boyfriends/girlfriends	6	4.3
7 boyfriends/girlfriends	2	1.4
8 boyfriends/girlfriends	3	2.1
11 boyfriends/girlfriends	1	0.7
12 boyfriends/girlfriends	1	0.7

Table 8 Number and percentage of the respondents by HIV/AIDS at risk behavior (cont.)

HIV/AIDS at risk behavior	Number (n=260)	Percentage (%)
Ever engaging in sexual intercourse		
Yes	7	2.7
No (Abstinent)	253	97.3
If Abstinent, do you intend to always practice safe-sex when have sexual intercourse in the future:		
Having sex with one partner only		
Yes	253	100.0
No	0	0
Not Sure	0	0
Always using condom every time have sex		
Yes	0	0
No	102	30.4
Not Sure	151	69.6
If ever engaging in sexual intercourse, with how many person		
1 person	253	100.0
more than 1 person	0	0
Ever make sex-intercourse with sex-workers		
Yes	1	14.2
No	6	95.8
Using Condom always when have sex		
Yes	0	0
No	7	100.0
Discussed about safe sex practice in order to HIV/AIDS prevention with your sex-partner		
Yes	0	0
No	7	100.0

Table 8 Number and percentage of the respondents by HIV/AIDS at risk behavior (cont.)

HIV/AIDS at risk behavior	Number (n=260)	Percentage (%)
Not Using Drug Abuse Injection		
Yes	259	96.2
No	1	3.8
Never using share drug injection (needle, syringe, etc) together with other people		
Yes	0	0
No	1	100.0

In this study, HIV/AIDS at risk behavior of students were categorized into two groups; low risk on HIV/AIDS at risk behavior if the students abstinent, or single partner, always using condom when have sex, and not use share drug injection; and high risk on HIV/AIDS at risk behavior if the students not-abstinent, not single partner or not using condom when have sex, or use share drug injection.

Table 9 showed the number and percentage of students by level of HIV/AIDS at risk behavior. Majority (96.9%) the students have low risk HIV/AIDS at risk behavior.

The number of 8 students have high risk HIV/AIDS at risk behavior came from 7 students who were not abstinent and not always using condom when have sex, and 1 student who ever using share drug injection.

Table 9 Number and percentage of the respondents by level of HIV/AIDS at risk behavior

Level of HIV/AIDS at risk behavior	Number (n=260)	Percentage (%)
Low risk	252	96.9
High risk	8	3.1

4.2 The Association between Independent Variables and Dependent Variable

4.2.1 Association between Socio-demographic factors and HIV/AIDS at risk behavior

Table 10 shows the result of analysis between socio-demographic factors and HIV/AIDS at risk behavior among students in Jakarta Polytechnic of Health. The result shown there is no statistically significant association between sex, ethnic, and monthly allowance with HIV/AIDS at risk behavior. There is statistically significant association between religion and currently living at present residence with HIV/AIDS at risk behavior.

The level of HIV/AIDS at risk behavior of female students (97.5) was higher than male students (91.7%). There is no statistically significant association between sex with HIV/AIDS at risk behavior.

The results shown an association between religion and the preventive behavior was statistically significant with $\chi^2 = 6.23$, p value = 0.0125. Level of HIV/AIDS at risk behavior was higher among Moslems (97.6%) and lower in other religions groups (85.7%).

Analyzed data demonstrated that the students with ethnic Java have lower (96.5%) level of HIV/AIDS at risk behavior than the students with ethnic non-Java (97.4%). There is no statistically significant association between ethnic with HIV/AIDS at risk behavior.

Concerning the association between monthly allowance, the students who received more than average (98.2%) had higher level of HIV/AIDS at risk behavior than the students who received less than average (95.9%). There is no statistically significant association between monthly allowance with HIV/AIDS at risk behavior.

Analyzed data find that students who live with parents (98.6%) had higher level of HIV/AIDS at risk behavior than the students who were not live with parents (88.6%). Chi-square test showed that that was statistically significant association between currently living at present residence and HIV/AIDS at risk behavior with $\chi^2 = 12.20$, p value = 0.004.

Table 10 Association between Socio-demographic factors and HIV/AIDS at risk behavior

Socio-demographic factors	HIV/AIDS at risk behavior				P-value*
	Low risk		High risk		
	n	%	n	%	
Gender					
Male	21	91.7	2	8.3	0.151
Female	231	97.5	6	2.5	
Religion					
Moslem (Islam)	240	97.6	6	2.4	0.012**
Non-Moslem	12	85.7	2	14.3	
Ethnicity					
Javanese	139	96.5	5	3.5	0.735
Non-Javanese	113	97.4	3	2.6	
Currently living at present residence					
With Parents	213	98.6	3	1.4	0.004***
Without Parents	39	88.6	5	11.4	
Monthly Allowance					
< = mean	139	95.9	6	4.1	0.307
> mean	113	98.2	2	1.8	

* Fisher exact test

** p value < 0.05

*** p value < 0.01

4.2.2 Association between Knowledge on HIV/AIDS and HIV/AIDS at risk behavior

As shown on table 11 concerning the association between level of knowledge on HIV/AIDS with HIV/AIDS at risk behavior, the students who had high level of knowledge (98.6%) had higher level HIV/AIDS at risk behavior than the students who had low level of knowledge (94.8%). Chi-square test showed that there was no statistically significant association between level of knowledge on HIV/AIDS with HIV/AIDS at risk behavior, $\chi^2 = 3.00$, p value = 0.145.

Table 11 Association between Level of Knowledge on HIV/AIDS and HIV/AIDS at risk behavior

Level of Knowledge on HIV/AIDS	HIV/AIDS at risk behavior				P-value*
	Low risk		High risk		
	n	%	n	%	
High	141	98.6	2	1.4	0.145
Low	111	94.8	6	5.2	

*Fisher exact test

4.2.3 Association between Attitude on HIV/AIDS and HIV/AIDS at risk behavior

Table 12 showed that the students who had high level of attitude on HIV/AIDS (99.4%) had higher level of HIV/AIDS at risk behavior than the students who had low level of attitude on HIV/AIDS (92.4%). Chi-square test showed that there was statistically significant association between level of attitude toward HIV/AIDS with HIV/AIDS at risk behavior, $\chi^2 = 9.80$, p value = 0.003

Table 12 Association between Attitude toward HIV/AIDS and HIV/AIDS at risk behavior

Level of Attitude toward HIV/AIDS	HIV/AIDS at risk behavior				P-value*
	Low risk		High risk		
	n	%	n	%	
High	167	99.4	1	0.6	0.003**
Low	85	92.4	7	7.6	

* Fisher exact test

** p value < 0.01

4.2.4 Source of Information

Table 13 concerning the association between source of information about HIV/AIDS with HIV/AIDS at risk behavior, the students who answered newspaper/magazine/book (97.8%) had higher level HIV/AIDS at risk behavior than the students who others (96.2%). Chi-square test showed that there was no statistically significant association between source of information about HIV/AIDS with HIV/AIDS at risk behavior, $\chi^2 = 0.58$, p value = 0.495.

Table 13 Association between Source of Information about HIV/AIDS and HIV/AIDS at risk behavior

Source of Information about HIV/AIDS	HIV/AIDS at risk behavior				P-value*
	Low risk		High risk		
	n	%	n	%	
Newspaper/magazine/book	134	97.8	3	2.2	0.495
Others	128	96.2	5	3.8	

*Fisher exact test

CHAPTER 5
DISCUSSION

Students and young people nowadays are confronted with existence of HIV/AIDS and need to be aware of the risk to contract the deadly disease. Since marriage, monogamy, abstinence, condom use, and not sharing drug abuse injection are only effective ways in the absence of cure drug. In other words, preventive behavior towards HIV infection and AIDS is quite powerful activity in treating the deadly disease. It is important to have a picture of factors, risks, which are associated with preventive behavior for developing maximally effective HIV/AIDS education and prevention program. (Mukhtar Ali)

260 students in Jakarta Polytechnic of Health Indonesia completed the self-administered questionnaire on 30th January 2006. The results of this study finding that most of students (96.9%) had low risk HIV/AIDS at risk behavior, more than half (55.0%) of the students in Jakarta Polytechnic of Health Indonesia had high level of knowledge on HIV/AIDS and almost two-third of students (64.6.0%) had high level of attitude toward HIV/AIDS, but all of students never using condom when they have sex-intercourse. These finding are discuss as follow:

5.1 Association between Socio-demographic factors and HIV/AIDS at risk behavior

In this study religion and present residence currently living had statistically significant association with HIV/AIDS at risk behavior with p value <0.05 and <0.01.

5.1.1 Association between Gender and HIV/AIDS at risk behavior

In this study the majority of the 260 students were female (92%) and the rest 8% were male. From result showed the numbers of female who have low risk

HIV/AIDS at risk behavior than male. In Indonesia, men were commonly given more sexual freedom than women and were not burdened by any physical evidence of sexual experience. In many societies, a man is expected to know about sexual intercourse before marriage. Premarital sex among young men is encouraged and considered necessary for success in the male sex role (Kiem, 1993:50; Magnis-Suseno, 1997:175).

There is no statistically significant association between sex and HIV/AIDS at risk behavior in this study. Similar wit result of previous study, Mukhtar Ali (p 46) also found no association between sex and HIV/AIDS at risk behavior. The reason for no association between sex and HIV/AIDS at risk behavior in this study may due to male and female students has equal chance of freedom to associate with friends.

5.1.2 Association between Religion and HIV/AIDS at risk behavior

The result shown that in this study most of the students had religion Islam (94.6%) and the rest 5.4% had other religion. The numbers of the students who have religion Islam, have low risk HIV/AIDS at risk behavior than other religion. Statistically significant association between religion with HIV/AIDS at risk behavior. There are some unique HIV/AIDS prevention by mobilizing religious networks in several Indonesian provinces to educate the community about HIV/AIDS prevention.

In Indonesia, the call to prayer rings out through the loudspeakers as the faithful wind their way along the streets to the mosque. It is Friday, the Islamic day of religious observation where mosques throughout Indonesian often fill to capacity as millions of Islamic faithful observe their religious obligations. In South Sulawesi province however the faithful attending Friday prayers may not always leave with just a deep understanding of their faith, but many are also learning about AIDS prevention.

Similar activities are being conducted in East Nusa Tenggara where both the Catholic and Protestant church have also trained preachers to provide outreach to congregations both during church services as well as in other forum such as Bible discussion groups, marriage counseling, and youth groups. The Catholic curch has even produced a special catechism for AIDS prevention, which is much in demand in Catholic diocese throughout the country.

5.1.3 Association between Ethnicity and HIV/AIDS at risk behavior

This study found that 55.4% of students come from ethnic Javanese and remaining 44.6% come from other ethnics. The numbers of the students who come from ethnic Javanese have high risk HIV/AIDS at risk behavior than ethnics non-Javanese. There is no statistically significant association between ethnicity and HIV/AIDS at risk behavior in this study. The reason for no association between ethnicity and HIV/AIDS at risk behavior in this study may due to they has equal chance of freedom to associate with friends since both of ethnic Javanese and other ethnics already live in Jakarta, the capital city of Indonesia.

5.1.4 Association between Present Residence Currently Living and HIV/AIDS at risk behavior

The result in this study also revealed most of the students at present residence currently living with parents (83.1%) while the rest living without parents (16.9%) such living with relative, in dormitory, and in rental accommodation. The numbers of the students at present residence currently living with parents have low risk HIV/AIDS at risk behavior than the students living without parents. Statistically significant association between present residence currently living with HIV/AIDS at risk behavior.

This finding was similar with some previous study that most of students living with their parents (Ichikawa; Jutta Arenth). The students who live with parents can get

take care from the parents and less chance to have sex-intercourse. Research of Promote's at. al. found that living away from parents and residing in urbanized areas is the cause to have sex-intercourse which is lead to easy to get HIV/AIDS infection.

5.1.5 Association between Monthly allowance and HIV/AIDS at risk behavior

The result of this study indicate that most of the students have monthly allowance less than mean average 446,407 rupiah (58.1%) while the rest (41.9%) have monthly allowance more. The numbers of the students with lower monthly allowance have high risk preventive behavior than the students who have higher monthly allowance. There is no statistically significant association between monthly allowance and HIV/AIDS at risk behavior in this study. The reason for no association between monthly allowance and HIV/AIDS at risk behavior in this study may due to the students mostly live with parents and living cost still depend on parents.

This result is different with other study. However previous studies of Orachorn found that there is a significant association between monthly allowance and high risk sexual behavior which is lead to easy to HIV/AIDS infection. It has been explained as those who received higher allowance has more prone to visit entertainment establishments, buying pornographic books which aroused sexual feelings, spending money for smoking, drinking alcohol, and using drug abuse. Another research of Haohan J found that students with high allowance had more sexual behavior than the students with low allowance.

5.2 Association between Knowledge on HIV/AIDS and HIV/AIDS at risk behavior

This study found that more than half (55.0%) of students have high level of knowledge while the rest (45.0%) of students have low level of knowledge. The numbers of the students with high knowledge have low risk HIV/AIDS at risk

behavior than the student with low knowledge. There is no statistically significant association between knowledge and HIV/AIDS at risk behavior in this study. This finding may due to although the students have high level of knowledge, there are many factors apart from knowledge influencing like curiosity and feeling of love.

Initially there was a strong belief on the part of health educators that adequate knowledge about HIV/AIDS would lead to a reduction of risk behavior. This assumption is true, in sense that for an individual to change their behavior it is necessary to know the behavior is risky. However despite the knowledge of the youth about the risky and consequences the number of young people do not seem to behave accordingly and the level of knowledge seems to have limited influence on safe sex practice. This is confirmed by many other studies where the level of knowledge is not relevant for behavior change.

Contrast with the research of Ha M where the students with a good knowledge also had significant association with practice safe sex. This study is similar with study of Miret M. et. Al among adolescents in Spain, knowledge was not related to behavior. Another study of Jemmot for African-American adolescents indicate that knowledge is necessary but not sufficient for behavior change.

In Indonesia, sexually active single young people who have sex with a steady partner often claim that intercourse is not the result of premeditated or conscious decisions but “just happens”, so they are unlikely to be prepared with contraception (Khisbiyah et al, 1997). In addition, many young people have limited knowledge of contraception (LD-FEUI, 1999).

Regarding HIV/AIDS transmitted, only a few students can answered correctly that HIV/AIDS cannot be transmitted by sharing meals with HIV infected person; shaking hand, touching, hugging with them; and living and working with HIV infected person. This may due to fear of close contact and misconception of the transmission.

5.3 Association between Attitude toward HIV/AIDS and HIV/AIDS at risk behavior

In this study the result shown that most of the students (64.6.0%) had high level of attitude toward HIV/AIDS than the students which had low level of attitude toward HIV/AIDS (35.4%). The numbers of the students with high attitude have low risk HIV/AIDS at risk behavior than the student with low attitude. Statistically significant association between attitude with HIV/AIDS at risk behavior.

Similar with study of Jutta Arneth which found that students with high attitude were likely have safe behavior that students with low attitude. According to a study by Hingson, attitude is more likely to have influence on behavior change. When asking about relation to people with AIDS most of the students were disagree of having infected students visiting the school and agree that infected people should separated from communities. This may due to fear of close contact and misconception of the transmission. Compare with study of Alvarez where most of students would accept someone with AIDS in their class.

Abramson explained the intellectual structure is a result of accumulated experience together with other factors such as attitudes values which adolescents learn from the way their parents socialize them, which contribute to a person's code of sexual conduct. Nguyen Tanh son indicated that attitude towards premarital sex and causal sex had strong significant relationships with sexual experience before married. Burack R has confirmed that, lack of maturity, in opinions and attitudes, caused change in sexual behavior patterns in teenagers.

5.4 Association between Source of information about HIV/AIDS and HIV/AIDS at risk behavior

This study also found that more than half (52.6%) of students choose media as source of information while the rest (47.4%) of students choose person as source of

information. The numbers of the students who choose media as source of information have low risk HIV/AIDS at risk behavior than the student who choose person assource of information. There is no statistically significant association between valuable source of information and HIV/AIDS at risk behavior in this study.

Young people appear to obtain information on different aspects of sexual behavior from different sources. In some settings, the media are the predominant source of information about HIV/AIDS, thought this is not necessarily the case for other aspects of sexual health. In Indonesia information about sexual health is rarely imparted by teachers, health professionals, or parents. The main sources of information are friends and the media.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study is conducted on January 30, 2006 among students in Jakarta Polytechnic of Health Indonesia in order to identify HIV/AIDS at risk behavior and factors related. The result of this study found that most of students (96.9%) had low risk HIV/AIDS at risk behavior.

1. Concerning the socio-demographic factors, majority of the students were female, most of the students had religion Islam, more than half of students come from ethnic Javanese, most of the students at present residence currently living with parents, most of the students have monthly allowance less than mean average.

2. In this study religion and present residence currently living had statistically significant association with HIV/AIDS at risk behavior with p value<0.05. Sex, ethnic, and monthly allowance in this study are not statistically significant association with HIV/AIDS at risk behavior.

3. This study found that more than half of students have high level of knowledge, but no statistically significant association between knowledge and HIV/AIDS at risk behavior. The study also found that more than half of students choose newspaper/magazine/book as a valuable source of information, but there is no statistically significant association between valuable source of information and HIV/AIDS at risk behavior.

4. In this study the result shown that most of the students had high level of attitude toward HIV/AIDS. There is statistically significant association between attitude with HIV/AIDS at risk behavior.

6.2 Recommendation

Based on the findings of this study, the following recommendations are ensued:

1. Since there is evidence that religion have statistically significant association with HIV/AIDS at risk behavior, a more comprehensive educational program should be develop and implemented not only in the school but also in the religion groups.

2. It has been observed in this study that students who live without parents have statistically significant association with HIV/AIDS at risk behavior. Parents should be more careful when sending their children to live separated. Parents should be more involve regarding their children behavior in HIV/AIDS at risk behavior.

3. Regarding all of in-abstinent students never use condom when have sex-intercourse, special attention should be given to encouraging students to behave responsibly in all sexual situations and to practice safe sex in order to prevent from HIV/AIDS infection.

6.3 Future Research

A large scale study is necessary to carry out, in terms of population sample size and using a larger catchment area. This study used quantitative technique only which could not get depth interview for more information and clearer picture about

preventive behavior among students. In the future research qualitative technique is needed to get better completed information.

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APPENDIX

APPENDIX A

QUESTIONNAIRE

HIV/AIDS AT RISK BEHAVIOR AMONG STUDENTS
IN JAKARTA POLYTECHNIC OF HEALTH INDONESIA

Number: / Date of response: / /

Instruction for the responses:

Please give answer to all of the following questions. The information collected from this questionnaire is served for the research purpose only. Your information will be kept confidential and it is no need to write your name on the questionnaire. Thank you in advance for your excellence cooperation.

Read the question carefully and do not skip any of the questions. Check with [√] for the answer you are choosing.

Part 1. Socio-Demographic

1. What is your gender? [ ] 1. male [ ] 2. female

2. What is your religion?
   [ ] 1. Muslim [ ] 2. Protestant [ ] 3. Catholic
   [ ] 4. Hindu [ ] 5. Buddhist [ ] 6. others (specify) ……..

3. What is your ethnics?
   [ ] 1. Java [ ] 2. Sumatera [ ] 3. Betawi
   [ ] 4. Sunda [ ] 5. Sulawesi [ ] 6. others (specify) ……..

4. Where are you currently living as present residence?
   [ ] 1. Parents [ ] 2. Dormitory [ ] 3. Rental accommodation
   [ ] 4. Relative [ ] 5. others (specify)……..

5. How much your average monthly allowance per month? …… Rupiah

Part 2. Knowledge about HIV/AIDS

6. What is the causal agent of HIV/AIDS?
   [ ] 1. bacteria [ ] 2. parasite
   [ ] 3. virus [ ] 4. fungus

7. How can HIV be detected?
   [ ] 1. physical examination [ ] 2. urine examination
   [ ] 3. blood examination [ ] 4. X-ray

8. How long does it take incubation period of HIV infection?
   [ ] 1. 1-6 days [ ] 2. 2-3 weeks
   [ ] 3. 1-2 months [ ] 4. 6 month – 10 years

9. What age group the highest percentage on AIDS cases in Indonesia?
   [ ] 1. less than 20 years [ ] 2. 20 – 29 years
   [ ] 3. 30 – 39 years [ ] 4. more than 40 years

10. Which groups with high-risk behavior to HIV infected?
   [ ] 1. Sex workers [ ] 2. Homosexuals
   [ ] 3. Injecting drug users [ ] 4. All answers are correct

No	Statement	Yes	No	Do not know
11.	A healthy looking person can have HIV/AIDS			
12.	Only one time have unsafe sex intercourse can cause to HIV infection.			
13.	HIV/AIDS cannot be cured			
14.	All person with HIV/AIDS will eventually die			
	HIV/AIDS can be transmitted by:			
15.	Having sex intercourse			
16.	Pregnant woman to infant			
17.	Blood transfusion			

(continued)

No	Statement	Yes	No	Do not know
18.	Sharing drug injection			
19.	Un-sterilized medical instrument			
20.	Insect bite			
21.	Sharing meals with HIV infected person			
22.	Shaking hand, touching, hugging with them			
23.	Living and working with HIV infected person			
24.	Swimming in the public place			
	HIV/AIDS can be prevented by:			
25.	Abstinent (not having sex)			
26.	Always using condom every time have sex			
27.	Having sex with one partner only			
28.	Avoid having sex with sex-worker			
29.	Using only sterilized needle and syringe			
30.	Screening blood before transfusing			

Part 3. Source of Information

31. Have you ever gotten information about HIV/AIDS?

[ ] 1. Yes (continue to question 30) [ ] 2. No (go to Part 4)

32. a. If yes, from where you got information about HIV/AIDS?

(You can answer more than 1)

[ ] 1. Newspaper/magazine/book [ ] 2. Poster/leaflet/advertisement

[ ] 3. Radio/ television/cinema [ ] 4. Internet

[ ] 5. Parents [ ] 6. Family/ Relative

[ ] 7. Teacher [ ] 8. Friend

[ ] 9. Association/Organization [ ] 10. Health Personnel/doctor

[ ] 11. other (specify) ……..

b. Which of the above sources is the most valuable for you?
(one answer only) …….

33. Do you think the information about HIV/AIDS is useful for you?
[ ] 1. Yes [ ] 2. No

34. a. Did you ever discuss with other people about HIV/AIDS?
[ ] 1. Yes [ ] 2. No

b. If yes, who is the person you mostly discuss about HIV/AIDS?
(one answer only) …….

35. Did your parents ever express concern about your safety towards prevention on HIV/AIDS infection?
[ ] 1. Yes [ ] 2. No

Part 4. Attitude towards HIV/AIDS

No	Statement	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
36.	HIV/AIDS is a serious problem					
37.	Every person has equal chance to get HIV/AIDS					
38.	It is possible to contract HIV/AIDS by having sex with a healthy looking person					
39.	One must stop the kind of unsafe sexual acts that can lead to high risk of getting HIV/AIDS					
40.	Have one time unsafe sex intercourse cannot make someone get HIV/AIDS					
41.	A person can avoid getting HIV/AIDS through sex by restricting to one regular sexual partner in life					

(continued)

No	Statement	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
42.	AIDS occurs only among people with abnormal sexual behavior					
43.	Always using condom during sexual intercourse can prevent from HIV/AIDS					
44.	Using share drug injection (needle, syringe, etc) together with other people cannot make infected by HIV					
45.	Donor blood or receive transfusion without screening can make people infected by HIV					
46.	Use of condoms make sex less enjoyable					
47.	It is not suitable to use condom, it will cause the sex partner feel distrusted					
48.	It is shameful to buy and carry condom around, even it was hidden					
49.	Person who always carry condom are being careful and practice safe sex					
50.	Premarital sex is a common style among undergraduate students					
51.	People should keep virginity before married					
52.	Students who are infected with HIV/ AIDS should not be allowed to college					
53.	People who are infected with HIV/AIDS should be separated from communities					
54.	Person who using drug injection should always use sterilized needle and syringe					
55.	Screening to detecting HIV should be done before blood transfusion					

Part 5. HIV/AIDS at risk behavior

56. Do you have boyfriend/girlfriend? [ ] 1. Yes [ ] 2. No

57. If yes, how many boyfriend/girlfriends do you ever have? …… person

58. Do you ever engaging in sexual intercourse?
    [ ] 1. Yes (go to question 60)
    [ ] 2. No (continue to question 59)

59. If you have sexual intercourse in the future, do you intend to always practice safe-sex such:
    a. Having sex with one partner only?
        [ ] 1. Yes [ ] 2. No [ ] 3. Not Sure
    b. Always using condom every time have sex?
        [ ] 1. Yes [ ] 2. No [ ] 3. Not Sure
    c. Avoid having sex with sex-worker?
        [ ] 1. Yes [ ] 2. No [ ] 3. Not Sure
    (then go to question 64)

60. How many persons you ever have engaging in sexual intercourse? ……..... person

61. Did you ever making sexual intercourse with sex-workers?
    [ ] 1. Yes [ ] 2. No

62. Did you use condom each time you have sex?
    [ ] 1. Yes [ ] 2. No

63. Have you ever discussed about safe sex practice in order to HIV/AIDS prevention with your sex-partner?
    [ ] 1. Yes [ ] 2. No

64. Do you ever using drug abuse injection?
    [ ] 1. Yes [ ] 2. No

65. If yes, do you ever using share drug injection (needle, syringe, etc) together with other people?
    [ ] 1. Yes [ ] 2. No

APPENDIX B

Association between Socio-demographic factors and HIV/AIDS at risk behavior

Socio-demographic factors	HIV/AIDS at risk behavior				Chi-square	P-value
	Low risk		High risk			
	n	%	n	%		
Gender						
Male	21	91.7	2	8.3	2.67*	0.151
Female	231	97.5	6	2.5		
Religion						
Moslem (Islam)	240	97.6	6	2.4	6.23*	0.012**
Non-Moslem	12	85.7	2	14.3		
Ethnic						
Java	139	96.5	5	3.5	0.17*	0.735
Non-Java	113	97.4	3	2.6		
Currently living at present residence						
With Parents	213	98.6	3	1.4	12.20*	0.004**
Without Parents	39	88.6	5	11.4		
Monthly Allowance						
< = mean	139	95.9	6	4.1	1.24*	0.307
> mean	113	98.2	2	1.8		

*Fisher exact test **significant

APPENDIX C

Association between Level of Knowledge on HIV/AIDS and HIV/AIDS at risk behavior

Level of Knowledge on HIV/AIDS	HIV/AIDS at risk behavior				Chi-square	P-value
	Low risk		High risk			
	n	%	n	%		
High	141	98.6	2	1.4	3.00*	0.145
Low	111	94.8	6	5.2		

*Fisher exact test

APPENDIX D

Association between Attitude toward HIV/AIDS and HIV/AIDS at risk behavior

Level of Attitude toward HIV/AIDS	HIV/AIDS at risk behavior				Chi-square	P-value
	Low risk		High risk			
	n	%	n	%		
High	167	99.4	1	.6	9.80*	.003**
Low	85	92.4	7	7.6		

*Fisher exact test **significant

APPENDIX E

Association between Source of Information about HIV/AIDS and HIV/AIDS at risk behavior

Source of Information about HIV/AIDS	HIV/AIDS at risk behavior				Chi-square	P-value
	Low risk		High risk			
	n	%	n	%		
From Media	134	97.8	3	2.2	0.58*	0.495
From Person	128	96.2	5	3.8		

*Fisher exact test

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