SAFE SEX INTENTION TO PREVENT HIV/AIDS AMONG HIGH SCHOOL STUDENTS IN MANADO MUNICIPALITY, NORTH SULAWESI PROVINCE, INDONESIA

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ABSTRACT

A cross sectional study was conducted by a self-administered questionnaire. The study aimed to examine the safe sex intention among high school students, as well as the socio demographic factors, psychosocial factors, subjective norms toward HIV/AIDS prevention and external factors, and the association between safe sex intention and socio demographic factors, psychosocial factors, subjective norms toward HIV/AIDS prevention and external factors. A total of 306 students responded but only 281 had fully completed the questionnaires. The data was collected at three schools in Manado, North Sulawesi Province, Indonesia. Chi square and descriptive analyses were used for the statistical analysis of the variables.

The results showed that 60.14% of the students had a good level of safe sex intention and 53.74% of students had a high degree of knowledge concerning HIV/AIDS. However some students still had insufficient knowledge of prevention and risk factors regarding HIV/AIDS. 58.01% of student had a good attitude toward HIV/AIDS prevention, there was not any students who had poor level of attitude towards HIV/AIDS prevention. 33.10% of students had good level of subjective norms toward HIV/AIDS, 63.35% had a poor level of communication about sexual problem with parents. Gender, subjective norms toward HIV/AIDS prevention, knowledge on HIV/AIDS and attitudes toward HIV/AIDS prevention were found significant association with safe sex intention.

After considering this studies findings, may be necessary to provide appropriate sex education and HIV/AIDS prevention in schools. Parents, the Ministry of Health and the Ministry of Education should collaborate to create a good communication with children, and also to create programs that promote a good attitude among students.

KEY WORDS : SAFE SEX INTENTION / HIV/AIDS / HIGH SCHOOL STUDENTS

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LIST OF ABBREVIATIONS

HIV	:	Human Immunodeficiency Virus
AIDS	:	Acquired Immune Deficiency Syndrome
WHO	:	World Health Organization
UNAIDS	:	United Nation Program on AIDS
STIs	:	Sexually Transmitted Infections
MOH	:	Ministry of Health
TB	:	Tuberculosis
NGO	:	Non Government Organization
TRA	:	Theory of Reasoned Action
ARRM	:	AIDS Risk Reduction Model

CHAPTER 1
INTRODUCTION

1.1 Rationale and Justification

Since the first description of Acquired Immunodeficiency Syndrome (AIDS) in 1981, the number of people living with Human Immunodeficiency Virus (HIV) continues to grow, as does the number of deaths due to AIDS. A total of 39.5 million (34.1 million - 47.1 million) people were living with HIV in 2006, 2.6 million more than in 2004. This figure includes the estimated 4.3 million (3.6 million - 6.6 million) adults and children who were newly infected with HIV in 2006, which is about 400 000 more than in 2004. In many regions of the world, new HIV infections are heavily concentrated among young people (15–24 years of age). Among adults 15 years and older, young people accounted for 40% of new HIV infections in 2006. Furthermore the total number of people death due to AIDS a 2.9 million. The epidemic is in its third decade and has become a pandemic disease that threatens the world population. It affects all body systems as well as the mental health and social relationships of carriers and asymptomatic patients (1).

Today, HIV / AIDS is still spreading rapidly. The epidemic is reversing development gains, robbing millions of people of their lives, widening the gap between rich and poor, and shattering young people's opportunities for healthy adult lives (2).

In recent years, the number of AIDS diagnoses among Asians and Pacific Islanders has increased steadily. Although Asians and Pacific Islanders account for approximately 1% of the total number of HIV/AIDS cases in the 33 states with long-term, confidential name-based HIV reporting, the Asian and Pacific Islander population in the United States is growing. An estimated 417 Asians and Pacific

Islanders were given a diagnosis of HIV/AIDS, representing 1.1% of the 37,331 cases diagnosed that year. Of the 475,220 persons living with HIV/AIDS, 2,996 (0.6%) were Asians and Pacific Islanders. Of those given a diagnosis, 78% were men, 21% were women, and 1% was children (under 13 years of age). The numbers of HIV/AIDS cases may be larger than reported because of underreporting or misclassification of Asians and Pacific Islanders (3).

Presently, there is growing concern about adolescents' futures and the potential resources. They represent for a country desperate to restore sustainable economic growth. An estimated 10.3 million young people aged 15-24 are living with HIV/AIDS, and half of all new infections – over 7000 daily – are occurring among young people. Young people are vulnerable to HIV because of risky sexual behaviour, substance use and their lack of access to HIV information and prevention services. Many young people do not believe that HIV is a threat to them, and many others do not know how to protect themselves from HIV.

HIV/AIDS is increasingly a disease of the young and most vulnerable, particularly, girls. More than one third of all people living with HIV/AIDS are under the age of 25, and almost two-thirds of them are women. Of the 5 million new infections in 2002, half were among young people. Sexual activity and the main route of transmission of HIV begin in adolescence for the majority of people. Yet young people remain alarmingly uninformed about the most basic facts about HIV and prevention (4).

The behaviors of young people, particularly adolescents, can make them vulnerable to HIV infection and AIDS. The number of AIDS cases reported annually among U.S. adolescents (13-19 years of age) has increased, from 1 in 1981 to 159 cases in 1992. Through September 1993, a total of 1,412 cases of AIDS among adolescents has been reported. In 1991, HIV infection/AIDS became the sixth leading cause of death among 15- to 24-year olds in the United States (5).

Efforts to increase HIV prevention among young people also require improvement. 15% of young women and 27% of young men (aged 15–24 years) are sexually active before their 15th birthday, yet 40% of surveyed parents do not want children in their early teens to learn about condoms at school. Only 18% of young men and 26% of young women knew how to prevent the sexual transmission of HIV and harboured no major misconceptions about HIV when surveyed in 2004 (6).

In Indonesia, the first HIV/AIDS was diagnosed in 1987. The number of cases increase rapidly(6). By December 2004, Indonesian health officials had recorded 2,682 cases of AIDS and an additional 3,368 people known to be HIV positive. At the end of March 2007, there were 5640 cases of HIV, 8988 cases of AIDS and 1994 cases has died due to AIDS (6).

Almost all provinces (32 provinces, exclude West Sulawesi) in Indonesia report the HIV/AIDS cases. The majority (59.3%) were in the age group of 20-29, and age group of 15-19 are in the fifth (2.5%). There are 14 provinces showed the increasing cases. Those are Papua, DKI Jakarta, Riau, Bali, East Java, West Java, Riau Islands, West Kalimantan, East Kalimantan, South Sulawesi, North Sumatera, Maluku, East Nusa Tenggara and North Sulawesi. In 6 provinces (Papua, DKI Jakarta, Riau, Bali, East Java, West Java), prevalence of certain groups have even exceeded 5%, which is categorized by WHO as concentrated phase (6,7,8).

Table 1 Cumulative AIDS Cases in Indonesia by Age Group

Age Group	N	%
< 1	38	0.28
1 - 4	80	0.59
5 - 14	33	0.24
15 - 19	340	2.52
20 - 29	7973	59.30
30 - 39	3447	25.64
40 - 49	878	6.53
50 - 59	207	1.53
> 60	47	0.34
Unknown	400	2.97

(source: Directore General CDC & EH, Ministry of Health, Republik of Indonesia)

As in table 1, 2.5 % of AIDS cases are in 15 -19 age group, and 59.3% are in the 20 – 29 age group. It was displayed that the highest cases of HIV/AIDS are in adolescent and young people. This data and condition have not reflected the real situation but just like a “peak of Ice Mountain”. The expert’s estimate that the really amount can be 100 time more than the recent data.

Adolescent and young people are center epidemic of HIV. They are most risk to getting HIV infection because of lack of information, knowledge and behavioral skill about HIV. Moreover, many adolescent had sexual intercourse and try to use injection drug, as one of mode of HIV transmission.

The spread of HIV is rapidly among adolescent and young people in Indonesia. The mainly route of HIV infection are through unsafe sex. Some research revealed that day by day many adolescent (under 18 year) have had sexually experiences (9).

As have mentioned, North Sulawesi is one of provinces has showed the increase of cases HIV/AIDS. There is an steadily increasing in prevalence of

HIV/AIDS from 3.65 per 100,000 population in 2005 to 4.68 at the end of march 2007 (6, 10). In October 2007, there are 286 AIDS cases in North Sulawesi province, and 25 of them are students (11).

Manado is capital of North Sulawesi province. It is comprises 9 sub districts and 87 villages with total area about 15,876.65 km^2 with the population about 410,700. And Manado has the highest number of AIDS cases in North Sulawesi province with 109 cases.

Government of Manado City have vision to be a world tourism city on 2010, and mission to “make Manado a beautiful, peaceful, safe, disciplinary and everlasting city; with educated, religious, harmonious, open-minded, hospitable, democratic, disciplinary and creative, and healthy, strong, prosperous and fair people in order to improve the service for community (12).

Travel and tourism's economic benefits are usually considered, on balance, to be beneficial. However, the situation is much less clear-cut when the environmental and/or socio-cultural effects of a large and continued flow of people visiting a place, or places, are considered. Study by Harcombe DPT, 1999 found that while there are some positive consequences, the negative environmental impacts of travel and tourism are much more numerous, even when considering the gains provided by the protection of such vital life-sustaining elements as air and water quality, the preservation of wildlife and naturally occurring vegetation, and the conservation of the best features of the 'built' (i.e. human-made) environment. However, the benefits are not nearly so pronounced when tourism's environmental and socio-cultural impacts are considered. While some gains in these two categories can usually be identified, a significant number of negative aspects have also been frequently observed (Mathieson A & Wall G, 1982; and Cooper C et al, 1993).

There are some effect of travel and tourism on moral and behavior, such as:

1. Sex tourism may become a common feature.

2. Prostitution may be encouraged by tourist complicity to appear where it has not been common before.

3. Sexually transmitted diseases, such as HIV, AIDS, and other serious (but non-life threatening) forms of venereal disease, may become prevalent. Syphilis and gonorrhea etc may re-appear - either being:

- spread by local people to tourists, or

- received by them from visitors.

4. Drugs may become a problem, with

- some tourists being tempted by local suppliers to try them, and

- some local people (usually youth) becoming suppliers and/or producers of these narcotics.

5. Alcoholism may reach bothersome levels, either among tourists (Pizam A, 1978) or among the local inhabitants whose increased drinking is the result of traveler-induced demonstration effects. At the same time, local people may also be heavy drinkers (e.g. in Australia, Russia, France, and Poland etc), this time having a potentially negative demonstration effect on any visitors to their country (13).

As fifth majority of HIV/AIDS age group is 15-19 years, and many premature deaths among adults are largely due to behaviors initiated during adolescence, and adolescents who start having sex early are more likely to have sex with high-risk partners or multiple partners, and are less likely to use condoms. Lacking the necessary knowledge and skills, younger adolescents are less likely to protect themselves from HIV than young people in their early 20s, moreover students in Senior High School are young generation who will continue the development in Indonesia. As the prevalence of HIV/AIDS in North Sulawesi steadily increases, and there is no study in this field in North Sulawesi before, therefore it is essential to

assess the level of behavioral intention of adolescent to prevent themselves from getting HIV/AIDS. By studying their safe sex intention on HIV/AIDS prevention, we will get the information and we can prepare them to be healthy generation and to increase their quality of life. This study will examine the intention to have safe sex in order to prevent HIV/AIDS infection among students as adolescent level as one of risk group on spread of HIV/AIDS, by using the Theory of Reasoned Action as the main theory because this theory more appropriate for intention study and also for target group of adolescent.

1.2 Research questions

1. What are the safe sex intentions and its determinants to prevent HIV/AIDS among Senior High School students in Manado?

2. What are the factors related to safe sex intention?

1.3 Research objectives

1.3.1 General Objective

To study about safe sex intention to prevent HIV/AIDS among senior high school students in Manado.

1.3.1 Specific Objectives

1. To describe safe sex intention to prevent HIV/AIDS among senior high school students in Manado.

2. To describe the socio-demographic factors, the attitude toward HIV/AIDS prevention, the knowledge on HIVAIDS, the subjective norms toward HIV/AIDS prevention, and the external factors among senior high school students.

3. To examine association between the socio-demographic factors, attitude, knowledge, subjective norms and external factor with safe sex intention among senior high school students.

1.4 Conceptual Framework

In this framework Socio-demographic factors, attitude toward HIV/AIDS knowledge on HIV/AIDS, Subjective norms toward HIV/AIDS prevention and External factor are considered as independent variables and safe sex intention to prevent HIV/AIDS is considered as dependent variable. This conceptual framework was construct based on Theory of Reasoned Action (TRA) and AIDS Risk Reduction Model (ARRM). The Main variable in TRA are attitude and subjective norms. TRA has explain the others factor that indirectly influence to behavioral intention such socio demographic factor and external factor. AIDS Risk Reduction Model used to support the knowledge part.

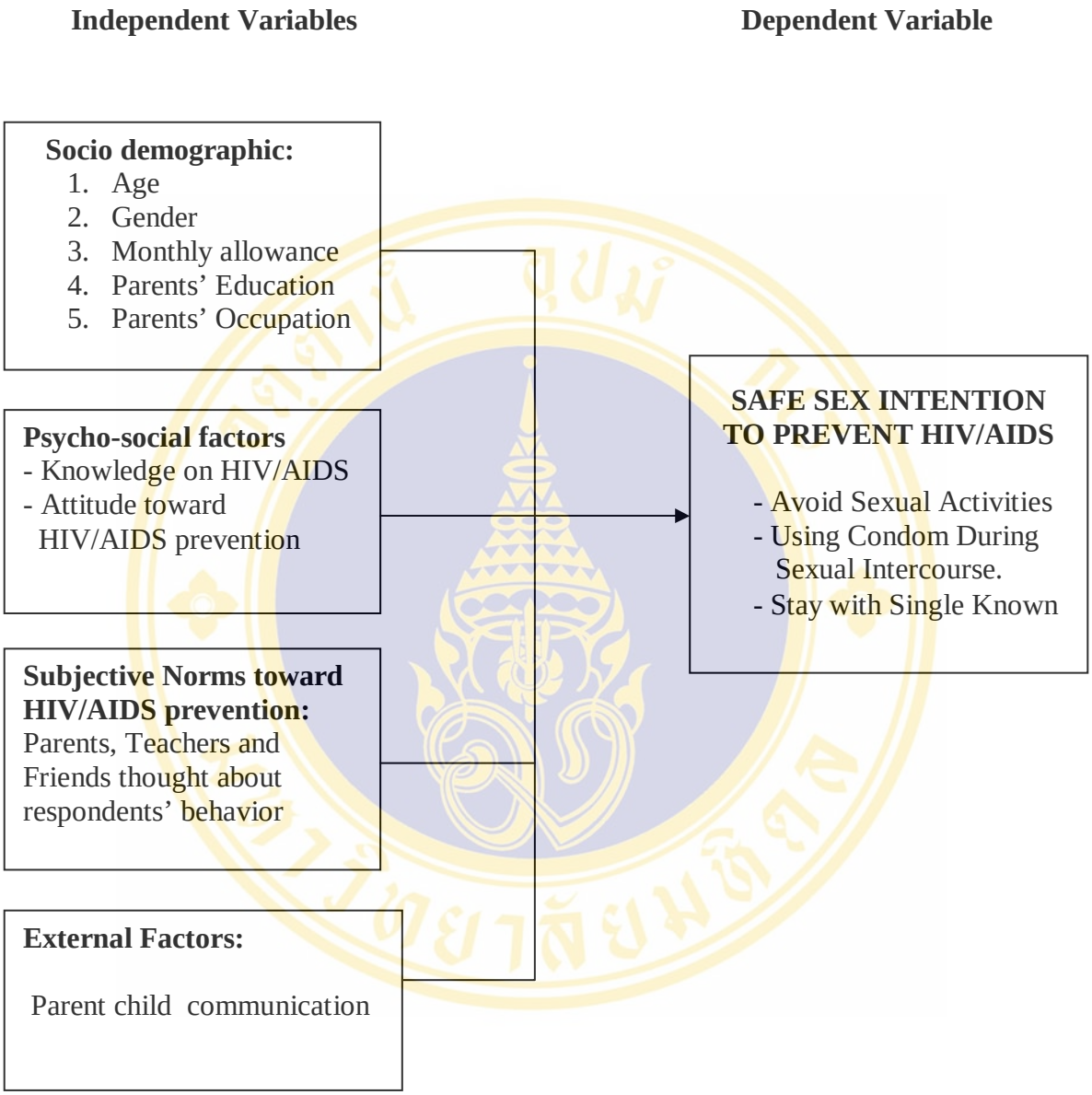


Figure 1 Conceptual Framework

1.5 Operational Definitions

1.5.1 Safe Sex Intention

Safe sex intention refers to intends of the student to have safe sex to prevent HIV/AIDS, such as using condom during sexual intercourse, stay with single and known partner and avoid sexual activities.

1.5.2 Knowledge on HIV/AIDS

Knowledge means the general concept and understanding of HIV/AIDS such as causative agent, mode of transmission, high risk group, risk factor and prevention of HIV/AIDS.

1.5.2 Attitude toward HIV/AIDS Prevention

Attitude refers to the student individual feelings and beliefs toward safe sex intention to prevent HIV/AIDS, such as using condom during sexual intercourse, stay with single and known partner, avoid premarital sex.

1.5.3 Subjective Norms toward HIV/AIDS prevention

Subjective norms defined as students' beliefs that specific individual or group think that she/he should or should not perform the behavior in order to prevent HIV/AIDS and his/her motivation to follow the specifics opinion.

1.5.4 Socio-demographic Factors

1. Age, means age of the respondents at the last of their birthday which are 15 to 19 years old.
2. Gender, means gender of the students which are male or female.
3. Monthly allowance refers to approximately of money that respondents received each month.
4. Parents' education refers to education of mother and father of the respondents
5. Parents' occupation refers to occupation of mother and father of the respondents

1.5.5 External Factor:

Parent child communication refers to communication between parents and children (students) about sexual problem including HIV/AIDS prevention.

1.6 Limitation of study

1. Limited of time and budget caused some limitation in this study as follow:
   – The interview question can get more deep information, but did not applied.
   – Should be picked more school as a sample, thus get more vary of respondents.
2. The appropriate result for pretest questionnaire are 0.75 to 0.80, but in this study the result for pretest were 0.68 for KR20 and 0.64 for Cronbach alpha, therefore the reliability of questionnaire was not high.
   – Because of some problem in the field, the systemic sampling as have planned to use for select the sample could not applied.
   – The number of questions in this study very limited, thus need more questions to get more data.

CHAPTER 2
LITERATURE REVIEW

Concerning to the objectives of this study, safe sex intention to prevent HIV/AIDS among senior high school students in Manado, Indonesia. This chapter covered the contents as follow:

2.1 HIV/AIDS

2.1.1 Natural history of HIV/AIDS

AIDS is caused by HIV, a very fragile RNA type of retrovirus, which like any other microorganism lives inside the living cells of the body. Outside body it doesn't survive for more than half and hour.

There are two types of HIV, the cause of AIDS, HIV-1 and HIV-2. HIV-1 is the predominant type worldwide which 80% people are affected by it. HIV-2 occurs most commonly in West Africa, and occasional infections have occurred in East

Africa, Europe, Asia and Latin. Both types cause AIDS and the routes of transmission are the same. However, HIV-2 transmission is slightly less easy and the progression of HIV-2 infection to AIDS may be slower. Some people are infected with both the viruses. People only infected with HIV-2 live longer than those infected with HIV-1 and chances of transmission of HIV-2 from mother to child are very rare. Once in body, HIV attacks CD4 type of White Blood Cells (WBCs) in blood and gradually kills them. These CD4 type of WBC helps us to fight against various infections. Once they are destroyed our body's resistance to fight infections goes down and person suffers from lots of infections. This end stage of HIV infection is called AIDS. It takes many years for AIDS to develop and till that time infected person usually remains healthy (14).

2.1.2 HIV transmission route

The main routes of transmission vary among regions. Many main routes of transmission of HIV in sub-Sahara Africa are through sexual intercourse, blood and from mother to infant, and injections with contaminated needles and syringes. The most common route of HIV transmission is through sexual intercourse. However, There is no evidence that HIV transmission occurs through everyday contact, hugging or kissing, food or drink, or the bites of mosquitoes or other insects.

The commonest route of HIV transmission in the fast-growing HIV epidemics in the Russian Federation and Ukraine is through injecting drug use. About one-third of children born to HIV-infected mothers are also HIV-infected, with infection occurring mainly around the time of birth, 5% during pregnancy, 15% during delivery, and 10% during breastfeeding. There is smaller risk of HIV transmission through breastfeeding (15)

In Indonesia, recently the most of transmission route are through injecting drug user (49.6%), followed transmission by sexual intercourse (45.5%) (6).

2.1.3 Evolution of HIV infection

Acute HIV infection is also called “primary HIV infection” or “acute seroconversion syndrome”. Between 40% and 90% of new HIV infections are associated with symptomatic illness. The time exposure to onset of symptoms is usually 2-4 weeks. Serological tests first become positive about 4-12 weeks after infection, with over 95% of patients “seroconverting” within 6 month of HIV transmission. The diagnosis of acute HIV infection is best established by demonstration of HIV RNA in plasma (15).

In adult, there is long, variable, latent period from HIV infection to the onset of HIV-related disease and AIDS. A person infected with HIV may be asymptomatic for 10 years or more. The period of asymptomatic infection is shorter in children than adults (15).

2.2 Adolescents’ Development

According to WHO defines “adolescents” as individuals in the 10-19 years age group and “youth” as the 15-24 year age group. These two overlapping age groups are combined in the group “young people” covering the age range 10-24 years (16)

Some literature defined adolescent as person between 11- 21 years old and divided in to three stages such as early adolescence aged 11 to 13, middle adolescence aged 14 to 18 and late adolescence aged 19 to 21 (17).

There are five aspects of adolescent development as follow:

1. Physical development
2. Cognitive development
3. Emotional development
4. Social development
5. Behavioral development

2.2.1 Physical Development

Adolescence is characterized by dramatic physical changes moving the individual from childhood into physical maturity. Early, prepubescent changes are noted with the appearance of secondary sexual characteristics.

Girls may begin to develop breast buds as early as 8 years old, with full breast development achieved anywhere from 12 to 18 years. Pubic hair growth -- as well as armpit and leg hair -- typically begins at about age 9 or 10, and reaches adult distribution patterns at about 13 to 14 years.

Menarche (the beginning of menstrual periods) typically occurs about 2 years after initial pubescent changes are noted. It may occur as early as 10 years, or as late as 15 years, with the average in the United States being about 12.5 years. A concurrent rapid growth in height occurs between the ages of about 9.5 and 14.5 years, peaking somewhere around 12 years.

Boys may begin to note scrotal and testicular enlargement as early as 9 years of age, followed closely by lengthening of the penis. Adult size and shape of the genitals is typically reached by age 16 to 17 years. Pubic hair growth -- as well as armpit, leg, chest, and facial hair -- begins in males about age 12, and reaches adult distribution patterns at about 15 to 16 years.

A concurrent rapid growth in height occurs between the ages of about 10.5 to 11 and 16 to 18, peaking around age 14. Puberty is not marked with a sudden incident in males, as it is with the onset of menstruation in females. The appearance of regular nocturnal emissions (wet dreams), which may occur about every 2 weeks with the build-up of seminal fluid, marks the onset of puberty in males (18).

2.2.2 Cognitive Development

During middle adolescence, most teens begin high school and intellectual abilities are typically enhanced. This prompts many to question and analyze life more extensively. They often develop a personal code of ethics, which corresponds with their own beliefs and behaviors.

This new flexibility of thought has a major impact on an adolescent's self-concept and relationships. Many begin to philosophize about the meaning of life as well as their purpose in it. Most adolescents between age 14 and 18 also start to think about the future and make plans regarding goals such as college and career paths.

Middle adolescence is a time of great variation in cognitive development among individuals. In addition, the difference between thought patterns at age 14 and age 18 is vast in both girls and boys (19).

2.2.3 Emotional Development

Adolescents are faced with the large task of establishing a sense of identity. The new cognitive skills of maturing adolescents give them the ability to reflect on who they are and what makes them unique. Identity is made up of two components those are :

1. Self concept : the set of beliefs about oneself, including attributes, goals, interests, values and religious or political beliefs.
2. Self esteem : How one feels about one's self concept.

The process of developing a sense of identity involves experimenting with different ways of appearing, sounding and behaving. Each adolescent will approach this exploration in his or her own unique way.

Adolescents must also develop relationship skills that allow them to get along well with others and to make friends. The specific skills that they need to master as part of their emotional development include:

1. Recognizing and managing emotions.
2. Developing empathy.
3. Learning to resolve conflict constructively.
4. Developing a cooperative spirit.

The course of emotional development will be unique for each adolescent (17).

2.2.4 Social Development

Middle adolescent stage is commonly characterized by plenty of experimentation. For instance, a teen may change fashion styles, groups of friends and personal interests from month to month until they discover what suits them best (19).

One of the greatest social changes for adolescents is the new importance of their peers. This change allows them to gain independence from their families. By identifying with peers, adolescents start to develop moral judgment and values, and to explore how they differ from their parents.

Young adolescents are very concerned with being accepted by a peer group. This great desire to belong can influence some to engage in activities that they normally would not consider.

By middle adolescence, the intensity of involvement with a peer group gives way to more intimate friendships and romances. Peer groups may remain important longer for adolescents belonging to ethnic minority groups. For these teens, peer groups provide a much-needed sense of belonging within the majority culture.

The relationship between adolescents and their parents is changed by the adolescent's social development. However, the shift in the adolescent's social world from family to peers does not lessen the importance of the family in the adolescent's life. Family closeness has been confirmed as the most important protective factor against certain high-risk behaviors such as smoking, alcohol and drug use, and early initiation of sexual intercourse (17).

2.2.5 Behavioral Development

The sudden and rapid physical changes that adolescents experience typically lend this period of development to be one of self-consciousness, sensitivity and concern over one's own body changes, and excruciating comparisons between oneself and peers.

The sudden and rapid physical changes that adolescents experience typically lend this period of development to be one of self-consciousness, sensitivity and

concern over one's own body changes, and excruciating comparisons between oneself and peers.

During adolescence, it is appropriate for youngsters to begin to separate from their parents and establish an individual identity. In some cases, this may occur with minimal reaction on the part of all involved.

As adolescents pull away from parents in a search for identity, the peer group takes on a special significance. It may become a safe haven, in which the adolescent can test new ideas and compare physical and psychological growth (17).

All of the developmental changes that adolescents experience prepare them to experiment with new behaviors. This experimentation results in risk-taking, which is a normal part of adolescent development (17). In early adolescence, the peer group usually consists of non-romantic friendships, often including "cliques," gangs, or clubs. Members of the peer group often attempt to behave alike, dress alike, have secret codes or rituals, and participate in the same activities. As the youth moves into mid-adolescence (14 to 16 years) and beyond, the peer group expands to include romantic friendships.

Mid-to-late adolescence is characterized by a need to establish sexual identity through becoming comfortable with one's own body and sexual feelings. Through romantic friendships, dating, and experimentation, adolescents learn to express and receive intimate or sexual advances in a comfortable manner that is consistent with internalized values (18).

2.3 Adolescence and HIV/AIDS

Safer sex includes practices that reduce the risk for contracting sexually transmitted infections (STIs), including HIV. These practices reduce contact with the partner's body fluids, including ejaculate from a man's penis (semen), vaginal fluids, blood, and other types of discharge from open sores. Safer sex reduces but does not totally eliminate risk. For example, using a condom correctly and every time for

vaginal, oral, or anal sex greatly reduces, but does not totally eliminate, the risk for transmission (20).

The sexual and reproductive behavior of the young people thus continues to raise serious concerns in view of the implications for the HIV/AIDS epidemic. Studies by MacPhail and Campbell (2001) and Kapiga and Lugalla (2002) have shown that many young people who commence sexual relations do not take preventive measures to avoid infection, thereby exposing themselves to the risk of infection with HIV. Due to the fact that protective behavior is poor among Nigerian adolescents. The Nigerian Demographic and Health Survey shows that 16% of girls become sexually active by age 15, increasing to 50% by the time they are aged 18. Among boys, 40% commence sexual activities by age 18 and by age 24 almost all boys are sexually active (21).

Knowledge on reproductive health including HIV/AIDS something that important for adolescent. Lack of knowledge can make them do not understand how to protect themselves from HIV or other STIs. Parents often feel embarrassed and hesitate to discuss with their adolescent about sex. Due to the culture and religion some country do not allow to providing sex and reproductive education in school. (22).

Premarital sexual behavior among adolescent has reported from Cambodia, Malaysia, Philippines and Thailand. Man more likely to have sexually experience than women (23).

A study toward students secondary school and colleges in Tanzania (Maswanya ES) showed that 54% students were sexually active and 35%, 39% had a regular partner and 13% had multiple partner (24).

Survey in papua (CDC and EH-MOH 2004) showed that around 10-15% of young men (age 15-24) had sex and 50% have had sex before marriage. Premarital sex among young women (age 15-24) is also high, 6% in Merauke, 90% in the Jayawijaya highlands, 30% in biak and 20% in Jayapura (8).

Many premature deaths among adults are largely due to behaviors initiated during adolescence. Adolescents who start having sex early are more likely to have sex with high-risk partners or multiple partners, and are less likely to use condoms. Delaying the age at which young people first have sex can significantly protect them from infection. Lacking the necessary knowledge and skills, younger adolescents are less likely to protect themselves from HIV than young people in their early 20s (25).

HIV / AIDS is an important health issue in children and adolescents. Since the first clinical evidence of AIDS was reported two decades ago, HIV / AIDS has spread to every corner of the world (2).

Young people continue to bear the brunt of the global HIV/AIDS epidemic, with youth under age 25 accounting for more than half of all new HIV infections each year. HIV/AIDS prevalence among young people as already high in many countries around the world, and young people continue to make up a significant proportion of a new infection.(23,24) Among youth age 13 to 19, 57% of recorded HIV infection occurred among young women and 43% among young man (26).

The World Health Organization (WHO) states that youth are at the epicenter of preventing the progression of the HIV/AIDS pandemic. The WHO estimated that youths ages 15-24 comprise 50% of all new infected and consequently must be targeted for education in decreasing transmission of HIV. In order for youths to help slow this pandemic, they need to first be educated and have knowledge about HIV/AIDS (6).

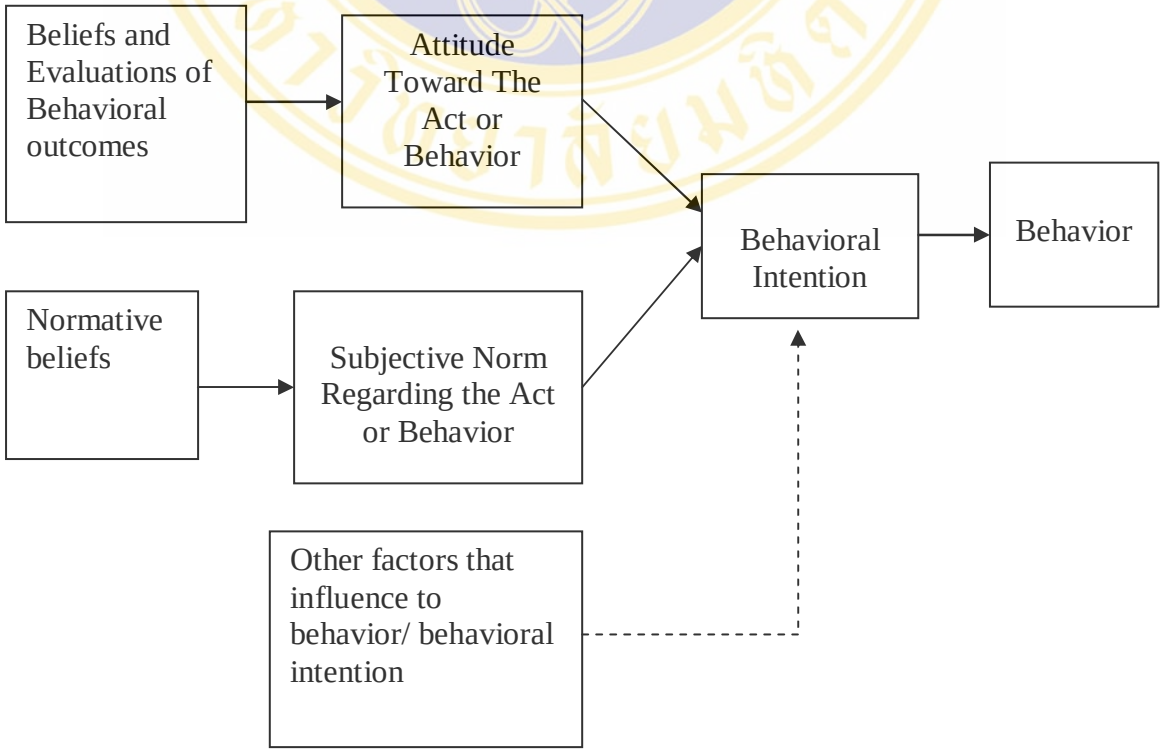
2.4 Conceptual Theory

2.4.1 Theory of Reasoned Action

Many theories in health education and health promotion seek answer to the fundamental question of why people behave the way they do. More specially theories are used to try to understand and predict how and why people change their unhealthy behaviors to healthy behavior (27).

The Theory of Reasoned Action (TRA) first developed in the late 1960s by Martin Fishbein and revised and expanded by Fishbein and Icek Azjen in the decades that followed, is a theory that focuses on a person's intention to behave a certain way. An intention is a plan or a likelihood that someone will behave in a particular way in specific situations — whether or not they actually do so. For example, a person who is thinking about quitting smoking intends or plans to quit, but may or may not actually follow through on that intent.

Figure 2 Theory of Reasoned Action (Source: Ajzen and Fishbein, 1980)



Theory of Reasoned Action says that a person's behavior is determined by their attitude towards the outcome of that behavior and by the opinions of the person's social environment. Ajzen and Fishbein (1980, p62) proposed that a person's behavior is determined by his intention to perform the behavior and that this intention is, in turn, a function of his attitude toward the behavior and his subjective norm (28).

Theories of Reasoned Action consist of behavior intention, Attitude toward behavior and subjective norms.

– Attitude: in this theory, a person's attitude toward behavior consist of 1) a belief that particular behavior leads to a certain outcome and 2) an evaluation of the outcome. If the outcome seems beneficial to the individual, he or she may then intend to or actually participate in a particular behavior (29).

– Subjective Norms: are person's perception of what others around them believe that the individual should do. In its purest essence, a subjective norm is type of peer pressure. Whether or not a person participates or intends to participate in any behavior is influenced strongly by the people around them. These people may include friends or a peer group, family, co-workers, church congregation members, community leaders and even celebrities. A belief that Ted Nugent is a good rocker and an advocate of responsible hunting can influence one's attitude toward hunting and may lead them to participate in responsible hunting behaviors (28).

– Intentions: are probability, as rated by the subject, that he/she will perform the behavior. This intention is made up of the attitudes and subjective norms. Fishbein proposed that variables not included in the model can affect intention and, consequently, behavior. However, these variables must significantly affect the attitude or normative belief component and their weights. These factors include demographic variables and personality traits (29).

– Other factors influencing Intention. The Theory of Reasoned Action proposed that an individual's intention to perform a specific behavior is determined by his Attitude toward that Behavior, and his Subjective Norm. Fishbein (1967) suggested

that additional variables external to that model may also influence Intention, but only indirectly, when it occurs that the variable is influencing any of the two components that determine Intention. In order to actually influence Intention, an external variable should meet at least one of the following conditions:

1. The external variable influences the attitudinal component and that component weights significantly;

2. The variable influences the normative component, and that component weights significantly;

3. The variable influences the relative weights of both components.

This means that, even though a variable may influence one of the components, it won't affect the Intention if the component affected doesn't weight significantly in determining the Intention (30).

2.4.2 AIDS Risk Reduction Model (ARRM)

The AIDS Risk Reduction Model (ARRM), introduced in 1990, provides a framework for explaining and predicting the behavior change efforts of individuals specifically in relationship to the sexual transmission of HIV/AIDS. A three-stage model, the ARRM incorporates several variables from other behavior change theories, including the Health Belief Model, "efficacy" theory, emotional influences, and interpersonal processes. The stages, as well as the hypothesized factors that influence the successful completion of each stage, are as follows:

STAGE 1: Recognition and labeling of one's behavior as high risk
Hypothesized Influences:

1. Knowledge of sexual activities associated with HIV transmission.
2. Believing that one is personally susceptible to contracting HIV.
3. Believing that having AIDS is undesirable.
4. Social norms and networking.

STAGE 2: Making a commitment to reduce high-risk sexual contacts and to increase low-risk activities

Hypothesized Influences:

1. Cost and benefits.
2. Enjoyment (e.g., will the changes affect my enjoyment of sex?).
3. Response efficacy (e.g., will the changes successfully reduce my risk of HIV infection?).
4. Self-efficacy.
5. Knowledge of the health utility and enjoy ability of a sexual practice, as well as social factors (group norms and social support), are believed to influence an individual's cost and benefit and self efficacy beliefs.

STAGE 3: Taking action. This stage is broken down into three phases:

1) information seeking; 2) obtaining remedies; 3) enacting solutions.

Depending on the individual, phases may occur concurrently or phases may be skipped.

Hypothesized Influences:

1. Social networks and problem-solving choices (self-help, informal and formal help).
2. Prior experiences with problems and solutions.
3. Level of self-esteem.
4. Resource requirements of acquiring help.
5. Ability to communicate verbally with sexual partner.
6. Sexual partner's beliefs and behaviors.

Aids Risk Reduction Model (ARRM) used to completing the conceptual frame work. Stage I of the ARRM mention about Recognition and labeling of one's behavior as high risk, and knowledge is one variable that influence to the individual behavior (31). Both of these theories used to construct the frame work in this study.

2.5 Related Studies

2.5.1 Safe Sex Intention to Prevent HIV/AIDS

A study among high school student in Cambodia by Sin Sovann (32), 1999 showed the majority of high intention as 84.0% and the low intention was 16.0%. Another study by Pipal Bahadrul Chhetry (33) has done among high school student in Thailand. A great majority (95%) of students had high intention in this study. More than one half (56.2%) of student took a high intention in the result of Mohammed Naseer's study (34). In 2006, W.K.W.S Kumara Wansa (35) found that nearly two-third (60%) of student in Nakhon Pathom Province, Thailand displayed the high intention to prevent HIV/AIDS and a few (4.63%) displayed low intention. A study among male students in Mahidol University by Ha Minh Son (36) determine the intention to use condom with different type of sexual partner. The result showed that percentage of student who intend to use condom with bar attendance, sex worker and newly met person were higher than percentage of those who intend to use condom with fiancée or friends.

2.5.2 Gender and safe sex intention

Concerning to gender factor, study by Sin Sovann (32) found that no association between gender and safe sex intention which among male, there was 84.5% had high intention and 15.5% had low intention, while 83.3% female had high intention and 16.7% had low intention. W.K.W.S Kumara Wansa's (35) study showed that among male student, one half (51.72%) of them had good intention, and 7.59% had poor intention. Among female about two third (68.38%) had good intention and a few (1.47%) had poor intention. Opposite with the result in Sin Sovann, in this study there was an association between gender and safe sex intention.

2.5.3 Age and safe sex intention

In Ha Minh Son's (36) study was found that no association between age and safe sex intention. Among younger group, there was 46.3% of student had high intention and 53.7% had low intention. 48.6% older group had high intention and

51.4% had low intention. Another study by W.K.W.S Kumara Wansa (35) found the association between age and safe sex intention.

2.5.4 Monthly Allowance and safe sex intention

There was no association between monthly allowance and safe sex intention found in Ha Minh Son (36) study. For student who received lower allowance there was 50.5% had high intention and 49.5% had low intention. Among who received higher allowance, there was 45.1% had high intention and 54.9% had low intention. Study by Kumara Wansa (35) also did not find the association between monthly allowance and safe sex intention.

2.5.5 Parent education/ occupation and safe sex intention

Ha Minh Son (36) and Sin Sovann (32) have done a study to find the association between parent education and parent occupation with safe sex intention. From both of these two studies, the result was not found the association between parent education and safe sex intention. They also did not find the association between safe sex intention and parent occupation.

2.5.6 Knowledge on HIV/AIDS

Knowledge is a one variable that some study have done to measure the intention of respondent. Study by Moh. Naseer (34), 2002 found that only 9.8% students had high level of knowledge, and the rest was less than one half (35.9%) of students had low level of knowledge, and about half (54.3%) of student had moderate level of knowledge, while studies by Ha Minh Son (36), 1998 found that 50.6% students had high level of knowledge and 49.4% with low level of knowledge. Result from Sin Sovan (32) found that majority (91%) of student had high knowledge, but there was no association with safe sex intention. Another study has done among high school students in Indonesia by Zolaiha (37), 2005. In her study found that there were 66.8% students who had high level of knowledge and there were 33.3% with low level of knowledge on HIV/AIDS.

2.5.7 Attitude toward HIV/AIDS prevention

According to the Theory of Reasoned Action, attitudes are made up of the beliefs that a person accumulates over his lifetime. Some beliefs are formed from direct experience, some are from outside information and others are inferred or self generated (29). There is evidence that the message 'safe sex equals condom use' has been well learned (Lenehan, Lynton, Bloom & Blaxland, 1992; Stancome, 1994) although some worrying alternative meaning were offered, such as having a 'clean partner', 'no fun, boring sex life', and monogamy. Few respondents mentioned non-penetrative sex as equating with safe sex and a substantial minority believed that safe/safer sex meant 'only having sex with your regular partner/not strangers'.

While there is evidence that some young people still have negative attitude to condom use (Gallois et al., 1992) encouraging report from a number of Australian studies reveal positive attitudes (Crawford, Turtle, & Kippax, 1990; Moore & Rosenthal, 1991). The reasons for negative attitude to use condoms are vary such as knowing how and where to buy the condoms, feeling comfortable purchasing condom.

Even if attitude towards condoms are becoming more positive, this will not necessarily result in increased actual or intended use. Research that has examined the link between attitudes towards condom use and intention to use them have found mixed result (Barling & Moore, 1991; Kashima et al., 1992; Boldore et al., 1992). Intention to use condom in the future have been associated with both positive and negative attitudes, yet actual use has been found to depend on young people's negative attitudes to condoms, that is, the disadvantages of using condoms (Boldore et al., 1992; Moore & Rosenthal, 1991). In these studies, recognizing the benefits of using condom did not contribute significantly to actual condom use (38)

Moh. Naseer (34), 2002 was found that there were students who had poor attitude, there were 56.3% had low safe intention, and 43,7% had high safe sex intention. W.K.W.S Kumara wansa (35),2006, in his study found that among students who have good attitude there were 66.33% have good intention and 2.55% have poor intention.

2.5.8 Subjective Norms

Young people's behavior is commonly regarded as being determined, at least in part, by the belief that they are invulnerable to the hazards that befall other individual. In some instances, young people's assessment of risk is appropriate in terms of their sexual practices. However it seems that young people's perception of risk of HIV/AIDS and STDs is linked with other beliefs. These include having a stereotype of a person living with HIV/AIDS, feeling in control of whether or not they contracted HIV/AIDS, and whether they considered the prospect of having HIV/AIDS as highly undesirable (Moore & Rosenthal, 1991) (38)

In Thailand, where many young people migrate from rural area to cities in order to work in factories, the peer group may provide the only means of finding out about sex and has been reported as having a key role to play in shaping sexual beliefs and behavior.

W.K.W.S Kumara wansa (35),2006 found that there were 76.80% students had good subjective norms and good intention and 21.84% had poor subjective norms and good intention. Only 23.20% had good subjective norms with poor intention. There was no association between subjective norms and safe sex intention in this study.

2.5.9 Parents child communication

From countries across the world, there is also evidence that young people and adults talk only infrequently to one another about sex. In India, young people and especially young girls are reported as having consistently poor knowledge about sex and reproduction, including modes of transmission for HIV and the use of condoms as a preventive measure. Parents and family members are reluctant to discuss sexual matters with young people. Women interviewed in a variety of contexts report that they were told very little about sex and reproduction prior to marriage (Bang et al, 1989). In rural and urban areas young people, especially girls, remain uninformed since sex and reproduction are considered distasteful and

embarrassing subjects (Jejeebhoy, 1998). In a recent study conducted in Mumbai, one mother interviewed said that adults do not want to frighten young girls by talking about sex (George & Jaswal, 1995). By way of contrast, and like many of their counterparts in countries elsewhere in the world, young men in this same context are encouraged to be sexually experienced, but reliable sources of information are few and far between. Recent research in Brazil has shown that discussions of sex and related topics may be discouraged for girls because of the common belief that to inform them about sex is to encourage sexual activity (Vasconcelos et al, 1997). Mothers traditionally attempt to delay their daughters' discovery and exploration of sexuality by preventing them from getting access to such information. Consequently, girls reported avoiding talking to their mothers about sexual matters for fear that showing a curiosity about sex which could arouse suspicions about their behaviour (Vasconcelos et al, 1997). Research in Mexico has revealed that many parents want to talk to young people about sex, but do not feel that they have the appropriate skills to do so (Givaudan et al, 1997). Following a training programme involving videos and group discussion, parents reported feeling better equipped to talk with their children about sex. However, it proved difficult to recruit fathers to the project, and since being of the opposite sex was reported as being a barrier to open communication, the project team concluded that male adolescents were at a clear disadvantage (Givaudan et al, 1997) (39). Study by W.K.W.S Kumara Wansa (35) found that majority (71.86%) of student had poor communication with parent, and some (11.67%) had good communication. However, there was no association between parent child communication and safe sex intention, where good intention was reflected on student who had good, fair and poor level of communication with percentage as 60.0%, 67.35% and 57.92% respectively.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Study Design

The study design was cross sectional descriptive study, with aims to study the safe sex intention to prevent HIV/AIDS among senior high school students in Manado.

3.2 Study Population

The target population in this study was high school students in Manado municipality, with age 15-19 years old.

3.3 Sample Size Calculation

The sample size of this study was calculated by the formula (Yamane's Formula)(40) as follow :

$$n = \frac{N}{1 + N(e)^2}$$

Where,

n = the number of desired sample size

N = population size (population of student in Manado)

e = specifies the desired level of precision, where e = 1 – precision

$$n = \frac{19{,}456}{1 + 19{,}456(0.06)^2} = 274$$

n = 274

Another 10 % of calculated sample was calculated to avoid the uncompleted questionnaires. Therefore, 306 total samples were collected.

3.4 Sampling Technique

In this study the number of sample was found by multi stages sampling. The procedure was follow as:

1. Random sample sampling was used to select three schools.
   The selected criteria for school was the numbers of students in those schools that having at least 500 students.

2. Each school selected 3 classes from grade 10 to 12. The criteria for selecting class were as follow:
   - There was no class during the specific period
   - Teacher had voluntarily agreed to interfere their class.

3. The data was collected from all students in the selected classes.

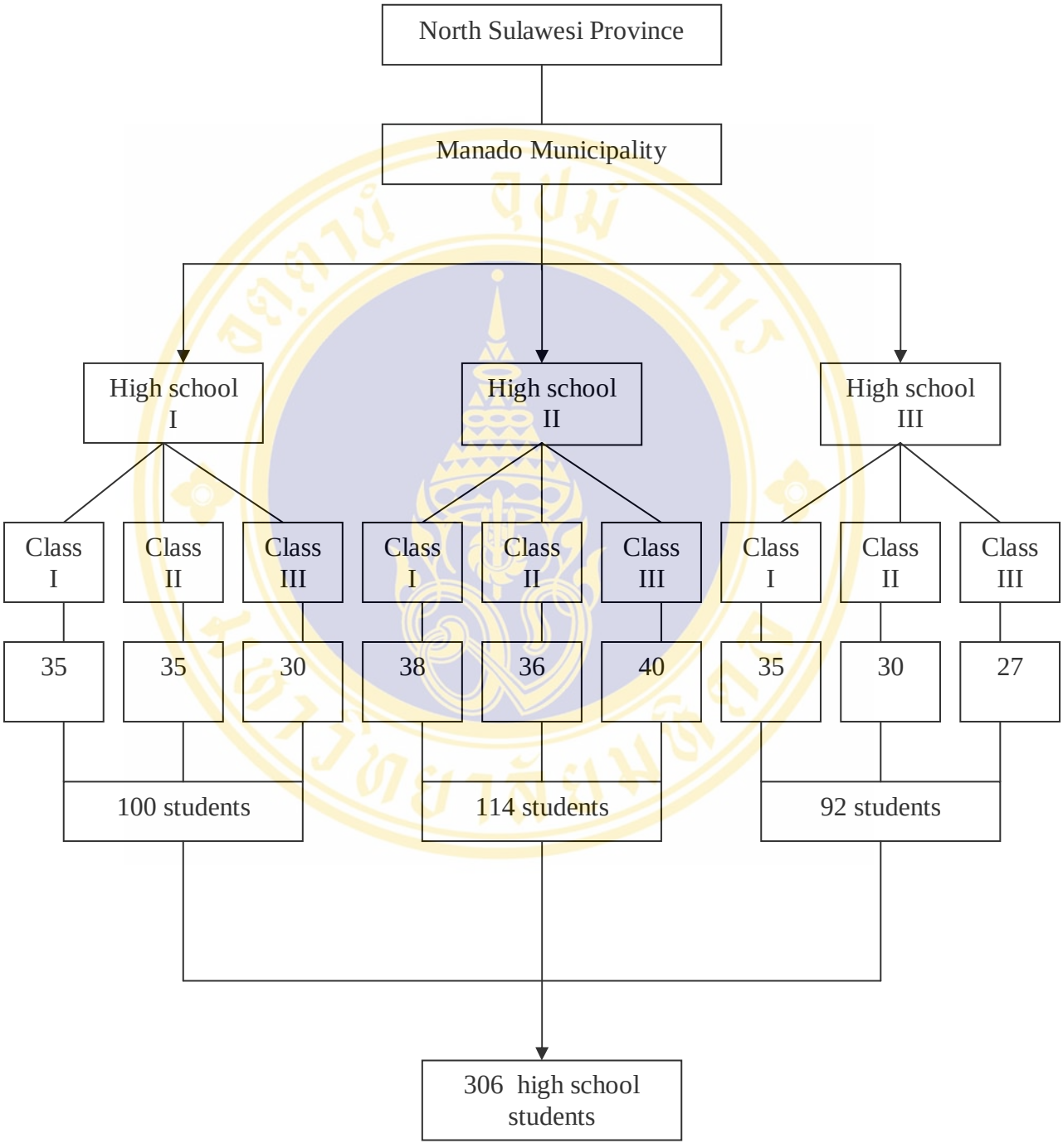


Figure 3 Sampling Frame

3.5 Instruments

The instrument for collecting data in this study was a structured questionnaire. It was translated into Indonesia. It asked about Socio-demographic factors, External factors, Attitude toward safe sex intention, Knowledge on HIV/AIDS, Subjective norm, and Safe Sex Intention to prevent HIV/AIDS, and it consisted of six parts as follow:

Part 1. Socio-demographic Factors

Socio-demographic factor part was asked 6 questions about age, gender, monthly allowance, parents' education, and parents' occupation.

Part 2. Knowledge on HIV/AIDS

In this part, 12 questions were asked about the knowledge of respondents about HIVAIDS in term of causative agent, mode of transmission, high risk group, risk factor and prevention of HIV/AIDS. The corrects answer was given score 1 and the incorrect answer was given score 0. The level of knowledge was categorized as high, moderate and low level by using " Benjamin Bloom's criteria " as follow:

- <60% for low level,
- 60%-80% for moderate level
- >80% for high level.

The number, percentage of the correct answer and comment for each question also measured by using the same criteria.

Part 3. Attitude toward HIV/AIDS Prevention

This part consists of 3 negative statements and 11 positive statements of the attitude of the respondents toward HIV/AIDS prevention. Likert scale was used. Score for respondents' answer were given by:

Score	Negative statement	Positive statement
Strongly Agree (SA)	1	5
Agree (A)	2	4
Not Sure (NS)	3	3
Disagree (DA)	4	2
Strongly Disagree (SDA)	5	1

Based on Best's ratting criteria, attitude of respondents was categorized by:

- score 14 – 32 as poor
- score 33 – 51 as fair
- score 52 – 70 as good

and comment for respondents answer in each question was based on the mean respondents answer, and it was categorized by :

- score 1 – 2.33 as poor
- score 2.34 – 3.67 as fair
- score 3.68 – 5 as good

Part 4. Subjective Norms

This part was asked 12 questions regarding to the belief's of respondents on parents, teachers and friends thought about their behavior. Respondents' answer were "yes" or "no". Answer " yes" was given score 1 and 0 for answer "no". Level of subjective norms and comment for each question were measured by "Benjamin Bloom's criteria ". They were categorized as poor, fair and good as follow:

- < 60% as poor
- 60% - 80% as fair
- > 80% as good

Part 5. Parent child communication on sexual problem

There were 3 questions in this part. Respondents' respond were "yes" or "no". Answer " yes" and "no" were given score 1 and 0, respectively. "Benjamin Bloom's criteria" was used to measure the level of parent child communication and comment for each question as follow

- < 60% as poor
- 60% - 80% as fair
- > 80% as good

Part 6. Safe Sex Intention to prevent HIV/AIDS

The respondents was asked by 6 questions and respondents will give respond about their safe sex intention as "likely", "uncertain" and "unlikely".
Score for safe sex intention question were as follow:

Likely : 3
Uncertain : 2
Unlikely : 1

Safe sex intention was categorized into three group by Best's ratting criteria as follow:

- score 6-10 as poor
- score 11-14 as fair
- score 15-18 as good

3.6 Pre-test Questionnaire

3.6.1 Validity

The validity of questionnaires was improved by discussing with the two experts to examine the correct, validity and language clearness, and then translated to Indonesia language before running the pretest.

3.6.2 Reliability

Before collecting data, the pre-test was conducted in selected school. 30 high school students in Manado Municipality were collected. The school which has selected excluded for the list of school for data collection. To find the more reliability questionnaire, the pretest was conduct two times. The first result for KR20 was 0.58 and after modify the questionnaire and did the second pretest the result was 0.68 for KR20 and 0.64 for Cronbach Apha.

3.6 Data Collection Procedure

Firstly, researcher met the chief of the Manado Municipality Education Office to get his permission for this study and briefly described the aims of this study.

Secondly, researcher met with head of each selected school and discussed how to found the best way to colleted data without disturbing teaching process. In each school, one teacher helped researcher to find which class was possible being the sample.

Thirdly, researcher met student and informed the aim of this study and asked them to participate confidentially and anonymously.
After collecting data, the researcher expressed thank you for students' participation.

3.8 Data Analysis

The data were coded and stored into program Epi Data, and was analyzed by Minitab program. The Statistics that was used to analysis the data was as follows:

1. The frequency and percentage distribution, mean, standard deviation were used to describe demographic factor and other background information of the respondents.
2. Chi-square was used to test the association between the independent and the dependent variables. The significant level was set at 0.05

CHAPTER 4
RESULTS

This study was conducted to describe the safe sex intention among high school students in Manado Municipality, North Sulawesi Province, Indonesia.

Data was collected through self-administered questionnaire on January 23rd - 25th 2008 from three selected schools. Total 306 students responded in which 281 has fully completed the questionnaires.

The aim of this were find out the socio-demographic factors, level of knowledge on HIV/AIDS, attitude toward HIV/AIDS prevention, parents child communication, subjective norms, and association with safe sex intention to prevent HIV/AIDS.

The results of this study were presented into two parts as follows:

Part 1. Descriptive information of independent and dependent variable as below:

1.1. Description of the socio-demographic characteristics.

1.2. Description of the knowledge of respondents on HIV/AIDS.

1.3. Description of the attitude of respondents toward HIV/AIDS prevention.

1.4. Description of subjective norms toward HIV/AIDS prevention.

1.5. Description of parent child communication on HIV/AIDS prevention.

1.6. Description of safe sex intention toward HIV/AIDS prevention.

Part 2. Association dependent variable and independent variables

4.1 Descriptive information of independent and dependent variable

4.1.1 Description of the socio-demographic characteristics

Socio-demographic factors of high school students in Manado was identify in this study as gender, age, monthly allowance, parents education and parents occupation. According to the table 2 among 281 students, 58.36 % of them was female. Almost one-half (48.75 %) of them was 16 years old and the remaining were 17(28.83 %), 15(16.37 %) and 18(6.05%) years old. Regarding to the monthly allowance, there were one-third (32.38 %) of students received 100,000 – 200,000 rupiah and only a few (2.14 %) received more than 500,000 rupiah per month. The educational background of their parent presented as more than one-half (61.57%) of their father had attended high school, and also happened to the mothers. Only a few of fathers(4.27 %) and mothers (1.78%) attended post graduate. Concerning to the occupation of parent, one third (31.32 %) of their fathers' occupation was private employee. Business and government employee had nearly value, there were 22.42% and 21.71% respectively. Around two-third (62.63%) of their mothers' occupation was house wife.

Table 2 Distribution of Socio-demographic characteristics of the respondents.

General Characteristics	**Frequency**	
	Number (n=281)	**Percentage (%)**
Gender		
- Female	164	58.36
- Male	117	41.64
Age (years)		
- 15	46	16.37
- 16	137	48.75
- 17	81	28.83
- 18	17	6.05

Table 2 Distribution of Socio-demographic characteristics of the respondents (cont.)

General Characteristics	Frequency	
	Number (n=281)	Percentage (%)
Monthly Allowance		
- < Rp 100,000	75	26.69
- Rp 100,000 – 200,000	91	32.38
- Rp 200,001 – 300,000	58	20.64
- Rp 300,001 – 400,000	32	11.39
- Rp 400,001 – 500,000	19	6.79
- > Rp 500,000	6	2.14
Father's Education		
- Primary School	14	4.98
- Secondary School	27	9.61
- High School	173	61.57
- Graduate	55	19.57
- Post Graduate	12	4.27
Mother's Education		
- Primary School	17	6.05
- Secondary School	34	12.10
- High School	173	61.57
- Graduate	50	17.79
- Post Graduate	5	1.78
- Others	2	0.71

Table 2 Distribution of Socio-demographic characteristics of the respondents (cont.)

General Characteristics	Frequency	
	Number (n=281)	Percentage (%)
Father's Occupation		
- Agriculture	20	7.12
- Business	63	22.42
- Govt. Employee	61	21.71
- Laborer	31	11.03
- Private Employee	88	31.32
- Others	18	6.41
Mother's Occupation		
- Agriculture	1	0.36
- Business	24	8.54
- Govt. Employee	57	20.28
- House Wife	176	62.63
- Laborer	4	1.42
- Private Employee	16	5.69
- Others	3	1.07

4.1.2 Description of the knowledge of respondents on HIV/AIDS

Table 3 showed level of the knowledge on HIV/AIDS of students. Based on Benjamin Bloom's criteria, the level of knowledge were divided to three categories as high, low and moderate. More than half (53.74%) of students had high knowledge, 29.89% got score 60 to 80% which refers to moderate level and 16.37% of student had low level of knowledge.

Table 3 Level of students' knowledge on HIV/AIDS

Level of Knowledge	Number (N = 281)	Percentage (%)
High	151	53.74
Moderate	84	29.89
Low	46	16.37

Score : Low (< 60 %), Moderate (60 %-80 %), High (> 80%)

Table 4 showed the numbers and percentage of correct answers by each question in knowledge part.

A great majority (96.80%) of students could answer correctly question about cause of HIV/AIDS, but less than one-half (39.15%) of students could answer correctly the question about risk factor to getting HIV/AIDS in term of homosexual factors.

Table 4 Number, percentage and comment of the respondents related to correct answer of question about knowledge on HIV/AIDS by items analyses.

Questions	Correct answer		Comment
	Numbers (n = 281)	Percentage (%)	
1. Virus is the causa of HIV/AIDS	272	96.80	high
2. Once people get HIV, the virus will stay in their body continuously	226	80.43	high
3. HIV in our body can detected by blood examination	239	80.05	high

Table 4 Number, percentage and comment of the respondents related to correct answer of question about knowledge on HIV/AIDS by items analyses (cont.)

Questions	Correct answer		Comment
	Numbers (n = 281)	Percentage (%)	
4. HIV/AIDS can not spread by having meal, stay, work and using swimming pool together with HIV/AIDS patients.	228	81.14	high
5. Sex workers, injecting drug user, ands homosexual are high risk group to getting HIV infection	242	86.12	high
6. People can protect themselves from getting HIV/AIDS infection by Abstinent (not having sex), always using condom correctly every have sex, and using only sterilized needle	217	77.22	moderate
7. HIV/AIDS is a treated sickness, and people who physically normal may be an HIV/AIDS patient	187	66.55	moderate
8. HIV/AIDS can be transmitted by sexual intercourse, pregnant women to her baby, and by sharing needles	254	90.39	high

Table 4 Number, percentage and comment of the respondents related to correct answer of question about knowledge on HIV/AIDS by items analyses (cont.)

Questions	Correct answer		Comment
	Numbers (n = 281)	Percentage (%)	
9. HIV/AIDS can not be transmitted by mosquito bite, shaking hand, touching, hugging with HIV/AIDS patients	230	81.85	high
10. HIV/AIDS can not be prevented by take antibiotics before and after having sex, and by doing ejaculation outside	124	44.29	low
11. People who have more than one sexual partner and man who have sex with man are the risk factor to getting HIV/AIDS	110	39.15	low
12. People who have sex with sex worker and during the blood transfusion are risk factors to get HIV/AIDS.	235	83.63	high

Score : Low (< 60 %), Moderate (60%-80 %) , High (> 80 %)

4.1.3 Description of the attitude of respondents toward HIV/AIDS prevention

The result of the attitude level was presented in table 5. Based on Best's Ratting Criteria, it divided to three categories as good attitude, fair and poor attitude. More than one-half (58.01%) of student were categorized as having good

attitude and 41.99% had a moderate level. There was no student in range score 14 to 32 which is categorized as having poor attitude.

Table 5 Level of students' attitude toward HIV/AIDS prevention

Level	Numbers (n=281)	Percentage (%)
Good	163	58.01
Fair	118	41.99

Score : Poor (14-32), Fair (33-51), Good (52-70)

Table 6 showed the number of percentage of students by each question about attitude toward HIV/AIDS prevention. Almost all of students (97.16) strongly agreed (SA) and agreed (A) that HIV/AIDS can prevent by abstinence. Only a few (1.07%) of students disagreed (DA) toward this statement. In term of avoid sexual intercourse during school age, around two-third (61.57%) of students were strongly agreed (SA) and agreed (A) that avoid sexual intercourse during school age can prevent HIV/AIDS. Regarding the approval to use condom, more than two-third (65.83%) of students were strongly agreed (SA) and agreed (A) that having one time unsafe sex (without condom) can make some one get HIV/AIDS infection. 66.19% of students were strongly agreed (SA) and agreed (A) that person who always carry are being careful and practice safe sex. Around half (49.82% and 53.38%) of students were not sure that using condom will make sex less enjoyable and sex partner feel distrusted. Concerning to the statement about stay with single known partner, a majority (92.88%) of students were strongly agreed (SA) and agreed (A) that having sex with multiple unknown partners is risk to getting HIV/AIDS. A majority (75.44%) of students was strongly agreed (SA) and agreed (A) that restricting to one regular sexual partner life can avoid to getting HIV/AIDS. Percentage of students who was strongly agree and agree that it is possible to contact HIV/AIDS by having sex with

unknown partners is almost similar with percentage of students who are not sure to this statement. It is 33.76% and 39.15% respectively.

Table 6 Respondents' answer of attitude toward HIV/AIDS prevention by item analysis

Statement	SA (%)	A (%)	NS (%)	DA (%)	SDA (%)	$\bar{x}$	SD	Comment
1. HIV/AIDS can prevent by abstinence	73.67	23.49	1.78	1.07	0.00	4.70	0.558	good
2. Avoid sexual intercourse during school age can prevent HIV/AIDS	18.15	43.42	18.15	14.23	6.05	3.53	1.124	fair
3. It is possible to contact HIV/AIDS by having sex with unknown partners	5.69	28.07	39.15	20.28	6.41	3.07	0.99	fair
4. Having one time unsafe sexual intercourse (without condom) can make someone get HIV/AIDS	19.57	46.26	23.49	9.25	1.42	3.73	0.928	good
5. Restricting to one regular sexual partner life can avoid getting HIV/AIDS	29.89	45.55	15.30	7.47	1.78	3.94	0.954	good
6. Always using condom correctly during sexual intercourse can prevent from infect with HIV/AIDS	24.91	56.94	13.17	4.27	0.71	4.01	0.786	good

Table 6 Respondents' answer of attitude toward HIV/AIDS prevention by item analysis (cont.)

Statement	SA (%)	A (%)	NS (%)	DA (%)	SDA (%)	$\bar{x}$	SD	Comment
7. Using share drug injection together with other people can make infected by HIV/AIDS	59.07	33.81	4.63	1.42	1.07	4.48	0.747	good
8. Donor blood or receive transfusion without screening can make people infected by HIV	24.56	45.91	27.40	1.78	0.36	3.93	0.787	good
9. Use of condom can make sex less enjoyable	10.32	28.83	49.82	7.47	3.56	2.65	0.894	fair
10. Using condom will cause the sex partner feel distrusted	7.12	20.64	53.38	16.37	2.49	2.86	0.860	fair
11. It is shameful to buy and carry condom around even it was hidden	19.93	30.96	22.42	23.84	2.85	2.59	1.137	fair
12. Person who always carry condom are being careful and practice safe sex	13.17	53.02	30.25	3.20	0.36	3.75	0.732	good

Table 6 Respondents' answer of attitude toward HIV/AIDS prevention by item analysis (cont.)

Statement	SA (%)	A (%)	NS (%)	DA (%)	SDA (%)	$\bar{x}$	SD	Comment
13. Having sex with multiple unknown partners is risk to getting HIV/AIDS.	0.36	0.36	6.01	35.23	57.65	4.49	0.666	good
14. Screening to detecting HIV should be done before blood transfusion	44.13	41.28	11.74	2.49	0.36	4.26	0.789	good

Score : Poor (1 - 2.33), Fair (2.34 - 3.67), Good (3.68 - 5)

4.1.4 Description of subjective norms toward HIV/AIDS prevention

The number and percentage of subjective norms toward HIV/AIDS prevention was presented in table 7. The result showed that one-third (33.10%) of students had good level of subjective norms, 30.96% had fair and 35.94% had poor level.

Table 7 Level of students' subjective norms toward HIV/AIDS prevention

Level	Numbers (n=281)	Percentage (%)
Good	93	33.10
Fair	87	30.96
Poor	101	35.94

Score: Poor (< 60%), Fair (60% - 80%), Good (> 80%)

Table 8 showed the number and percentage of respondent with yes answer on subjective norm questions. In this study subjective norms distinguished to three groups such as subjective norms toward parents, teachers and friends. In the part of subjective norms toward parent a majority (93.95%)of students believe their parents think that they should not have sexual intercourse before get married, and 90.75% students believe that they should have only one trustable sexual partner, while almos one-half (45.20%) of students believed that their parents' think that they should not have sexual intercourse forever if there is a risk of getting HIV/AIDS.

The part of subjective norms toward teachers found the similarly result. While in the part of subjective norms toward friends, a majority (77.22%) of students believed that their friends' think that they should not have sexual intercourse before you get married, and 78.29% of students believe that they you should have only one trustable sexual partner, but less than one half (40.39%) believed that their friends' think that they should not have sexual intercourse forever if there is a risk of getting HIV/AIDS

Table 8 Number and percentage of yes answer of respondents on subjective norms question by item analysis

Questions	Yes answer		Comment
	Number	%	
I.Norms of Parents			
1.1 Do you believe your parents think you should not have sexual intercourse before you get married?	264	93.95	good
1.2 Do you believe your parents think you should not have sexual intercourse without using condom?	174	61.92	fair
1.3 Do you believe your parents think you should have only one trustable sexual partner?	255	90.75	good

Table 8 Number and percentage of yes answer of respondents on subjective norms question by item analysis (cont.)

Questions	Yes answer		Comment
	Number	%	
1.4 Do you believe your parents think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?	127	45.20	poor
II. Norms of Teachers			
2.1 Do you believe your teachers' think you should not have sexual intercourse before you get married?	264	93.95	good
2.2 Do you believe your teachers' think you should not have sexual intercourse without using condom?	167	59.43	poor
2.3 Do you believe your teachers' think you should have only one trustable sexual partner?	253	90.04	good
2.4 Do you believe your teachers' think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?	125	44.48	poor
III. Norms of Friends			
3.1 Do you believe your friends' think you should not have sexual intercourse before you get married?	217	77.22	fair
3.2 Do you believe your friends' think you should not have sexual intercourse without using condom?	166	59.07	poor
3.3 Do you believe your friends' think you should have only one trustable sexual partner?	220	78.29	fair

Table 8 Number and percentage of yes answer of respondents on subjective norms question by item analysis (cont.)

Questions	Yes answer		Comment
	Number	%	
3.4 Do you believe your friends' think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?	115	40.93	poor

Score: Poor (< 60%), Fair (60% - 80%), Good (> 80%)

4.1.5 Description of parent child communication on HIV/AIDS prevention

Based on Benjamin Bloom's criteria, the level of parent child communication divided into three categories. Table 9 showed more than one-half (63.35%) of students had poor level of parent child communication, nearly one fourth (23.84%) had fair level and the rest 12.81% had good level.

Table 9 Level of parent child communication

Level	Number (n=281)	Percentage (%)
Good	36	12.81
Fair	67	23.84
Poor	178	63.35

Score : Poor (< 60%), fair (60% - 80%), Good (>80%)

Relating to the respondents' answers of parent child communication as shown in table 10, more than one-half (56.23%) of students had ever communicated about avoiding sexual activities during school age in order to prevent HIV/AIDS, concerning to the communication about avoiding multiple sexual partners, there were

39.15% of students have ever done it. Nearly one fifth (18.51%) of student reported that they have ever communicated with parent about using condom during sexual intercourse.

Table 10 Number and percentage of yes answer on question about parents child communication by item analysis

Questions	Yes answer		Comment
	Number	%	
1. Do your parents ever talk with you about avoiding sexual activities during school age in order to prevent HIV/AIDS?	158	56.23	poor
2. Do your parents ever talk with you about using condom during sexual intercourse in the future in order to prevent HIV/AIDS?	52	18.51	poor
3. Do your parents ever talk with you about avoiding multiple sexual partners in the future to prevent HIV/AIDS?	110	39.15	poor

Score : Poor (< 60%), fair (60% - 80%), Good (>80%)

4.1.6 Description of safe sex intention toward HIV/AIDS prevention

Table 11 revealed the level of safe sex intention of students. This study found that more than one half (60.14%) of students had good level of safe sex intention toward HIV/AIDS prevention, around one third (33.45%) and 6.41% of students had fair and poor level respectively.

Table 11 Level of safe sex intention

Level	Numbers (n=281)	Percentage (%)
Good	169	60.14
Fair	94	33.45
Poor	18	6.41

Score : Poor (6-10), Fair (11-14), Good (15-18)

Table 12 showed respondent's answer on safe sex intention in each questions. In question about avoid sexual activities, a majority (80.43%) of students likely intended to not having sexual intercourse before married, more than one third (39.89%) of them likely intended to being abstinence to avoid HIV/AIDS. Stay with single known partners was one part of question to measure safe sex intention of students and in this part, most (84.34%) of students likely intended to stay with only one single partner and majority (77.58%) of them likely intended to not having sexual intercourse with unknown partner. Concerning to use condom during sexual intercourse, nearly two third (63.70%) of students likely intended to use condom but only more than one third (38.48 %) of students likely intended to carry condom when they going out.

Table 12 Respondents' answer on safe sex intention by item analysis

Safe Sex Intention	Likely (%)	Uncertain (%)	Unlikely (%)	$\bar{x}$	SD	Comment
I. Avoid sexual activities						
1.1 I intend to not having sexual intercourse before married	80.43	12.10	7.47	2.73	0.59	good
1.2 I intend being abstinen ce to avoid HIV/AIDS	39.86	34.52	25.6	2.14	0.80	fair

Table 12 Respondents' answer on safe sex intention by item analysis (cont.)

Safe Sex Intention	Likely (%)	Uncertain (%)	Unlikely (%)	$\bar{x}$	SD	Comment
II. Stay with single and known partner						
2.1 I intend to stay with only One sexual partner	84.34	12.10	3.56	2.81	0.48	good
2.2 I intend to not having sexual intercourse with unknown partner	77.58	17.08	5.34	2.73	0.56	good
III. Using condom during Sexual intercourse						
3.1 I intend to use condom all the time when I have sexual intercourse	63.70	24.20	12.10	2.51	0.70	good
3.2 I intend to carry condom all the time when I go out	38.48	30.96	30.60	2.08	0.83	fair

Score : Poor (1 – 1.67), Fair (1.68 – 2.35), Good (2.36 - 3)

4.2 Association between independents variable and dependent variable

4.2.1 Association between socio-demographic factors and safe sex intention

The result of association between socio-demographic factors and safe sex intention were displayed in table 13. In gender factor, a majority (72.6%) of female students had good intention and only a few (3.0%) had poor intention. Less than one half male students (42.7%) had good intention and 11.1% had poor intention. The proportion of female who had good intention was more than male. There was therefore an association between gender group and safe sex intention. (P-value = <0.001)

In age factor, a majority (71.7%) of 15 years old students had good intention, more than one half (59.9%) and (56.8%) of 16 and 17 years old students respectively had good intention and nearly half (47.1%) of 18 years old students had good intention, thus there was no association between age and safe sex intention.

Regarding to the monthly allowance, nearly two third (60.8%) and (62.2%) of students who had good intention reported received less than 200,000 rupiah per month and from 200,000 – 400,000 rupiah per month respectively. And nearly half (48.0%) received more than 400,000 rupiah per month. The monthly allowance in this study had no association between safe sex intention (P-value = 0.619).

Education of parent was not seen to affect safe sex intention. A good intention was saw among those who had fathers education lower than bachelor (59.8%) and also seen to those who had fathers education higher than bachelor (62.3%). Mothers education also had the same result which good intention was among students who had mothers education lower than bachelor and those who had mothers education higher than bachelor.

Parents' occupations in this study did not present the association with safe sex intention. 59.6% of student who had good intention were reflected among those who had fathers' education non government employee and 62.3% among those who had fathers' occupation government employee. While good intention showed among student who had mothers' occupation was housewife (60.0%) and among those who had mothers' occupation non house wife (60.2%).

Table 13 Association between socio-demographic factors with safe sex intention

Sosio-demographic factors	Safe sex intention						
	Good		Fair		Poor		
	n	%	n	%	n	%	P-value
Gender							
- Female	119	72.6	40	24.4	5	3.0	
- Male	50	42.7	54	46.2	13	11.1	**0.000***
Age (years)							
- 15	33	71.7	13	28.2	0	0	
- 16	82	59.9	44	32.1	11	8.0	
- 17	46	56.8	28	34.6	7	8.6	
- 18	8	47.1	9	47.1	0	0	0.157
Monthly Allowance							
- ≤ Rp 200,000	101	60.8	56	33.7	9	5.4	
- Rp 200,001-400,000	56	62.2	28	31.1	6	6.7	
- ≥ Rp 400,001	12	48.0	10	40.0	3	12.0	0.619
Father's Education							
- < Bachelor degree	128	59.8	74	34.6	11	5.4	
- > Bachelor degree	41	61.2	20	29.9	6	8.9	0.535
Mother's Education							
- < Bachelor degree	139	61.5	75	33.2	12	5.3	
- > Bachelor degree	30	54.5	19	34.5	6	10.9	0.280
Father's Occupation							
- Non government Employee	131	59.6	76	34.6	13	5.9	
- Government Employee	38	62.3	18	29.5	5	8.2	0.666
Mother's Occupation							
- Non housewife	63	60.0	34	32.4	8	7.6	
- Housewife	106	60.2	60	34.1	10	9.4	0.801

***** p-value < 0.001

4.2.2 Association between knowledge and safe sex intention

The association between knowledge and safe sex intention showed in table 14. A majority (72.8%) of student who had good intention was seen among those who had high level of knowledge and a lower percentage (6.6%) of students with poor intention showed among those who had high level of knowledge. Therefore there was association between level of knowledge and safe sex intention with p-value = 0.002.

Table 14 Association between knowledge and Safe Sex Intention

Level of Knowledge	**Safe sex intention**						
	Good		**Fair**		**Poor**		
	n	**%**	**n**	**%**	**n**	**%**	**P-value**
High	101	72.8	40	26.5	10	6.6	
Moderate	48	57.1	35	41.7	1	1.1	
Low	20	43.5	19	41.3	7	15.2	**0.002***

* P-value < 0.01

4.2.3 Association between attitude and safe sex intention

Table 15 showed that there was association between attitude and safe sex intention with p-value 0.001. Among students who had good intention, there were 68.7% had good level of attitude, and 48.3% had moderate level of attitude. Among students who had poor intention there were only 3.1% had good level of attitude and 11.% had moderate attitude.

Table 15 Association between Attitude and Safe Sex Intention

Level of Attitude	Safe sex intention						
	Good		Fair		Poor		
	n	%	n	%	n	%	P-value
Good	112	68.7	46	28.2	5	3.1	
Fair	57	48.3	48	40.7	13	11.0	**0.001***

* P-value < 0.01

4.2.4 Association between subjective norms and safe sex intention

Result in table 16 showed the association between subjective norms with safe sex intention. The respondents who had good level of subjective norms were likely to had good intention (86.6%). A few percentages (2.2%) showed among student who had poor intention and had good level of subjective norms toward HIV/AIDS prevention. Therefore there was association between subjective norms and safe sex intention (p-value < 0.001).

Table 16 Association between subjective norms and safe sex intention

Level of Subjective Norms	Safe sex intention						
	Good		Fair		Poor		
	n	%	n	%	n	%	P-value
Good	80	86.6	11	11.8	2	2.2	
Fair	53	60.9	31	35.6	3	3.4	
Poor	36	35.6	52	51.5	13	12.9	**0.000***

* P-value < 0.001

4.2.5 Association between parents child communication and safe sex intention

Table 17 showed that there was no association between parent child communication and safe sex intention. However, the result showed that students who had good intention, 61.2% for poor communication with parents and 69.4% had good communication with parents, and among students who had poor intention, 2.8% had good communication and 7.9% had poor communication with parents.

Table 17 Association between Parents Child Communication and Safe Sex Intention

Level of parent child communication	**Safe sex intention**						
	Good		**Fair**		**Poor**		
	n	**%**	**n**	**%**	**n**	**%**	**p-value**
Good	25	69.4	10	27.8	1	2.8	
Fair	35	52.2	29	43.3	3	4.5	
Poor	109	61.2	55	30.9	14	7.9	0.231

CHAPTER 5
DISCUSSION

Adolescent reproductive health which is now considered as a global issue, has four main reasons of it's importance: (1) the enormous number of adolescents (10-19 years old). About one out of six persons in the planet are adolescents. In Indonesia, according to the latest Population Census, about 47 million (20%) people are adolescent; (2) preparation of human resources to form quality families must begin during their adolescent years; (3) adolescent reproductive health behavior does not support development of quality adolescents; and (4) adolescent's knowledge on their reproductive health is still low but on the other hand, today's adolescents (in the rural as well as urban areas) are more tolerant toward premarital sexual relations.

The global HIV/AIDS situation for adolescent is deadly serious and the need for a stronger, focused response is urgent. Young people are particularly vulnerable to HIV infection because of risk sexual behavior and substance use, because they lack access to accurate and personalized HIV information and prevention service.

The purpose of this study was to measure the safe sex intention and describe the association between safe sex intention and socio-demographic factors, knowledge on HIV/AIDS, attitude toward HIV/AIDS prevention, subjective norms and parent child communication among high school student in Manado municipality. This is period where children has right to access to the information in HIV/AIDS till they reach the adulthood. The findings were discussed as follow:

5.1 Safe sex intention of high school students in Manado municipality

Good intention reflected among nearly 60% of students. A few (6%) showed poor intention. They likely intended to stay with single partner and not having sexual intercourse before married than intended to using condom all the time when they have

sex. Percentage of students who likely to using condom all the time when they having sex lower than percentage of them who likely intend to stay with single partner and among those who intend to no having sex before married. In this case, using condom every having sex is unacceptable fully because the people and also students consider about the generation in their family, so they will choose to be faithful. Concerning to not having sex before married, according to the norms of Indonesian, people who have not married yet, should not have sex until married.

Even though the result showed that more than half of them intend to use condom but less than half of them intend to carry condom when they go out. This condition might be because of to carry condom among student are unusual behavior. Also because of the norm that have explain above.

Study by W.K.W.S Kumara Wansa (35) showed the similarly result. Another study by Sin Sovann (32) and Pipal Bahadrul Chhetry (33) found higher percentage of students who had high intention. While study by Mohammed Naseer (34) 2000, showed lower percentage, it was more than one half (56.2%) of students had high intention. However, study by Ha Minh Son had a different result. Its study determine the intention to use condom with a vary sexual partner, so the result showed that majority of student intend to use condom with bar attendance, sex worker and newly met person and about half of students intend to use condom with fiancee and friends.

5.2 Socio-demographic variable

Gender

This study revealed equally represented the target group in gender factor. There were not different proportion between female (58.36%) and male (41.64%). It was possible because of generally, in Indonesia the percentage among female and male in this age group was similar. The association between gender and safe sex intention was found in this study. It was found the higher percentage of female having good intention rather than male. The reason for this result might be because of in Indonesia, boys and girls receive different attention and different messages from their

social surroundings about how to behave and what to do. Some behaviors is expected from boys but not accepted from girls. Especially in the area of sexuality, major differences exist in gender roles between men and women. In Indonesia, the double standard in attitudes and behavior related to sexuality is one of those expressions. Men, or boys for that matter, have much more freedom to have experience and express their sexuality, while for women and young girls, the enjoyment of sexuality is not considered appropriate and their sexuality is often under the control of men (41). Jensen, De Gaston, and Weed (1994) found that more females reported the encouragement of friends to remain abstinent, while males identified more social pressures influencing sexual decision making to become sexually active, while Zimmerman et al. (1995) reported that females were more likely to believe that they could abstain (42). Another previous study was found in W.K.W.S Kumara Wansa (35) study where there was association between gender and safe sex intention, but in Sin sovan (32) study was found the different result.

Age

The result of this study found that the percentage of each age was similar. Thus there was no association between age and safe sex intention. The reason of this result might because of the target group was in the similarly level of age (15 to 19 years) so they have similar thought about safe sex intention. The same result revealed by W.K.W.S Kumara Wansa (35), but Ha Minh Son (36) study was found the different result, which it there was no association between age and safe sex intention.

Monthly allowance

Concerning to monthly allowance, there was no association with safe sex intention. This situation can be explained by the reason of having high knowledge, attitude and subjective norms on HIV / AIDS by the students. Thus the different allowances that they receive every month did not have influence to their intention. Study by Ha Minh Son (36) and Sin Sovann (32) also revealed the same result.

Parents' education

This study found that majority of Parents' education was below bachelor degree. The percentage of student who had parent with education background below bachelor degree and had good intention and percentage of student who had parent with education background over bachelor degree were similar, therefore there was no association between parents education and safe sex intention. It is probably because they had poor communication with parent. Therefore, parent should not effect on intention. The other reason was high level of knowledge on HIV/AIDS and the good attitude of student, they know how to avoid HIV/AIDS infection. So education background of parent had not influence to safe sex intention. Studies by Ha Minh Son (36) and Sin Sovann (32) also showed no association between parent educations with safe sex intention.

Parents' occupation

Regarding father occupation, about one third parent work as private employee and one fifth works as businessman and government employee. During analyzing, occupation group of father was categorized as government and non government employee. There was no association between father education and safe sex intention. Good intention reveal that nearly proportion of student who had father work as non government employee and student who had father work as government employee. This condition can be explained same with parent education part.

Percentage of good intention among student who had mother as house wife was 60.2% and percentage of good intention among who had mother as non house wife was 60.0% . These value were quite similar thus no association between mother occupation and safe sex intention. Reason of no association has explained in the parents' education part. The same results have shown by Ha Minh Son (36) and Sin Sovann (32) which it no association between parent occupation and safe sex intention.

5.3 Knowledge on HIV/AIDS

About one half (53.74%) of student got over 80% of the score which it refers to high knowledge, almost one third (29.89%) of student got 60% - 80% of the score and they was categorized as moderate knowledge and the rest (16.37%) of student had low knowledge. The proportion in the high knowledge part in this study is similar with result of Ha Minh Son [36], Pipal Bahadrul Chhetry (33), and where the result in their study was 50.6% and 50.2% respectively, but if we compare with study by Mohammed Naseer (34) the proportion of student with high knowledge is higher. It was 9.8%. The higher proportion in this study might be because of accessibility to get information about HIV/AIDS is available in Indonesia. From many source such as internet, television, billboard, the student can get information about HIV/AIDS. Religions group also have act to give information. In Indonesia every religion group had young group and they performance many activities to improve them in overall aspect. Some HIV/AIDS NGO and Government also usually performance activities to young people in order to introduce about HIV/AIDS, even it is not a regular activities. Although about one half of students had high knowledge, but by looking at the item analysis in the knowledge part, less than one half of student know about risk to getting HIV infection and more than one half still have misconception about HIV/AIDS prevention in term of antibiotics use and withdrawal method (ejaculating out side). Study by Sin Sovann(32) and Zolaiha (37) found the higher proportion of high knowledge group. The higher result in their study might be due to the method to categorizing the level of knowledge was different, because in their study, levels of knowledge divide only in two groups as high and low level.

An association between knowledge and safe sex intention was found in this study (p-value = 0.002), where 72.8% high knowledge group took good intention and 6.6% of them took poor intention. This result might be because of the high level of knowledge, they know what is HIV/AIDS, how people can get it and how to avoid it, thus make them intend to do safe sex. Study by Ha Minh Son also found the association between knowledge and safe sex intention but in Sin Sovan and Moh. Naser study did not found the association.

5.4 Attitude toward HIV/AIDS prevention

58.01% of student had good attitude and there were no student had poor attitude. There were association between attitude and safe sex intention. 68.7% of student had good intention and good attitude and only 3.1% of student had poor intention and good attitude. Study by W.K.W.S Kumara Wansa (35) found that 69.75% of student had good attitude and no students had poor attitude, and also found the association between attitude and safe sex intention.

As have explained in the previous chapter attitude are made up of the beliefs that a person accumulate over their lifetime. Some beliefs are formed from direct experience, some are from outside information and others are inferred or self generated.

In this study most (97.16%) of student belief that HIV/AIDS can prevent by abstinence and nearly two third of them belief that avoid sexual intercourse during school age can prevent to getting HIV infection. They also had good belief in using condom and stay with single partner. However they still shame to buy and carry condom, because buying and carrying condom among student is still unusual among student in Indonesia. They expected to not having sex during this period or before marriage.

5.5 Subjective norms

There were association between subjective norms and safe sex intention (p-value < 0.001). This study showed that there was 33.10% and 30.96% of student had good and fair level of subjective norm respectively and 35% of student had poor level of subjective norm. Among students who had good level of subjective norm, 86.6% likely to carry out the good intention and 2.2% took poor intention. Study by W.K.W.S Kumara Wansa (35), 2006 found that there were 69.46%, 25.94% and 4.70% of student had high, moderate and low level of subjective norm respectively, but there were no association between subjective norms and safe sex intention. The different result might be because of the study was conduct in different country,

another reason is might be the way to measure subjective norms is different and during analyzing the previous researcher using the different method to find the association. The result on this part might be because of the culture of Indonesia which children should respect to the older people. Most of Indonesian people believe that the thought of parent and teacher are always right and trustable. Religion also makes parent / teacher to think and believe about their children's and student's behavior. Therefore these might be the reasons of association between subjective norms and safe sex intention.

5.6 Parent child communication

Concerning the investigation of parent child communication, it discovered that almost two third (63.35%) of student had poor level of parent child communication and a few (12.81%) of student had good level of parent child communication. The good intention was displayed among student who had good, fair and poor communication with parent with percentage 69.4%, 52.2% and 61.2% respectively. These values were not had different meaning thus there was no association between parent child communication and safe sex intention. The reason of the poor communication among parent and children because of in Indonesia talking about sex is still taboo, thus many parent do not want to talk about sex with their children. Except the taboo reason, unavailable to talk about HIV might be because of knowledge of parent on HIV insufficient to do it. Also in the related study part have informed that generally in the world many parent talk with their children about sex infrequently, because of vary reasons such as culture, feel embarrass and many parent think that they do not have appropriate skill to do it (39). Study by W.K.W.S Kumara Wansa (35), found that majority (71.86%) of student had poor communication with parent and 16.47%, 11.67% of student had fair and good level of communication respectively. In this study also did not find association between parent child communication and safe sex intention, where percentage of good intention was reflected among those who had good, fair and poor level of communication as 60.0%, 67.35% and 57.92% respectively.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study was conduct on January 23-25, 2008 among high school students in Manado Municipality, North Sulawesi Province, Indonesia in order to identify the safe sex intention to prevent HIV/AIDS. The result in this study found :

- Around 60.14% of student had good, 33.45% had fair and 6.41% had poor level of safe sex intention to prevent HIV/AIDS.

- Concerning the socio-demographic factors, the highest percentages of student are 16 year old (48.75%) and received allowance Rp 100,000 – Rp 200,000 (32.38%) per month. More than one half of parent education was high school, the highest percentage of father's occupation was private employee and more than one half of mother's education was housewife. In this factors there were association between gender and safe sex intention with p-value < 0.0001, while age, monthly allowance, parent education and parent occupation did not have association with safe sex intention.

- In psychosocial factor, this study found that more than half students had high level of knowledge on HIV/AIDS but still have insufficient knowledge on HIV/AIDS prevention and risk factor. There was association between knowledge and safe sex intention with p-value 0.002. More than one half students had good level of attitude toward HIV/AIDS prevention, there was no student had poor attitude, but majority of student still had negative attitude on using condom and its effect to their partner. There was association between attitude and safe sex intention with p-value 0.002.

- Regarding to subjective norms, more than half of student had good subjective norms and there were association between subjective norms and safe sex intention with p-value <0.001.

- Result for parent child communication on HIV/AIDS problem showed that more than half of student had poor communication with parent, and there was no association between parent child communication and safe sex intention.

6.2 Recommendation

6.2.1 Recommendation for the implementation

Based on the finding of this study, the following recommendations are ensured:

- Since there is an association between gender and safe sex intention and female more likely to have good intention than man, sex education and HIV/AIDS prevention should be provide by Ministry of Education and Ministry of Health with emphasize to male group.

- This study was presented that level of knowledge about risk group in term of homosexual and HIV/AIDS prevention (antibiotics use and ejaculating outside) still low, refers to insufficient knowledge on HIV/AIDS. To solve this problem, Ministry of Education and Ministry of Health should provide sex education and HIV/AIDS to the students particularly on knowledge about risk factor and prevention of HIV/AIDS.

- Result in this study showed that more than half student had poor communication on sexual problem with their parent. To solve this problem, school should encourage the parent to communicate their children to provide basic sex education for the prevention of HIV/AIDS through one performance among Ministry of Education, parent and Ministry of Health.

- Some activities/program to maintenance the good attitude among student should provide by Religion group, Ministry of Education and Ministry of Health.

6.2.2 Recommendation for the future research

- This study used only quantitative technique, so could not get depth interview to access and support more and real information about safe sex intention among students. In the future research qualitative technique is needed to get more reliable and better completed information.

- Manado being big area with many sub districts with urban and sub urban areas, it is recommended in the future research to use cluster sampling with larger sample size to find the appropriate representative of students and to advanced this study.

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APPENDIX

APPENDIX A
QUESTIONNAIRE

SAFE SEX INTENTION TO PREVENT HIV/AIDS AMONG SENIOR HIGH SCHOOL STUDENTS IN MANADO MUNICIPALITY, NORTH SULAWESI PROVINCE, 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.

Part 1. Socio-demographic factors

Please answer the questions number 2, and put the cross mark [X] in the most appropriate answer for questions number 1,3, 4,5,6 and 7.

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

2. How old you are on the last your birthday ? ……. Years

3. How much your average monthly allowance per month?
   [ ] 1.< Rp 100,000
   [ ] 2. Rp 100,000 – 200,000
   [ ] 3. Rp 201,000 – 300,000

[ ] 4. Rp 301,000 – 400,000

[ ] 5. Rp. 401,000 – 500,000

[ ] 6. >Rp 500,000

4. What is the education of your father?

[ ] 1= No schooling [ ] 2=Primary school

[ ] 3=Secondary school [ ] 4=High school

[ ] 5=Graduate [ ] 6=Post Graduate

[ ] 7= Others……(specify)

5. What is the education of your mother?

[ ] 1= No schooling [ ] 2=Primary school

[ ] 3=Secondary school [ ] 4=High school

[ ] 5=Graduate [ ] 6=Post Graduate

[ ] 7= Others……(specify)

6. What is the occupation of your father?

[ ] 1= Government Employee [ ] 4= Agriculture

[ ] 2= Laborer [ ] 5= Private Employee

[ ] 3= Business [ ] 6= Other…….(specify)

7. What is the occupation of your mother?

[ ] 1= Government Employee [ ] 4= Agriculture

[ ] 2= Laborer [ ] 5= Private Employee

[ ] 3= Business [ ] 6= Housewife

[ ] 7= Others……..(specify)

Part 2. Knowledge about HIV/AIDS

Please put the cross mark [X] in the most appropriate answer.

8. What are the causal agent of HIV/AIDS?

[ ]1. bacteria [ ] 2. virus

[ ] 3. parasite [ ] 4 fungus

9. Which one is correct statement about HIV infection?

[ ] 1. HIV can attack animal also

[ ] 2. Once people get HIV the virus will stay in their body continuously

[ ] 3. You can identify people with HIV by observe from outside

[ ] 4. all answers are correct

10. How can HIV be detected?

[ ] 1. physical examination [ ] 2. X-ray

[ ] 3. blood examination [ ] 4. urine examination

11. People with HIV/AIDS can not spread the virus to others people through the way below:

[ ] 1. Having meal with HIV/AIDS patients

[ ] 2. Stay and work together with HIV/AIDS patients

[ ] 3. Use swimming pool together with HIV/AIDS patients

[ ] 4. all answers are correct

12. Which groups with high risk to get HIV infection

[ ] 1. sex workers [ ] 2. injecting drug users

[ ] 3. homosexual [ ] 4. all answer are correct

13. How can people protect themselves from getting infection with HIV/AIDS?

[ ] 1. Abstinent (not having sex)

[ ] 2. Always using condom correctly every have sex

[ ] 3. Using only sterilized needle

[ ] 4. all answer is correct

14. Which one is the correct statement about HIV

[ ] 1. HIV/AIDS is a treated sickness

[ ] 2. HIV/AIDS is not a treated sickness

[ ] 3. People who physically normal may be an HIV/AIDS patient

[ ] 4. Statement 2 and 3

15. Which one is the correct statement about HIV transmission

[ ] 1. HIV/AIDS can be transmitted by sexual intercourse

[ ] 2. Pregnant women can transmit the virus to her baby

[ ] 3. HIV/AIDS can be transmitted by sharing needles

[ ] 4. all answer is correct

16. Which one is the incorrect statement about HIV transmission

[ ] 1. HIV/AIDS can be transmitted by mosquito bite

[ ] 2. Pregnant women can transmit the virus to her baby

[ ] 3. HIV/AIDS can be transmitted by shaking hand, touching, hugging with HIV/AIDS patients

[ ] 4. Statement 1 and 3

17. Which one is correct statement about HIV prevention

[ ] 1. HIV/AIDS can be prevented by take antibiotics before and after having sex

[ ] 2. Ejaculation outside can prevent HIV/AIDS infection

[ ] 3. Using condom every have sex can prevent HIV/AIDS infection

[ ] 4. all answer is correct

18. The risk factor to getting HIV/AIDS is

[ ] 1. People who have more than one sexual partner

[ ] 2. Man who have sex with man

[ ] 3. All answer is incorrect

[ ] 4. All answer is correct

19. Which one is correct statement about risk factors to get HIV/AIDS

[ ] 1. People can get HIV/AIDS infection if they have sex with sex worker

[ ]2. People can get HIV/AIDS infection if they using toilet together with HIV/AIDS patients

[ ] 3. People can get HIV/AIDS infection during the blood transfusion.

[ ] 4. All answer is correct except the second statement.

Part 3. Attitude toward HIV/AIDS prevention

Please choose the appropriate answer according to your opinion by using the Mark [√].

No	Statement	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
20	HIVAIDS can prevent by abstinence					
21	Avoid sexual intercourse during school age can prevent HIV/AIDS					
22	It is possible to contact HIVAIDS by having sex with unknown partners					
23	Having one time unsafe sex intercourse (without condom) can make someone get HIV/AIDS					
24	Restricting to one regular sexual partner life can avoid getting HIV/AIDS					
25	Always using condom correctly during sexual intercourse can prevent from infect with HIV/AIDS					
No	Statement	Strongly	Agree	Not	Disagree	Strongly

		agree		sure		disagree
26	Using share drug injection together with other people can make infected by HIV/AIDS					
27	Donor blood or receive transfusion without screening can make people infected by HIV					
28	Use of condom can make sex less enjoyable					
29	Using condom will cause the sex partner feel distrusted					
30	It is shameful to buy and carry condom around even it was hidden					
31	Person who always carry condom are being careful and practice safe sex					
32	Having sex with multiple unknown partners is risk to getting HIV/AIDS.					
33	Screening to detecting HIV should be done before blood transfusion					

Part 4. Subjective Norms

34. Do you believe your parents think you should not have sexual intercourse before you get married?

[ ] a) Yes [ ] b) No

35. Do you believe your parents think you should not have sexual intercourse without using condom?

[ ] a) Yes [ ] b) No

36. Do you believe your parents think you should have only one trustable sexual partner?

[ ] a) Yes [ ] b) No

37. Do you believe your parents think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?

[ ] a) Yes [ ] b) No

38. Do you believe your teachers' think you should not have sexual intercourse before you get married?

[ ] a) Yes [ ] b) No

39. Do you believe your teachers' think you should not have sexual intercourse without using condom?

[ ] a) Yes [ ] b) No

40. Do you believe your teachers' think you should have only one trustable sexual partner?

[ ] a) Yes [ ] b) No

41. Do you believe your teachers' think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?

[ ] a) Yes [ ] b) No

42. Do you believe your friends' think you should not have sexual intercourse before you get married?

[ ] a) Yes [ ] b) No

43. Do you believe your friends' think you should not have sexual intercourse without using condom?

[ ] a) Yes [ ] b) No

44. Do you believe your friends' think you should have only one trustable sexual partner?

[ ] a) Yes [ ] b) No

45. Do you believe your friends' think you should not have sexual intercourse forever if there is a risk of getting HIV/AIDS?

[ ] a) Yes [ ] b) No

Part 5. Parents child communication about sexual problem.

Please put the cross mark [X] in the most appropriate answer.

46. Do your parents ever talk with you about avoiding sexual activities during school age in order to prevent HIV/AIDS?

[ ] a) Yes [ ] b) No

47. Do your parents ever talk with you about using condom during sexual intercourse in the future in order to prevent HIV/AIDS?

[ ] a) Yes [ ] b) No

48. Do your parents ever talk with you about avoiding multiple sexual partners in the future to prevent HIV/AIDS?

[ ] a) Yes [ ] b) No

Part 6. Safe sex intention to prevent HIV/AIDS

49. I intend to not having sexual intercourse before I get married

Likely [ ] Uncertain [ ] Unlikely [ ]

50. I intend to being abstinence to avoid HIV/AIDS

Likely [ ] Uncertain [ ] Unlikely [ ]

51. I intend to not having sexual intercourse with an unknown partner

Likely [ ] Uncertain [ ] Unlikely [ ]

52. I intend to stay with only one sexual partner

Likely [ ] Uncertain [ ] Unlikely [ ]

53. I intend to ask my partner to use condom all the time when I have sexual intercourse

Likely [ ] Uncertain [ ] Unlikely [ ]

54. I intend to carry condom all the time when I go out

Likely [ ] Uncertain [ ] Unlikely [ ]

APPENDIX B

GRAPHS

Figure B1 Percentage of level of sex intention

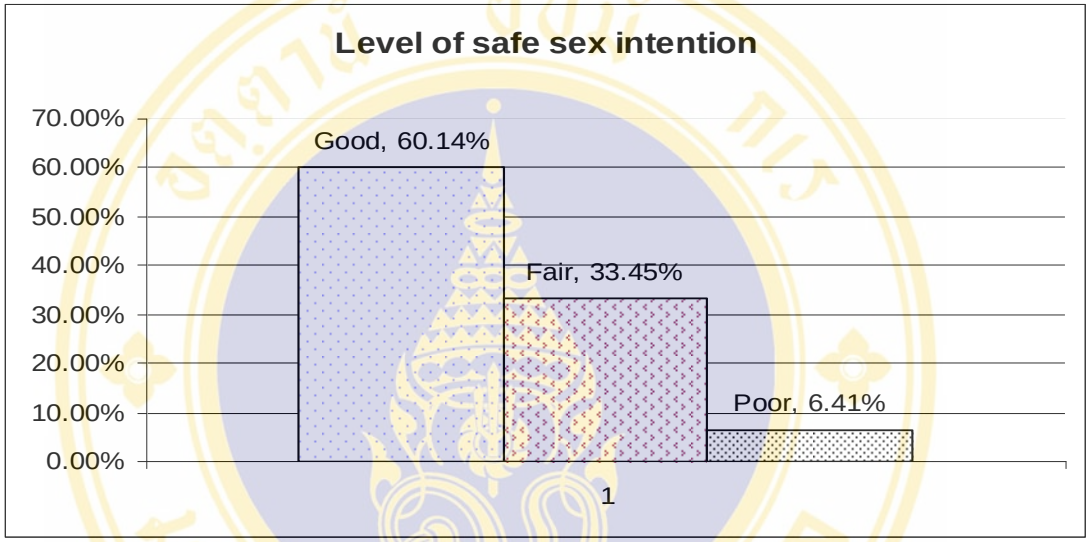


Figure B 2 Percentage of students by gender

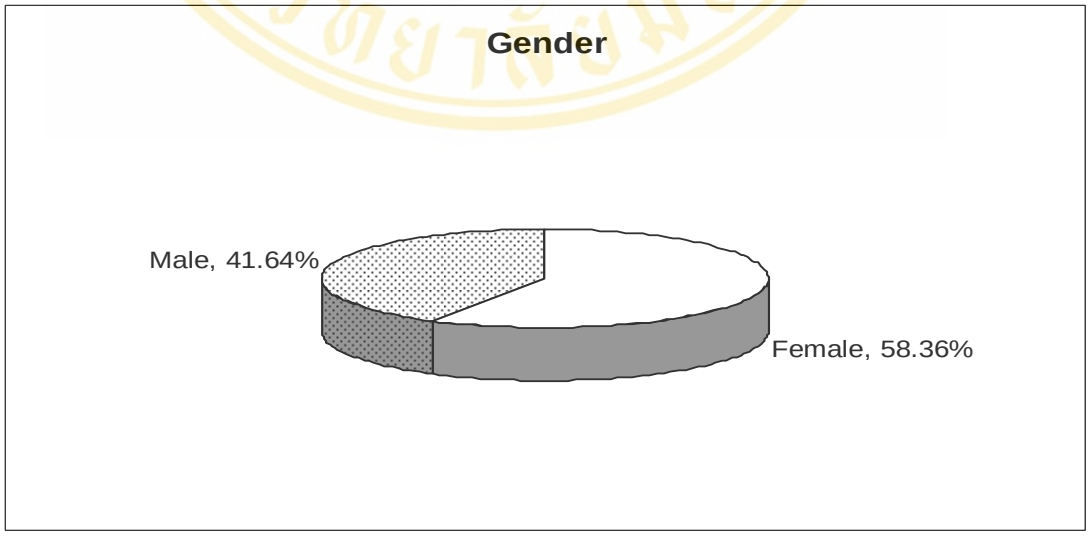


Figure B 3 Percentage of students by age

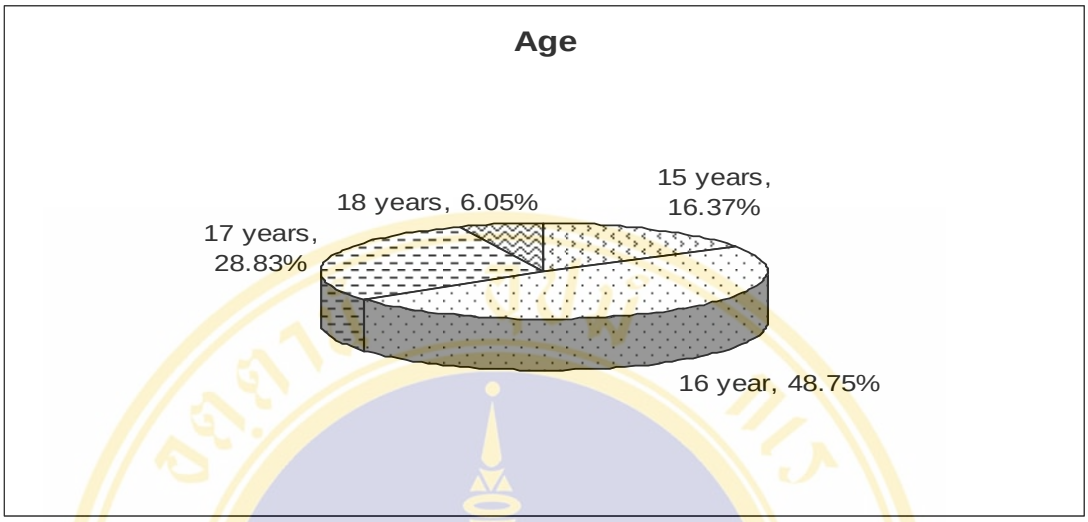


Figure B 4 Percentage of students by monthly allowance

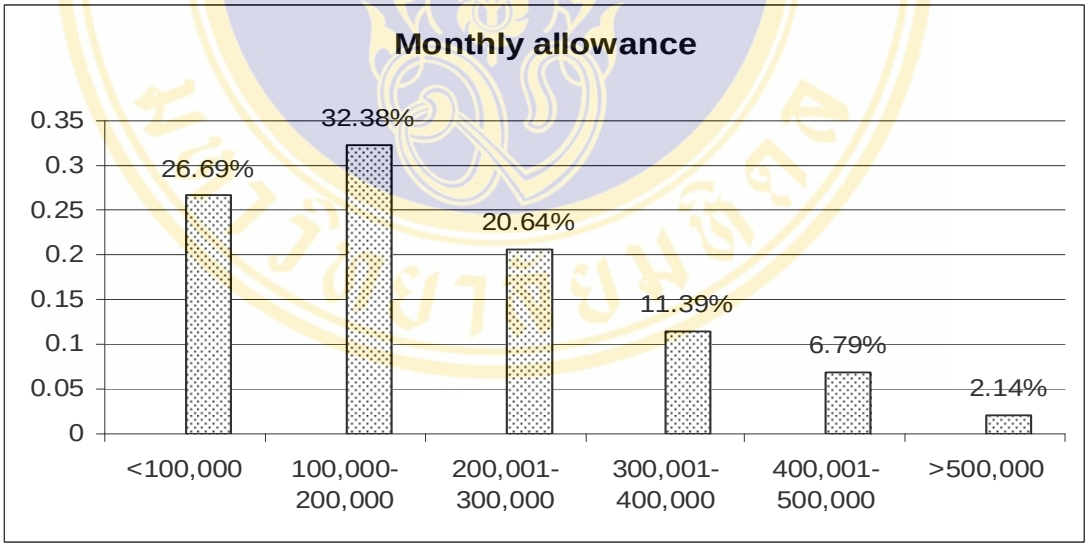


Figure B 5 Percentage of Student's fathers by education level

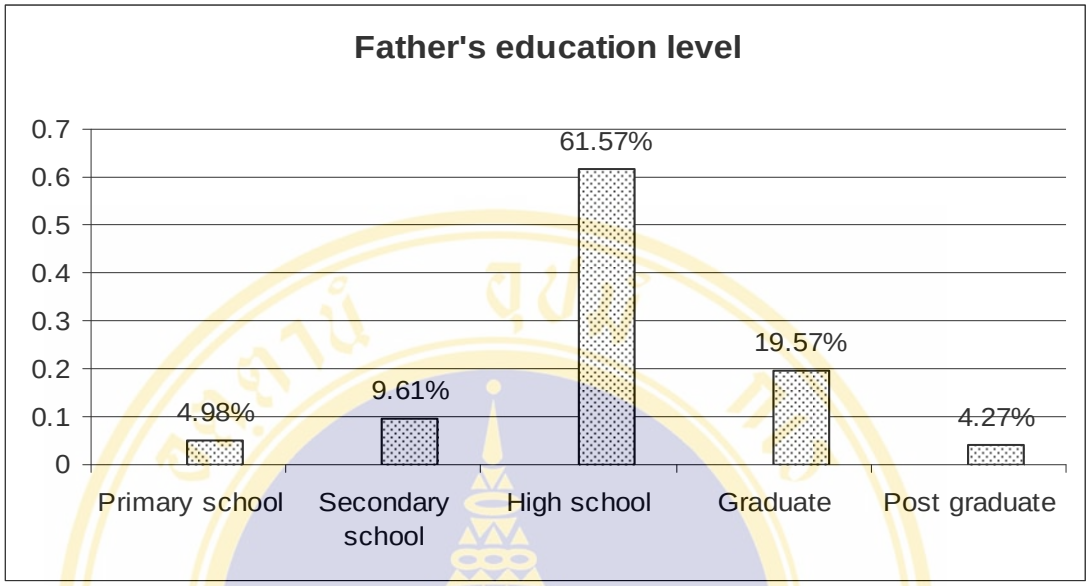


Figure B 6 Percentage of Student's mothers by education level

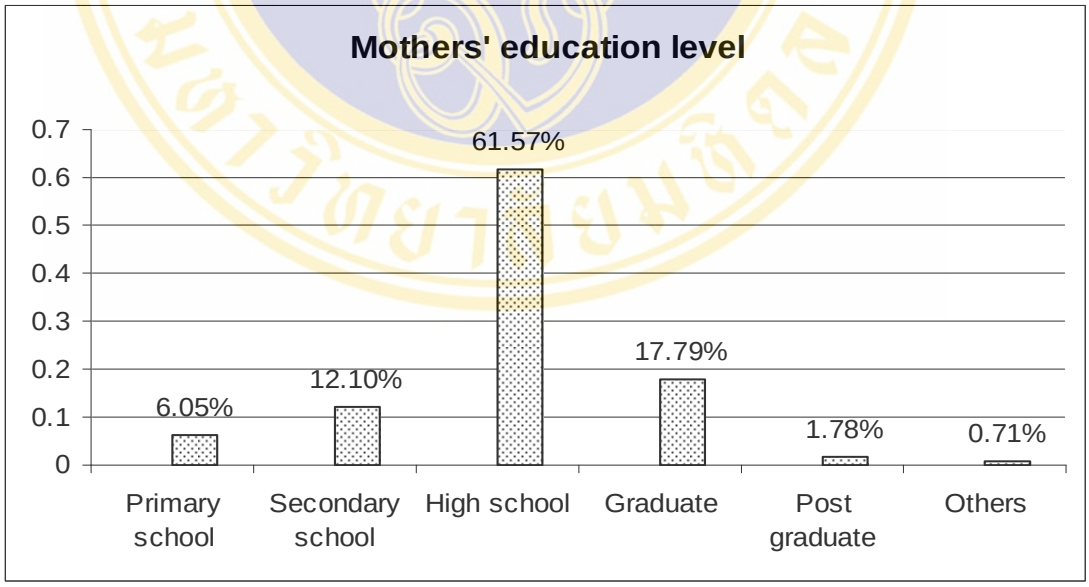


Figure B 7 Percentage of Student's fathers by occupation

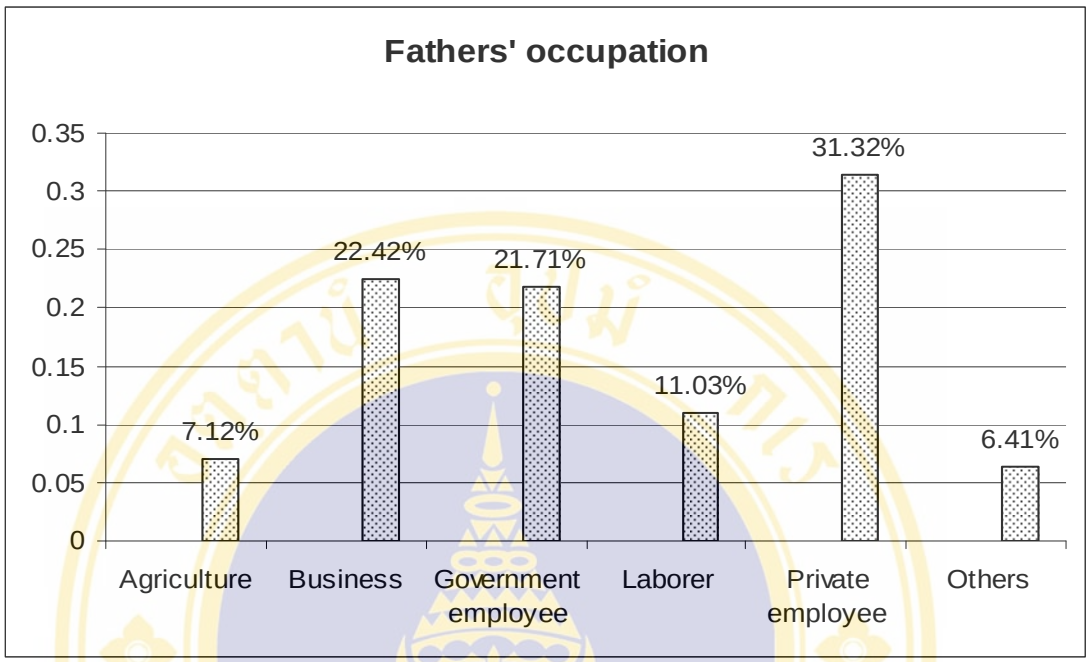
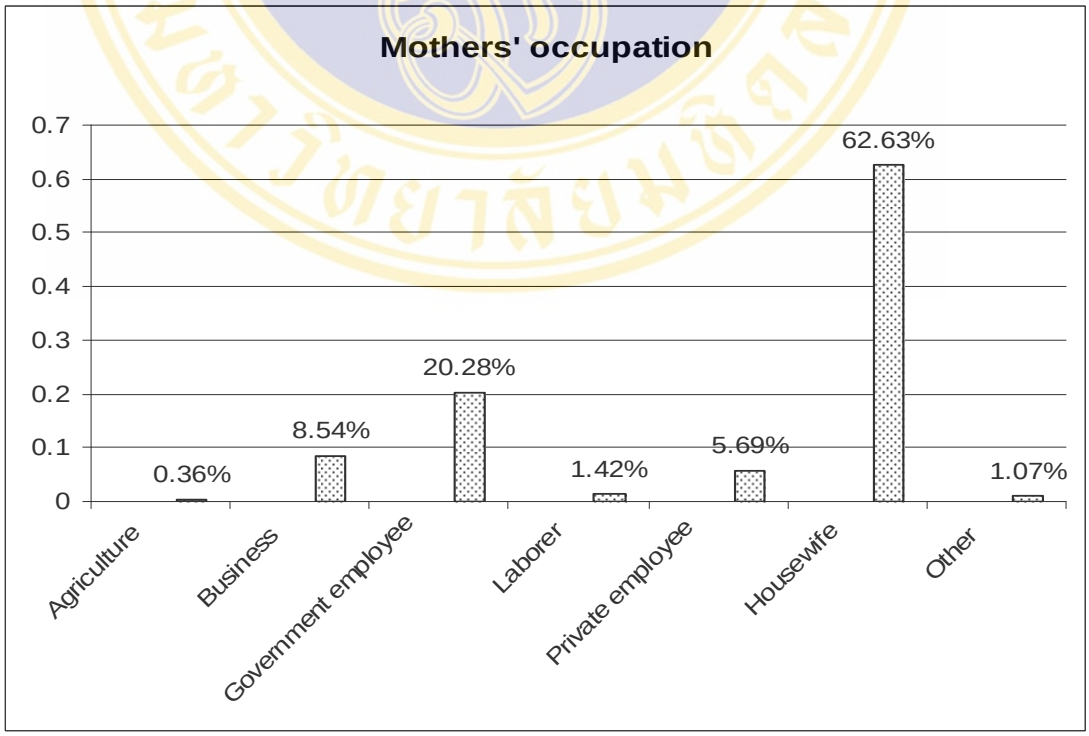


Figure B 8 Percentage of Student's mothers by occupation



BIOGRAPHY

NAME	Marselina Sili Papu
DATE OF BIRTH	23 August 1971
PLACE OF BIRTH	Pare-pare, South Sulawesi Province, Indonesia
INSTITUTE ATTENDED	Hasanuddin University Faculty of Medicine, 1998
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