DO HIGH SCHOOL CURRICULA CONTRIBUTE TO STUDENT'S ARH (ADOLESCENT REPRODUCTIVE HEALTH) KNOWLEDGE AND ATTITUDE? : A STUDY IN SEMARANG, CENTRAL JAVA, INDONESIA

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2011

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Thesis
entitled

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ABSTRACT

The change in culture and lifestyle of adolescents in Indonesia put them as a risky group in term of sexual and reproductive health. Worldwide, it has been proven that school education plays a major role in addressing concerns and correcting the misunderstandings among youngsters. The objectives of this research were to describe the knowledge and attitude of students related to adolescent reproductive health (ARH) and assessment on ARH education in school curriculum. This study is a cross-sectional survey, employing a self-administered questionnaire. Multistage sampling design was used to sample 253 students from 3 Senior High Schools in Semarang.

The results show that more than half (54%) of female students and slightly less than half (49%) of male students have good knowledge about ARH. However, some misconceptions regarding ARH knowledge exist, for example, fertile period, pregnancy, STI's and HIV transmission. The mean score of student's ARH knowledge proved to be statistically different between curricula: between intra-curriculum and extra-curriculum, and intra-curriculum and more-than-1-type of curriculum. Students gained ARH knowledge mostly from the intra-curriculum. Attitude toward sexual permissiveness was found to be moderately permissive both in male students (86%) and female students (70%). Significant factors that affected sexual attitude were gender, and the education level of the father. Type of curriculum did not influence sexual attitude of students. The findings suggest that improving ARH education by integrating it with intra-curriculum is a good strategy for ARH education.

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KEY WORDS: ADOLESCENTREPRODUCTIVE HEALTH KNOWLEDGE/PERMISSIVE ATTITUDE/HIGH SCHOOL CURRICULUM/SEMARANG

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
BPS	Statistic Center Bureau
CGM	Cyber Gloria Ministries
IEC	Information Education and Communication
FHI	Family Health International
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
IDU	Injecting Drug User
KPA	National AIDS Commission (Indonesia)
MGDs	Millennium Development Goals
NGO	Non-Government Organization
POA	Plan of Action
STI	Sexually Transmitted Infection
UN	United Nations
UNAIDS	The United Nations Joint Program on HIV/AIDS
UNFPA	The United Nations Population Fund
WHO	World Health Organization

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CHAPTER I
INTRODUCTION

1.1 Background and rationale

Reproductive health is one of the big issues of concern in public health in this era. WHO defines reproductive health as a state of physical well-being, mental and social whole; not just freedom from disease or disability, but encompassing all aspects related to the reproductive system, functions and processes. Reproductive health cases such as unwanted pregnancy, illegal abortion (rampant practice of pregnancy/unsafe abortion) and the emergence of the trauma of various forms of sexual violence and socio-economic problems that arise due to drop out of school, drug addiction and sexually transmitted diseases and the implications HIVAIDS (WHO, 2006).

There are many reproductive health problems now faced by most of all of the countries in the world. Sexually transmitted disease including HIV and AIDS, now impact the world. At the Summit Millennium Assembly in September of 2000, 189 UN member countries including Indonesia agreed to adopt the Millennium Development Goals (MDGs) which is the MDGs target on HIV and AIDS that have measurable targets and indicators to the year 2015 (MGDS, 2005).

In Indonesia, based on data KPA (National AIDS Commission) National in December 2010, the national AIDS case data cumulatively cover 24.131 reported cases of AIDS since reported in 1987 and 6130 HIV cases reported in 2008. Central Java itself was ranked 7 highest of 33 provinces in Indonesia with HIV and AIDS patients, and the number of cumulative reported AIDS cases was 944, with the number of deaths 289 cases. The city of Semarang occupied the highest positions in the incidence of HIV and AIDS in Central Java. In April 2008 the number of HIV cases in the city of Semarang was 543 HIV cases and 131 AIDS cases (Semarang AIDS Commission, 2008; National AIDS Commission, 2008).

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The highest proportion AIDS cases reported is in the 20-29 year age group (53.62%), followed by the 30-39 year age group (27.79%) and 40-49 year age group (7.89%). All three age groups have active reproductive age group. Most of them are in the young age group include adolescents (Semarang AIDS Commission, 2008).

Adolescence is a period filled with changes in body and mind. Tendencies are to try new things that young people see and can get, although sometimes they did not know for sure about these new things. This is more to the curiosity of adolescent that very large. In general, young people are more open to accept new ideas, and have more intensive use of new technology to find information than their parents so that youth is influenced by mass media, including Internet, movies and music. Teenagers naturally are in the phase of increasing sexual desires. When exposed to intense adolescent information about sex that are stimulated, but they are not getting accurate information from competent parties, so teenagers will be more motivated to have risky sexual behavior or be irresponsible (WHO, 2006).

There are around 20 percent of the Indonesian population under 15 – 24 age group. The number grew from 35 million to more than 42.2 million between 1980 and 2007 (BPS, 2008). The number of Indonesian young adults practicing sex before marriage is relatively low (less than 6.5 %) compared with other countries; Thailand (51%), Cambodia (36%), and Vietnam (65%). The premarital sexual issue should be given attention as the number tends to increase from 1% to 3 % for females and from 5 % to 6.4 % for males between 2002 and 2007 (BPS, 2008; UNAIDS, 1996).

Synovate research, September 2004, has examined the sexual behavior of adolescents in 4 cities in Indonesia, namely Jakarta, Bandung, Surabaya and Medan. The survey was conducted by 450 respondents aged between 15-24 years. The result showed that around 44% of respondents admitted they had never had sexual experience at age 16-18 years, 16% admitted it between 13-15 years of age. 71.5% of male students and 28.5% of female students agreed to have sex for some reasons. When students are asked about the process of pregnancy, there are 86% of students both men and women who do not know about when the fertile period (Synovate, 2005).

Same study revealed that youth in Central Java, Indonesia, much more enjoy the liberal environment. Youth sexual attitudes and behavior are becoming more

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permissive. 18 % males and 6% females of Central Java's youth had engaged to premarital intercourse. Forty eight percent of university student in Semarang, Central Java, had touched their partner's genital, 28 % experienced petting, and 20 % admitted had engaged to premarital sexual intercourse (CGM, 2004).

Adolescent reproductive health education is supposed to be one of the ways of young people to encounter the risk sexual behavior. This is a new program area when taken under the context of ICPD POA framework. Many organizations, especially the non-government and voluntary organization as well as bold government agencies have taken steps to undertake innovative strategies to introduce reproductive health massage into their programs to reach the adolescents and influence them to taking responsible decisions regarding their sexual and health behaviors. This strategies and approaches range from energizing in school education through curriculum or community support from out of school sector, setting up counseling service, peer group counseling and discussions, developing IEC materials and interactive discussion, youth camp, debates and competition (UNFPA, 2009).

There are some setting to give adolescent reproductive health education, such us within family setting, school setting, and non-formal setting. But most of adolescents spend their time at school and make socialization and community at school. It means adolescent reproductive health education at school setting should have big chance to influence the reproductive health behavior of adolescent (UNFPA, 2009).

In Indonesia, adolescent reproductive health education is integrated in some of subjects in school, such us biology. It mostly highlights about anatomy and physiology organ of male and female. However, there is no specific national curricula and setting about the adolescent reproductive health education at school both in Junior High School or Senior High School; intra-curriculum (includes science, biology, physical health education, social science, sociology and Islamic science), extra-curriculum which is implemented by student activities that depends on the school, and student guidance. For extra-curriculum, some of the schools did peer education program, wall magazines, website, coordination and invite NGO and other reproductive health expertise, school chief discussions, drama, and competitions.

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This policy makes the gap and differences among the school to conduct their curriculum and strategy related to adolescents reproductive health education. Based on that background the aim of this study is to describe and examine about adolescent health reproductive education at high school curriculum by the perception of the students, and its relation to the knowledge and attitude of student toward the reproductive health.

1.2 Research Questions

1. What are the perceptions of student about adolescent reproductive health education at high school curriculum in term of existence, content, method, and material?

2. What are the student's knowledge and attitude about adolescent reproductive health?

3. Is there any relationship between adolescent reproductive health education at high school curriculum and the student's knowledge and attitude?

1.3 Research Objectives

1. General Objective

To describe and examine about the student perception of adolescent reproductive health education at high school curriculum and student knowledge and attitude in Semarang, Central Java, Indonesia

2. Specific Objectives

a. To describe the knowledge and attitude of students related to adolescent reproductive health.

b. To assess the level of knowledge and attitude of student related to adolescent reproductive health.

c. To describe the perception of student about ARH (adolescent reproductive health) education in school curricula (Intra-curriculum, extra-curriculum and student guidance).

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d. To examine the relationships between perception about adolescent reproductive health education curriculum and student's knowledge

e. To examine the relationships between perception about adolescent reproductive health education curriculum and student's attitude.

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CHAPTER II
LITERATURE REVIEW

In this study, researcher has studies about adolescent reproductive and sexual health also knowledge, attitude of reproductive and sexual health of high school. The scope of the literature review and the researcher relevant has been determined, as follows:

2.1Adolescent

2.1.1 The Meaning of Adolescent

The word adolescence is Latin in origin, derived from verb adolescent, which means “to grow into adulthood”. In all societies, adolescence is a time of growing up, of moving from the immaturity of childhood. Adolescence is a period of transition: biological, psychological, social, and economic. It is an exciting time of life. Individuals became interested in sex and become biologically capable of having children. They become wiser, more sophisticated, and better able to make their own decision (Steinberg, L., 1993).

The World Health Organization (WHO, 2006) defines “adolescence” as follow:

1. Physically, changes in the reproductive system occur until it reaches its full development.

2. Mentally, the child develops into an adult.

3. Social and economically, children transition from being financially dependent into being financially self-supporting.

The WHO classified adolescence into stages; early adolescence (aged 10 - 15 years) is a period of a spurt of physical growth. Middle adolescence (aged 16 – 19 years) is a stage of experiencing wide mood swings, being influenced by peers, interest in the opposite sex, complete physical changes, and sexual experimentation. The lack

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of sexual knowledge and self-protection may cause unwanted pregnancies and the contract of sexually transmitted disease. Late adolescence (aged 20 – 24 years) is the age of perceived gender role, independent living and working, increase interest in sexuality, and acceptance of advice regarding, for example how to prevent sexual problems.

Steinberg L also classified adolescent in the book "Adolescent", into three stages:

1. Early adolescence which covers the period from about age 11 through age 14.
2. Middle adolescence which covers the period from about age 15 through age 18.
3. Late adolescence which covers the period from about age 19 through age 21.

2.1.2 Adolescent Development

1. Physical development

The early years of adolescent are important because it is transitional period from childhood into adulthood. Hormone influences physical development. Children at this age often feel hungry and usually eat a large quantity of food. They usually do not pay much attention to the nutritional value of their diet. During this stage, oil glans and sweet glans are functioning at their peak, so their faces are usually oily, and they may develop pimples. Many children start to grow chubbier, taller, and heavier. Hair begins to grow on different part of their body, such us in the armpits and the pubic area. Girls develop large and stronger muscles, hair grows on their arm and legs, and they experience wet dream. During this time both boys and girls became capable of procreation. Predicting the sequence of changes is difficult, since they do not occur in a uniform pattern (Steinberg, L., 1993).

2. Emotional development

Adolescents are easily moved, often obsessed with being socially included, and like to have many friends. They start to feel affection towards the opposite sex, and think about their careers and freedom. Adolescents emotion are violent, full of confident, quick thinking, quick decision-making, creativity, and stubbornness, therefore, they often contradict of these of their parents and surrounding elders (Steinberg, L., 1993).

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The adolescent's emotional changes are easy and quick, being influenced by the sexual development. The important role of the family in helping the adolescent is that parents must create familiarity, security for their children by giving them love, warmth, and constant care in order to secure the children's emotions and help them control they own emotions, resulting in the expression of appropriate behaviors (Steinberg, L., 1993).

3. Intellectual development

The adolescent characteristic of intellectual development:

i. The ability to solve problems systematically.

ii. The ability to memorize, which is very effective since they can create memorization techniques.

iii. The ability to use abstract thinking, leading to the ability to create potential hypotheses for problem solving.

4. Social Development

The children in this age group like to be alone in order to improve their personality and try to remedy their failing. The reason that children prefer not to do things with other family members may be that children in this age group need to be free and independent. Children in this age group start to have friends of the opposite gender, with relationships of both friendship and courtship. The important points is not to prevent girls and boys from seeing each other because the pressure from prevention may lead to aberrant behaviors (Steinberg, L., 1993).

5. Sexual Development

Children in this age group develop sexual characteristics and roles, which differ from males and females. Male adolescents reach puberty when the testicles, which are the male's sexual glans, are stimulated from the pituitary-glans to produce reproductive cells and the male hormone, testosterone, causing the sexual organs to grow in size, such us the penis, and the testicles. Semen is produced by the testicles, which may be ejaculated from the body while the male adolescent has a deeper voice, wider chest, hair all over the body, and pubic hair (Steinberg, L., 1993).

As for females approaching the adolescents stage, the ovary, which is the female sexual glans, start working almost at the same time as the male sexual glands. The pituitary gland produces the hormones, such us estrogen and progesterone,

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causing the eggs to mature, and menstruation. This indicates that the girls are ready to reproduce. Furthermore, these hormones also causing widening the hip, increase the breast size, menstruation, and hair on the body and genital areas (Steinberg, L., 1993).

2.1.3 Sexual Desire of adolescents

Sexual desire is nature for everybody. When children approach puberty, they pay more attention towards the opposite sex, along with sexual fantasies. When these sexual fantasies occur, they stimulate various body responses towards sexual feelings, which cause them to need to have sexual relationships, resulting in adolescent attempts to satisfy these needs. These attempts include speaking secretly in a particular group, acquiring information from listening to other, or else, reading about sex in pornographic books, which may give the wrong information. These attempts male and female adolescents should be aware of how to react (Steinberg, L., 1993).

2.2Reproductive and sexual health

In everyday interactions, people according to their nature as social beings to be associated with reproductive health, participate and be part of reproductive health. Reproduction may be defined as the propagation or breed, so that reproductive health can be defined as a state of physical, mental, and social conditions associated with a person who reproductive function. A person shall be deemed healthy if the relevant reproduction is physically healthy, mentally, socially healthy, so do not have a disease or disorder that can disrupt the system, function and reproductive processes. These include: Ability to reproduce, managed to have a healthy child, grow and develop properly, safely run the reproductive process include sex, pregnancy, childbirth, etc. (WHO, 2006)

The process of growth and human development itself begins with the conception phase (union of egg and sperm from the mother and father), then a fetus, infants, children, adolescents, adults and elderly. Every individual has a right in obtaining information and services, to achieve reproductive health status is good. Before they become adults, each person will experience a period of physical changes known as puberty. In general, women will conduct puberty earlier than males, but the

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advent of puberty for each of the individuals are not equal, there are experiencing puberty earlier and there are experiencing puberty more slowly, it is this which will affect their development, especially their psychological development (WHO, 2006).

Women will experience puberty at age 9 - 12 years are marked by the process of menstruation, while men experience puberty at age 12 - 14 years are marked by the process of wet dream (wet dream). Physical changes that occur at puberty will be associated with increased reproductive mature and start functioning equipment, in addition to high growth and weight gain, puberty will be marked changes in significant changes such as changes in women's breasts, Adam's apple in men, hair growth on the part specific and genital enlargement. Another capture is the emergence of acne on the face, body odor is more 'aromatic', sounds more severe in men and vaginal discharge & menstruation in women. In general, puberty can be defined as a period where a person gets older and begin to experience any changes in the body (WHO, 2006).

2.3Adolescent Reproductive and sexual health Education Curriculum

The potential goals of reproductive and sexual healtheducation are many. They can be organized, somewhat arbitrarily, under the headings of increasing knowledge, facilitating personal change and adjustment, and encouraging interpersonal and societal change (Paxman, J. M., et all, 1987; UNESCO, 1998).Adolescent Reproductive and sexual health Education Curriculum based on UNESCO hand book define on some topic**:**

1. Human and Sexual Development
    - Reproductive anatomy and physiology
    - Puberty and physical, psychological, socio-cultural changes
    - Contraception and pregnancy
    - Development of self-awareness and self-esteem
2. Family life and relationships
    - Personal, Family and community values and relationships
    - Relationship with others (friends, boy-girls relationships.

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- Community values

3. Human Sexuality
    - Sexuality and sexual behaviors
    - Reducing sexual risks
    - Masturbation
    - Abstinence
    - Human sexual response
    - Sexual dysfunctions
    - Sexuality orientations
4. Reproductive Health and Family Planning
    - Adolescent pregnancies
    - Understanding conception
    - Abortion
    - STDs/HIV/AIDS
    - RTI
    - Sexual Abuse and violence
    - Contraception
    - Understanding human rights
5. Responsible Parenthood
6. Life Skills
    - Values
    - Assertiveness
    - Communicating skills
    - Setting goals in life
    - Decision-making
    - Negotiation
    - Career planning
7. Society, Culture, and Gender
    - Sexuality and society
    - Gender roles and stereotypes
    - Sexuality and media

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- Sexuality and the law
- Sexuality and the arts.

2.4Education curricula toward ARH in Indonesia

2.5.1 Intra-curriculum

Intra-curriculum is regular class for official / credit subject such as science knowledge, biology, physical health education, social science, sociology and Islamic science. This curriculum is obligated for students.

2.5.2 Extra-curriculum

Extra-curriculum is additional activities outside regular class. It is conducted both by students initiated or school initiated. Toward ARH education some of activities exist are peer education program, HIV care clubs, drug use care, Youth Red Cross.

2.5.3 Student Guidance

Student guidance is counseling session by specific teacher. It session includes class counseling (mostly once per week), and private corner for private counseling which is try to give guidance for some students that have problems or other students that just want to sharing their life.

2.5Knowledge and Attitude toward Reproductive and Sexual Health

a. Knowledge

Definition of knowledge

Some research stated that knowledge is basic behavior, in which a student could only memorize from the sight or sound. It is fact, truth, rules, and details that an individual collects from research, observation and reports (Suwan, P., 1987; Good, G. V., 1973)

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Cognitive domain

The cognitive domain into the 6 following level (Bloom, B. S., 1996):

1. Comprehension is the ability to give definition, which may be expressed in the form of skill of translation ability, interpretation, and exploration.

2. Application is the ability to use knowledge to solve problems or situations successfully.

3. Analysis is the ability to consider events by dividing the problem into sub-parts in order to understand the sub-components in details and see the relationship between these components clearly.

4. Synthesis is the ability to put the components together into a whole event and rearrange the structure into a new and improvised one with greater efficiency.

5. Evaluation is the ability to make decisions using criteria and standards.

Knowledge Evaluation Test

A knowledge evaluation test is the measurement of the brain's capability in memorizing things that have been experienced, know or seen. There are many types of tools used in the evaluation, in which each type is appropriate with different characteristics. The most used tool the questionnaire, which may be divided into the three following types (Bloom, B. S., 1996):

1. Oral test is the direct verbal test between the ester and the participant. Sometimes it could be referred to as an interview.

2. Written test, which is divided into following 2 types:

a. Essay, which is the type that requires participants to explain, describe, or criticizes events involved with knowledge.

b. Limited answer, which is the type that requires the participants to consider, compare, and interpret statements or detail, in which there are 4 formats, true or false questions, fill in the blanks, matching, and multiple choice.

4. Practice test, which is the test that does not the participants to respond verbally or in writing but emphasizes real action.

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b. Attitude

Definition of attitude

Attitude defined as predisposition or tendency to react specifically toward an abject, situation or value, usually accompanied by feelings and emotions (Good, G. V., 1973). Another suggested that an attitude is attitude is an individual's belief and feeling toward things, such as another individual, things, actions, situations, and other things, including the expression of a mental condition toward something. Attitude is abstract and causes expressive action, however, it is neither a motive or drive but is of readiness and expresses a person's response to a stimulant (Suwan, P., 1983).

Component of attitude

Resenberg and Hovland, 1970 classified attitude into 3 components:

1. Cognitive component: the perceptual responses and verbal statements of belief.

2. Affective component: sympathetic nervous responses and verbal statements of affect.

3. Behavior component: overt actions and verbal statements concerning behavior.

Characteristics of attitude

1. Attitude result from learning or experience. People are not born with it. When an individual learns, he acquires that learned feeling, which results in attitude.

2. Attitude could change if the environment and the situation changes. The attitude of an individual could change from acceptance to non-acceptance or non-acceptance to acceptance.

3. Attitude determines both introvert and extrovert behaviors. Acceptance or non-acceptance attitude could be observed though expresses behaviors, which could be either expression or verbal.

4. Attitude is complex because it depends on many factors, such us experience, perception, felling, opinion, emotion, environment, etc. Therefore, it can vary.

5. Attitude result from imitation and could be passed on to others. If one individual sees that another's behavior is acceptable, he might imitate it.

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6. The quality of attitude varies from most satisfies, moderate to unsatisfactory, in which the concentration depends on this scale. As for the direction, there are 2 directions, which are supportive positive and against or negative.

7. Attitude may be either a conscious or unconscious result. When an individual learn or experiences something, a complete consciousness is formed since that individual had already observed, thought, considered the reason, analyzed them. In some cases, attitude could be formed unconsciously as a feeling that originated without any consideration, such us parent's feeling forbidden to talk about sex because of a feeling that taking about sex is rude and embarrassing, causing an automatic unconscious non-acceptance attitude.

8. Attitude is somewhat permanent, since it originates from collected knowledge, although it can change, it does not mean that it can be changed within a period of a day. Attitude is difficult to change, even if it could, it would take time to change it, depending on the situation, event, or environment.

9. Each individual would have different attitudes towards the same thing, depending on each person's experience.

Attitude evaluation

Since attitude has 3 important components, it has to be assessed in all components, and also in general by consideration of actions and response towards many stimulant domains, not only from one action or behavior. Attitude evaluation usually has the following ingredients:

1. The study of attitude is the study of an individual's opinions and feelings that are stable or at least steady over a period.

2. Attitude cannot be directly observed, therefore, attitude evaluation is an indirect measurement from the tendency to action of a person, not just the individual's direct behaviors.

3. The study the individual's attitude does not only focus on its direction, but also on its intensity.

Attitude evaluation concepts

There are 3 basic concepts in the evaluation that need to be understood:

1. Content: Attitude evaluation requires stimulants for actions to be expressed. The stimulant in general is the content that needs to be measured, such us

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the need to measure the attitude towards an individual's decisions on family life. The stimulating content is the situation of making decisions in family life, for example, choice of spouse, age marriage, the period of having the first-born child and the next one, etc.

2. Direction: Attitude evaluation in general determines the direction of the attitude to be straight and continual in the right or positive, or left and negative direction. In other words, the direction would start from mostly agreeable, reduce to indifference, and further to mostly disagreeable. The characteristic of agreement and disagreement are on the same continuous straight line.

3. Intensity: Action or feeling expressed towards the stimulant has different qualities. The feelings and actions would be more violent if they are intensified, no matter into which direction, than when they are at moderate intensity.

Attitude Scale

A tool used in attitude evaluation is called the rating scale. The attitude scale is composed of 2 parts, which are the attitude statement part and the reply part, which would be similar to making comparisons. There 4 common type of attitude scale, i.e. Thurston-type scale, Likers Scale, Guttmann Scale, and Osgood Scale. Each of these scales has different benefits, limits, and appropriateness for use in assessing attitude. Therefore, the choice of attitude scale depends on the situation and scope of the research.

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2.6L.Green Models (Green, L., et all., 2000)

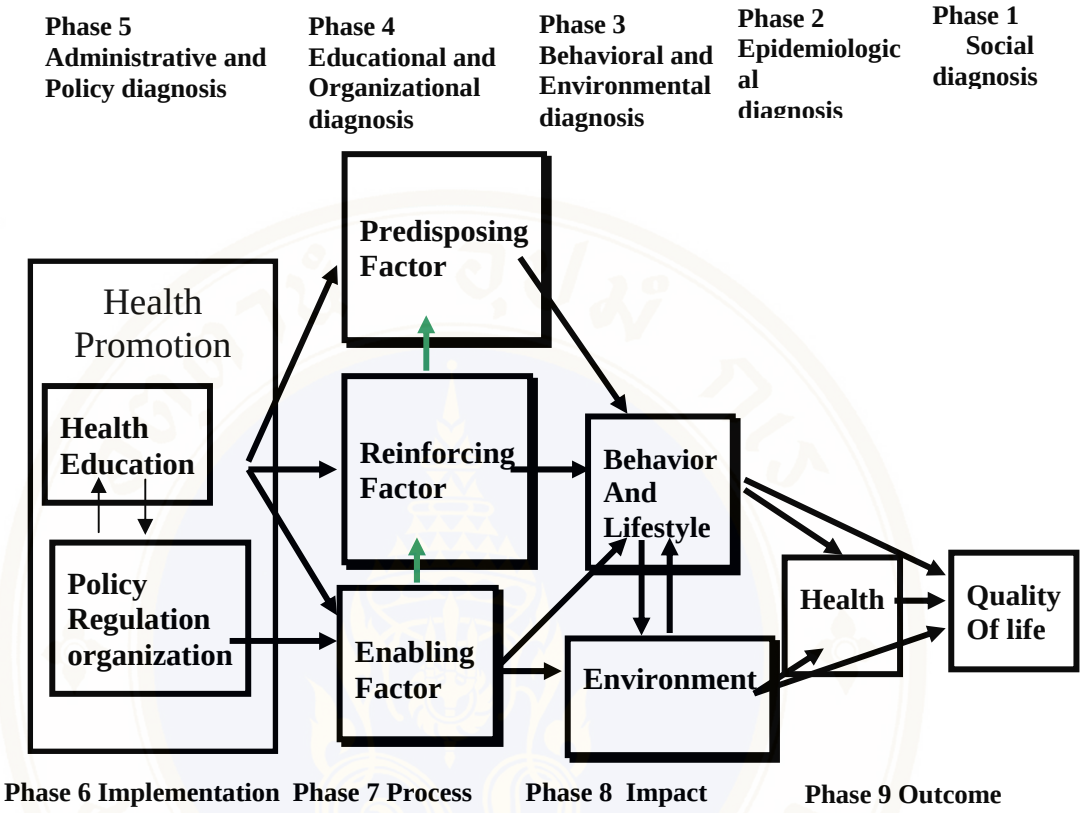

Figure2.1 The Precede-Proceed model for health promotion planning and evaluation

The PRECEDE-PROCEED model applies a medical perspective to public health, even though its focus is health promotion, rather than treatment of disease. In general, behaviors, lifestyles, and environmental factors are what an intervention sets out to change. The behavior defines based on three factors:

1. **Predisposing factors** are intellectual and emotional "givens" that tend to make individuals more or less likely to adopt healthful or risky behaviors or lifestyles or to approve of or accept particular environmental conditions. Some of these factors can often be influenced by educational interventions. They include: *knowledge, attitudes, beliefs, values, confidence.*

2. **Enabling factors** are those internal and external conditions directly related to the issue that help people adopt and maintain healthy or unhealthy behaviors andlifestyles, or to embrace or reject particular environmental conditions. Among them are: a*vailability of resources,* a*ccessibility of services,* c*ommunity and/or government laws, policies, priority, and commitment to the issue, Issue-related skills.*

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3. **Reinforcing factor**, are the people and community attitudes that support or make difficult adopting healthy behaviors or fostering healthy environmental conditions. These are largely the attitudes of influential people: family, peers, teachers, employers, health or human service providers, the media, community leaders, and politicians and other decision makers. An intervention might aim at these people and groups – because of their influence – in order to most effectively reach the real target group.

2.7Perception

Social perception defines as the process through which we use available information to form impressions of other people, to assess what they are like. We will not refer to physical characteristics that form impression, but on a broader system of characteristics which belong to the target (i.e. physical aspect), to the perceiver (i.e. personal memories), to the situations (i.e. conflict or friendship), to behavior and interaction features (Teiford, B. J. (ed.)., 2008)

2.8Research Hypothesis

1 There is a relationship between Adolescent Reproductive Health Education in school Curriculum and the knowledge of student

2 There is a relationship between Adolescent Reproductive Health Education in school Curriculum and the attitude of student

3 There is a difference between type of ARH education in school curriculum and the level of the knowledge of student

4 There is a difference between type of ARH education in school curriculum and the level of the attitude of student

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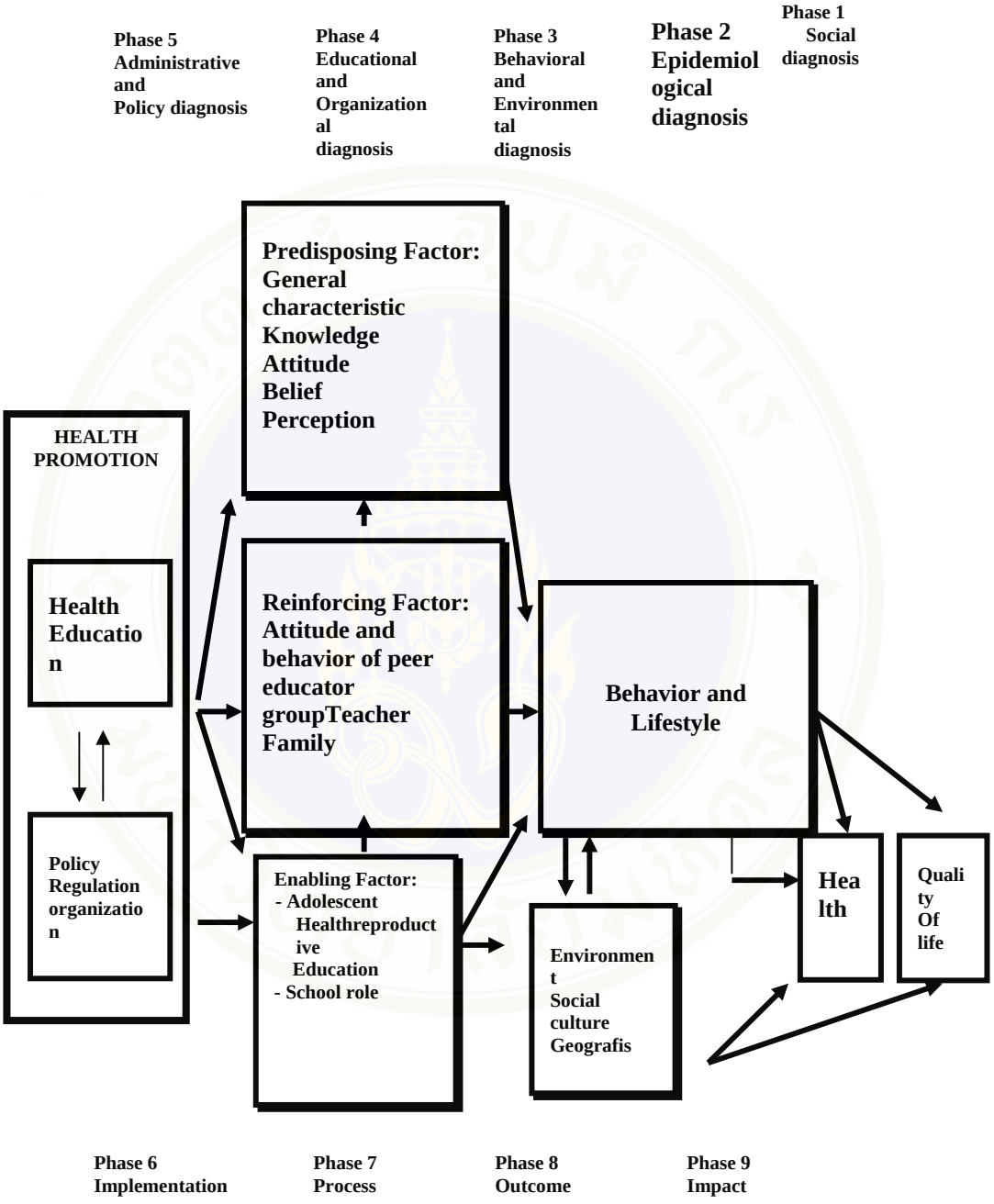
2.9Theoretical Framework



To diagnosis the behavior and life style toward reproductive health among senior high school students could be addressed from educational and organizational diagnosis. In this study, knowledge and attitude will assess as dependent variable that assume as one of predictor and proceed of behavior.

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ARH (adolescent reproductive health) education in high school curricula; intra-curriculum, extra-curriculum, and students guidance as administrative and policy diagnosis phase was assessed as one independent variable that assume could hinder or facilitate the development of ARH education in further setting.

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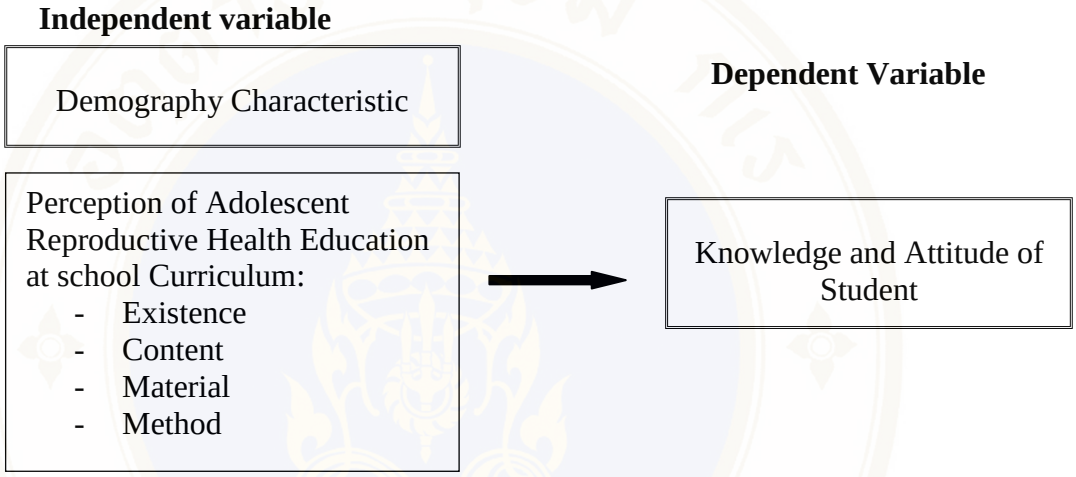
CHAPTER III
METHODOLOGY

3.1 Conceptual Framework



3.2 Variables

1. General characteristic of respondent (Age, Gender, level of education, parent education, parent occupation)
2. Knowledge about Adolescent reproductive health
3. Attitude about Adolescent health reproductive
4. Perception about the content of Adolescent health reproductive education
5. Perception about the material of Adolescent health reproductive education
6. Perception about the method of Adolescent health reproductive education
7. Perception about the existence of Adolescent health reproductive education

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3.3 Operational Definition

No	Variables	Operational Definitions	Scale
1.	General characteristic		
	a. Age	a. Number of years counted from the respondent was born until the time of data retrieval is calculated in units of years	Ratio
	b. Gender	b. Self-concept of individuals who express feelings of appreciation identity male / female	Nominal
	c. Parent education	c. Formal education had enrolled for student's parent	Ordinal
	d. Parent occupation	d. Regular activity related to earn the money	Nominal
2	Knowledge about Adolescent health reproductive	Respondents in the ability to know and understand about the Adolescent reproductive health. And practically represent by the correct answer that the respondent give related to that topic. The question will be account as composite variable. Using the standard deviation method : 1. Good 2. Moderate 3. Poor	Ordinal
3.	Attitude about Adolescent health reproductive	Respondents preposition or tendency to react about the Adolescent reproductive health content, and related to sexual permissiveness. There are 21 question which measured by ***linker scale*** procedure, using 5 agreement tendency approach.	Ordinal

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No	Variables	Operational Definitions	Scale
4.	Perception about Adolescent health reproductive	Results from the individual assessment of Adolescent reproductive health.	
	a. Existence	What is the most important curriculum exist to support ARH education whether Intra-curriculum, Extra-curriculum, or student guidance.	Nominal
	b. Material	The material provided on Adolescent reproductive health education. What kind of material use to give the education.	Nominal
	b. Method	The method used for Adolescent reproductive health education.	Nominal
	c. Content	What kind of content include in the curriculum of adolescent health reproductive education.	Nominal

3.4 Research Design

Study design that is used is observational study, with quantitative approach. Research carried out include in exploratory research study, which is conducted to explain the variables. The method used is interviews by use self-administrative questionnaire. Research design uses cross-sectional study approach, whereas the observations on the subject of research only conducted once at the same time.

3.5 Population And Samples

Population of this research is senior high school student in Semarang.

- The sampling design used is multistage random sampling with probability proportional to size. In this sampling method the sample calculated randomly and based on the probability size.
- The number of schools in Semarang: 16 national schools.

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► The number of minimum sample is calculated by this formula (Zainuddin, M., 2000) :

$$n = \frac{N.\ Z^2_{1+\sim-2}\ PQ}{(N-1)\ d^2 + Z^2_{1-\sim/2}\ PQ}$$

$$= \frac{5256.\ 1{,}96.\ 0{,}5\ .\ 0{,}5}{(5256-1)\ 0{,}05^2 + 1{,}96.\ 0{,}5\ .\ 0{,}5}$$

$$= \frac{2575.44}{13.6275}$$

= 188.99 = 189 Sample

Notes:

n = The number of sample are taken

N = The number of population

d = The degree of tolerance towards deviations P (d = 5%)

P = Proportion Estimator of population (50 %)

Q = 1 – P

$Z^2_{1-\sim/2}$ = Confidence Interval 95 % (1,96)

By this calculation, it has been known that the number of minimum sample is 186 students. This sample frame will be obtained from three selected schools from sixteen schools by proportional random. Each of school will be selected randomly to get three classes.

Table below shows about sampling frame which is shows basic data need for sampling method. And school will be selected by:

1. The first school is selected by randomly by random table (436) → school no. 2
2. The second school is selected by add the first number with interval of cumulative number (5256/3) = 436 + 1752 = 2188 → school no. 7

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3. The last school is selected by the same method with second school = 2188 + 1752 = 3940 → school no. 11

School	Number of students	Cumulative number
School 1	382	382
School 2	130	**512**
School 3	466	978
School 4	324	1302
School 5	324	1626
School 6	351	1977
School 7	348	**2325**
School 8	607	2932
School 9	270	3202
School 10	683	3885
School 11	287	**4172**
School 12	244	4416
School 13	210	4626
School 14	250	4876
School 15	329	5205
School 16	51	5256

3.6 Data Collection

The data collection uses self-administered questionnaires.

3.7 Data Analysis

Data analysis conducted in this research is to analyze:

a. Univariate Analysis

Univariate analysis is the first step needed for picturing the data. Univariate analysis performed on each variable with a frequency distribution, calculate the value of central tendency (mean, median, mode), the size distribution (standard deviation and variance), proportion, rate or ratio.

b. Bivariate Analysis

c. Multivariate Analysis

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CHAPTER IV
RESULT

In this study, the data was collected from senior high school students in Semarang, Central Java province. The results of this study comprises for 4 parts: demographic characteristic of student, knowledge about adolescent reproductive health, attitude about adolescent reproductive health, curriculum assessment about adolescent reproductive health.

4.1 Demographic Characteristic

The demographic characteristics of students as respondentsin this study are shown in the Table 4.1. More than a half of the students were female (60.5 %). The age distributions of students were in the range between 15 – 18 years old, but the mean age of them was 16 years old. The majority of students were from natural science class (92.5%). The education of parents of studentswere different between father and mother, about a half of father of student was graduated from bachelor degree and upper (51,8 %), and mother of student about a third of them that graduated from bachelor degree and upper (39.1%), and a third of students had parents who graduated from senior high school (39.1%), and the rest had others education (primary school). The occupation of student's father mostly were non-government worker (47.0%), and for the occupation of mother's students were distributed almost equally except a farmer only 4 %.

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Table 4.1 Demographic characteristic of students

Characteristics	Frequency (N = 253)	Percentage
Sex		
Male	100	39.5
Female	153	60.5
Age (years)		
15	4	1.6
16	100	39.5
17	145	57.3
18	4	1.6
Mean $\pm$ SD	16.6 $\pm$ 0.5	
Major of study		
Natural Science	234	92.5
Social Science	19	7.5
Education of father		
No education	0	0
Primary School	12	4.7
Junior High School	8	3.2
Senior High School	69	27.3
Diploma	33	13.0
Bachelor Degree and upper	131	51.8
Education of mother		
No education	3	1.2
Primary School	7	2.8
Junior High School	13	5.1
Senior High School	99	39.1
Diploma	32	12.6
Bachelor Degree and upper	99	39.1

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Table 4.1 Demographic characteristic of students (cont.)

Characteristics	Frequency (N = 253)	Percentage
Occupation of father		
No occupation	3	1.2
Government officer	87	34.4
Farmer	3	1.2
Non-Government worker	119	47.0
Other	41	16.2
Occupation of mother		
No occupation	70	27.7
Government officer	68	26.9
Farmer	1	4
Non-Government worker	61	24.1
Other	53	20.9

4.2 ARH (Adolescent Reproductive Health) Education In School Curriculum

Assessment on ARH education in school curriculum comprised in three dimensions; the content of adolescent reproductive health which is especially related to Indonesian context and issues, education material source that the curriculum was used to teach, and the method of teaching in curriculum. Assessment was done by the student views as a target of education.

4.2.1 The content of adolescent reproductive health education

There are ten highlighted content in the reproductive health education regarding to Indonesia context and issues; menstruation, puberty, fertile period, sexual desire, pregnancy, teenage pregnancy, sexual violence, abortion, STI's, HIV and AIDS, risk behavior, contraception. These content was assess in three of high school curriculum; intra-curriculum, extra-curriculum, and student guidance.

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Table 4.3 shows about the adolescent reproductive health content percentage in three kinds of curriculum. Most of the content was found in intra-curriculum, such as almost the students (93.3%) assess that they got the information about puberty from intra-curriculum, whilst extra curriculum just support 13.4 % and slightly more (27.7%) for student guidance.

Table 4.3 Percentage of content related adolescent reproductive health in school curriculum

Content	Intra-curriculum (%)	Extra-curriculum (%)	Student-Guidance (%)
Menstruation	92.1	11.9	24.1
Puberty	93.3	13.4	27.7
Fertile period	91.7	9.1	17.0
Sexual desire	57.7	9.5	15.0
Pregnancy	88.9	12.3	20.9
Teen pregnancy	68.4	11.5	23.7
Sexual violance	53.0	8.7	15.4
Abortion	53.0	7.5	16.2
STI's	90.1	12.3	17.0
HIV and AIDS	94.1	12.6	22.5
Contraception	84.6	9.1	14.2

4.2.2 Material source of adolescent reproductive health education

Table 4.4 assess about percentage of ARH education material used in three kinds of curriculum. The results show that internet source was the most material used in intra-curriculum (69.2%), extra-curriculum (17.4%) and student guidance (14.2%). Based on the observation, all of the schools provide internet access.

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Table 4.4 Percentage of material of adolescent reproductive health in school curriculum

Material used	Intra-curriculum (%)	Extra-curriculum (%)	Student-Guidance (%)
Hand book	26.9	5.1	6.3
Leaflet	19.0	4.3	4.7
Magazines	41.1	11.1	10.3
Internet source	69.2	17.4	14.2
Booklet	24.5	5.9	5.9
Audio visual, CD	50.2	9.5	5.9
Other	14.6	2.4	2.4

.

Assessment related to effectiveness of material found that there are the same results in all curriculum; majority of students stated it was internet source, by order continued with audio visual, hand book, magazines, booklet, and leaflet.

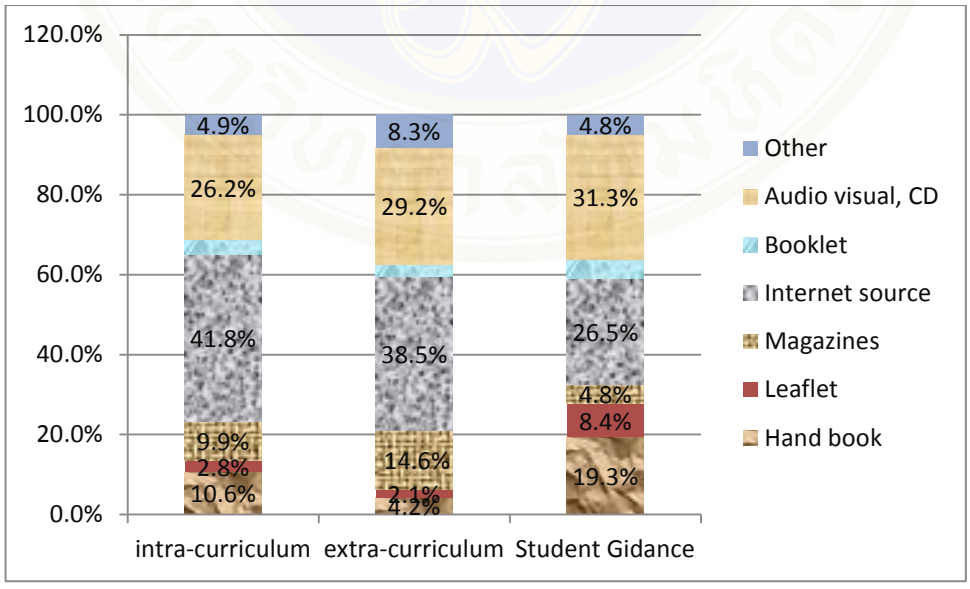

Figure 4.1 student assessments on ARH material effectiveness

Assessment related to the material that they like it the most found almost the same pattern with assessments on effectively of material. It was internet source in

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the highest one, and by order continued with audio visual, hand book, magazines, booklet, and leaflet.

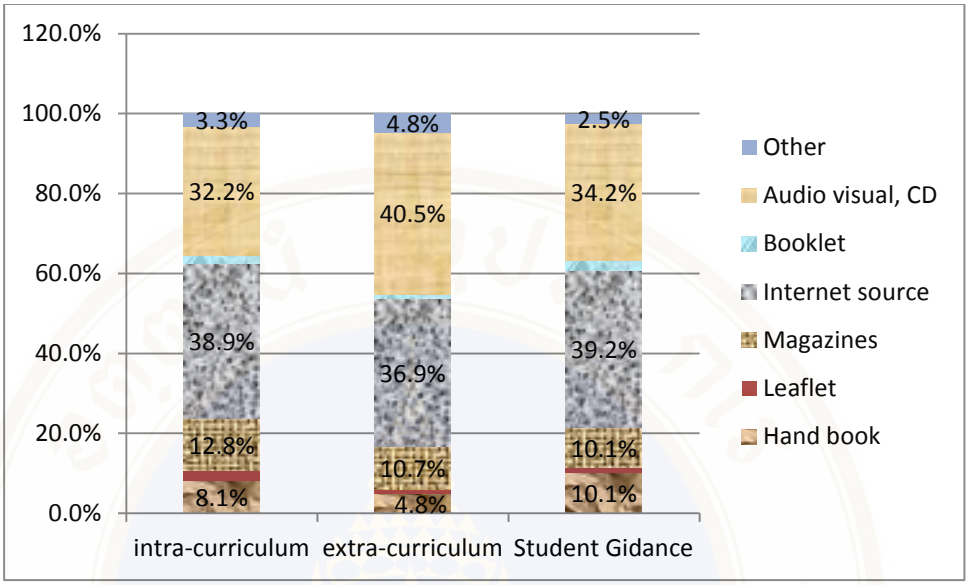

Figure 4.2 student assessments on ARH material that students like it the most

4.2.3 Method of teaching in adolescent reproductive health education

Table 4.5 tells about percentage of method used in the adolescent reproductive in three kinds of curriculum. Class teaching and assignment were the most method used in intra-curriculum, seminar and group discussion were the most method used in extra-curriculum, class teaching and group discussion were the most method used in extra-curriculum.

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Table 4.5 Percentage of method used to deliver adolescent reproductive health massage in school curriculum

Method	Intra-curriculum (%)	Extra-curriculum (%)	Student-Guidance (%)
Class teaching	90.1	6.7	11.9
Group discussion	56.5	8.3	7.9
Individual presentation	49.8	5.1	4.0
Assignment	69.6	5.1	4.3
Seminar	42.7	11.9	6.7
Workshop	23.3	7.1	5.5
Brainstorming	23.7	5.5	6.7
Role play	9.9	3.2	4.7
Case study	26.5	5.9	4.7
Fieldwork	11.9	5.5	4.0
Simulation	12.6	4.0	3.6
Other	3.6	0.8	1.2

Class teaching was most effective ARH method that student percept in intra-curriculum and students guidance, whist Seminar was the most effective in extra-curriculum.

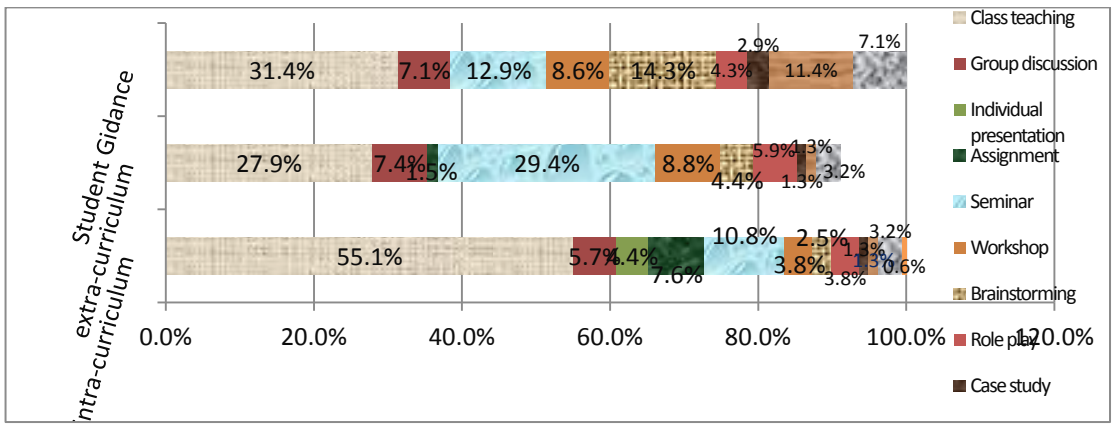

Figure 4.3 student assessments on ARH method effectiveness

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Class teaching was ARH method that students like it the most in intra-curriculum and students guidance, whereas Seminar was in extra-curriculum.

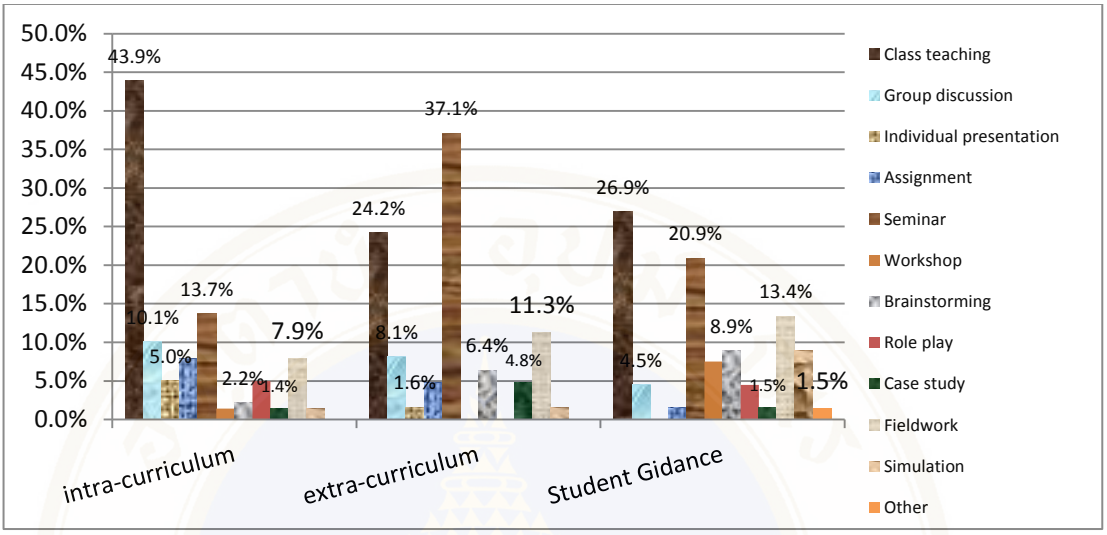

Figure 4.4 student assessments on ARH teaching method that students like it the most

4.2.4 The important source of curriculum in the school education

Table 4.6 revealed that most of the student said that the most important source of curriculum in the reproductive health education was intra-curriculum (73.5%), continued with extra-curriculum (17.4%) and student guidance (9.1%).

Table 4.6 The important source of curriculum in the school education

Curriculum	Frequency (N=253)	Percentage
Intra-curriculum	186	73.5
Extra-curriculum	44	17.4
Student guidance	23	9.1

4.3 ARH (Adolescent Reproductive Health) Knowledge

The knowledge related adolescent reproductive health was measured by items: menstruation, puberty, fertile period, sexual desire, pregnancy, teenage pregnancy, sexual violence, abortion, STI's, HIV and AIDS, risk behavior, contraception.

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4.3.1 Descriptive of Student's Knowledge

The table 4.7 shows the average students who were answer correctly on specific issues. The highest knowledge of student related adolescent reproductive health in Indonesia context is knowledge about puberty (97.67%), and continued with menstruation, risk behavior, sexual violence, HIV and AIDS, contraception, STI's, teen pregnancy, and sexual desire in order were in the range about 50% - 80%, and less than a half of students knew about pregnancy, abortion, and the lowest one fertile period (40.38%).

Table 4.7The mean percentage of ARH student's knowledge

Item knowledge	Percentage
Menstruation	78.06
Puberty	97.67
Fertile Period	40.38
Sexual Desire	50.59
Pregnancy	44.37
Teenage Pregnancy	53.11
Sexual violence	74.14
Abortion	43.45
STI's	66.12
HIV and AIDS	71.54
Risk Behavior	76.53
Contraception	66.72

In order to know the detail information of related the adolescent reproductive health (ARH) knowledge of the students, the description of knowledge per items knowledge is displayed in each of the table then.

Table 4.8 shows knowledge related menstruation, which was measured by questions about the definition and the cycle of menstruation. The student knowledge in definition of menstruation (83.4%) is higher than knowledge about menstrual cycle (72.7%).

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Table 4.8Percentage of correct answerof menstruation knowledge

Item knowledge	Frequency (N=253)	Percentage
Menstruation		
Definition	211	83.4
Menstruation Cycle	184	72.7

As Table 4.9, knowledge about puberty is measured by the questions about the biological and psychological sign of puberty in both male and female. The highest knowledge that student knew is about the sign of puberty in male that is change in voice and growth of facial hair and pubic hair (98.4%). And the lowest knowledge is about the desire to get confession about maturity (79.1%)

Table 4.9Percentage of correct answerof puberty knowledge

Item knowledge	Frequency (N=253)	Percentage
Puberty		
Wet dream	240	94.9
Growth in breast and hips	201	79.4
Increase in sexual arousal	224	88.5
High desire to be accepted as mature	200	79.1
Growth of facial hair, pubic hair, etc.	249	98.4
Change in voice	249	98.4
Menstruation	236	93.3
Adam’s Apple	213	84.2
Growth of pubic and underarm hair	243	96.0
Increase in sexual arousing (dressing, make up)	232	91.7

.

The knowledge about fertile period is measured by the questions about the definition and when the time it is. Many of the students did not know about the timing, when the fertile period is occurred. Almost a half, 41.5 % of the student knew the correct answer of the timing, and they have misunderstanding related that knowledge

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such as only 15 % knew that fertile period will not happen right after menstruation period has ended (Table 4.10).

Table 4.10Percentage of correct answerof fertile period knowledge

Item knowledge	Frequency (N=253)	Percentage
Fertile Period		
Definition	188	74.3
Timing: Just before her period begin	77	30.4
Timing: During her period	126	49.8
Timing: Right after her period has ended	38	15.0
Timing: Halfway between	105	41.5
Fertilization by sperm	79	31.2

Table 4.11, Knowledge about sexual desire was measured by the questions about male and female sexual desire. Less than a third of students (27.7%) knew about equality sexual desire among female and male.

Table 4.11 Percentage of correct answerof sexual knowledge

Item knowledge	Frequency (N=253)	Percentage
Sexual Desire		
Female sexual desire	186	73.5
The equality of female and male sexual desire	70	27.7

Table 4.12 shows few of students (5.9 %) knew that withdrawal or pull out the penis before ejaculation still give a chance to the partner become pregnant. About one third students knew that urinate after doing sexual intercourse will not prevent the pregnancy, so the rest of students have misconception on that.

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Table 4.12Percentage of correct answerof pregnancy knowledge

Item knowledge	Frequency (N=253)	Percentage
Pregnancy		
Pregnancy and first sexual intercourse	174	68.8
Pregnancy and menstruation	175	69.2
Pregnancy and withdrawal	15	5.9
Pregnancy and urinate	85	33.6

Table 4.13, the highest knowledge that respondent knew is about avoid pregnancy by abstinence (96.0%), and less than a third of student knew about not to avoid pregnancy by rhythm, withdrawal, and herb in the teenage (22,1%, 13,4 %, 16.6%). Knowledge related the risk of teenage pregnancy was addressed by almost two third of respondent in each items; complication (63.2), child birth (65.2%) and death (68.8%).

Table 4.13Percentage of correct answerof teenage pregnancy knowledge

Item knowledge	Frequency (N=253)	Percentage
Teenage Pregnancy		
Avoid pregnancy by abstinence	243	96.0
Avoid pregnancy by Use contraception	201	79.4
Avoid pregnancy by rhythm	56	22.1
Avoid pregnancy by withdrawal	34	13.4
Avoid pregnancy by herbs	42	16.6
Complication as a risk of teenage pregnancy	160	63.2
Childbirth as a risk of teenage pregnancy	165	65.2
Death as a risk of teenage pregnancy	174	68.8

Table 4.14 reveal that the form of the sexual violence that most of the students were familiar is rape (96.4%), continued with sexual abuse of children (93.3%). Rape within marriage were only about one third (33.4%) of students recognize it as sexual violence, as well as obsessive attitude and behavior to the

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partner which was 32.8% of students address it as sexual violence. About two third of students accepted that rape within war, forced abortion, genital mutilation, forced marriage, and forced prostitution as sexual violence.

Impact of sexual violence was asked to students in 6 parts; physical injury, suicide, HIV infection, mental health, murder and stigmatization. Almost all of the students (> 90%) identified that HIV infection and mental health could be occurred as an impact of sexual violence. Slightly less, suicide, murder and stigmatization were considered could be an impact of sexual violence. About one third of students (37.9%) stated that physical injury as such impact.

Table 4.14Percentage of correct answerof sexual violence knowledge

Item knowledge	Frequency (N=253)	Percentage
Sexual violence		
Rape	244	96.4
Rape within marriage	87	34.4
War rape	195	77.1
Sexual abuse of children	236	93.3
Forced marriage	163	64.4
Forced abortion	188	74.3
Violance act such as genital mutilation	191	75.5
Forced prostitution	185	73.1
Obsessive	83	32.8
Physical injury	96	37.9
Suicide	221	87.4
HIV infection	235	92.9
Mental Health	238	94.1
Murder	175	69.2
Stigmatization	172	68.0

Table 4.15 shows about knowledge about abortion; risk of abortion and safe and unsafe abortion methods. About 13 % of students knew that abortion will not

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lead to the infertile effect unless in some conditions. Less than a half of respondent (46.2%) knew that massage is unsafe abortion, and less than one-fourth (24.5%) of respondent knew herb is unsafe abortion, more over 13,8 % of respondent include it in the safe abortion. About 17.4 % respondent knew about dilatation and curettage as one of the safe abortion method.

Table 4.15Percentage of correct answerof abortion knowledge

Item knowledge	Frequency (N=253)	Percentage
Abortion		
Maternal mortality	222	87.7
Trauma	214	84.6
Physical injury	148	58.5
Infertil	33	13.0
The different of safe abortion and unsafe abortion	165	65.2
Massage	117	46.2
Herb	62	24.5
Pill	102	40.3
Abdominal Pressure	125	49.4
Vacuum abortion	52	20.6
Herbal drug	35	13.8
Dilatation and curettage	44	17.4

Table 4.16 tells about knowledge related STI's (Sexual Transmitted Infections); definition, infections, and symptoms. More than eighty percent students knew the definition of STI's. However, 67.6 % of students knew that TBC were not including in STI's, it means the rest of respondents (33.4%) addressed TBC as sexual transmitted infection. Almost all of the students (93.3%) knew that HIV and AIDS include in STI's, slightly more continued with syphilis, gonorrhea, and herpes genital.

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Table 4.16Percentage of correct answerof STI's knowledge

Item knowledge	Frequency (N=253)	Percentage
STI's (Sexual Transmitted Infections)		
Definition of STI's	217	85.8
HIV/AIDS	236	93.3
Syphilis	231	91.3
TBC (Tuberculosis)	171	67.6
Gonorrhea	206	81.4
Herpes genital	183	72.3
Itching around the genitals	197	77.9
Redness around the genitals	197	77.9
Pain around the genitals	190	75.1
The existence of nodule - pimples around genitals	189	74.1
Removing the pus from the genitals	211	83.4

Table 4.17 shows about HIV and AIDS knowledge; definition, transmission, misperception, and symptoms. For definition of HIV, almost all of students (90.5%) knew about that as well as transmission by blood, sexual fluid (vaginal fluid and semen), breastmilk. More than half of students (66%) knew that HIV cannot transmit by mosquito biting and by eat and drink together with infected person. Slightly more, 78.3% students knew that swimming together and shake hand with infected person (86.6%) will not transmit the HIV.

About a half of students (58.5%) recognized that HIV infected person looks like the healthy person, means that there is about a half students that addressed HIV infected person are not healthy as health person. 60.1% students knew HIV is different with AIDS. Roughly one-third (32.0%) of students knew that diarrhea that is not cured and a cough that does not heal including in sign of HIV infection.

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Table 4.17Percentage of correct answerof HIV and AIDS knowledge

Item knowledge	Frequency (N=253)	Percentage
HIV and AIDS		
Definition of HIV	229	90.5
Transmission by blood	242	95.7
Transmission by Sexual fluid	246	97.2
Transmission by milk breast	234	92.5
Transmission by mosquito	167	66.0
Transmission by shake hand	219	86.6
Transmission by swimming together	198	78.3
Transmission by eat and drink together	167	66.0
HIV infected person looks like the healthy person	148	58.5
HIV same with AIDS	152	60.1
Definition of AIDS	226	89.3
Diarrhea that is not cured	81	32.0
A cough that does not heal	81	32.0
Weight loss up to 20% dg	184	72.7
The body temperature often increases	165	65.2
HIV and AIDS can be cured	157	62.1

Table 4.18 assess about knowledge about risk behavior related to HIV. About half of students (53.4%) knew that sexual intercourse with another person without a condom is risk behavior, whilst slight more (58.9%) knew that oral sex with an infected person is risky, and almost the same 57.3 % of students knew that anal sex with infected person also include in the risk behavior.

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Table 4.18Percentage of correct answer of risk behavior knowledge

Item Knowledge	Frequency (N=253)	Percentage
Risk Behavior		
Sexual intercourse with an infected person without a condom	230	90.9
Sexual intercourse with a female sex worker without a condom	227	89.7
Sexual intercourse with another people without a condom	135	53.4
Sexual intercouse with multiple partners	223	88.1
Received blood donor tranfusion from an infected person	215	85.0
Shared a needle amongst infected persons	225	88.9
Oral sex with an infected person	149	58.9
Anal sex with an infected person	145	57.3

Table 4.19 identifies the knowledge of students in contraception method. A large proportion of students knew that Pill and condom as one type of contraception (94.1%, 94.5%). And minority of students knew about foam and coitus interuptus as a contraception method (30.4%, 18.2%).

Table 4.19 Percentage of knew answer of contraception knowledge

Item knowledge	Frequency (N=253)	Percentage
Contraception		
Pill	238	94.1
IUD (Intra Uterine Devices)	154	60.9
Implant	220	87.0
Foam	77	30.4
Condom	239	94.5
Tubektomi	205	81.0
Vasektomi	193	76.3
Rhythm	139	54.9
Coitus interuptus/withrawal		

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4.3.2 Level of Student's ARH Knowledge

The level of knowledge was categorized into 3 level of knowledge based on quartiles of total score, upper and lower.

Table 4.15 shows about the level of student's knowledge among male and female. More than a half of female students (57.5%) have good overall knowledge, whilst male students have slightly less (49.0%).

Table 4.20 Level of knowledge among students male and female

Level of knowledge (Overall Knowledge)	**Male**		**Female**	
	Frequency	Percentage	Frequency	Percentage
Good	49	49.0	88	57.5
Average	47	47.0	63	41.2
Poor	4	4.0	2	1.3

4.3.3 Student's ARH knowledge by demographic characteristic

The students come from natural science major had significantly higher adolescent reproductive health (ARH) knowledge than students from social science major. Gender, school come from, age, education of parents (father and mother), also occupations of parents were not significantly difference (Table 4.21).

Table 4.21 Bivariate table of student's knowledge by different demographic characteristics

Factors	Knowledge			Total N=253	Test of significance X^2 (*P*)
	Good %	Average %	Poor %		
Gender					
Male	49.0	47.0	4.0	100	3.08
Female	57.5	41.2	1.3	153	(0.2)

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Table 4.21 Bivariate table of student's knowledge by different demographic characteristics (cont.)

Factors	Knowledge			Total	Test of
	Good	Average	Poor	N=253	significance
					X^2
	%	%	%		(*P*)
School					
School A	43.5	54.1	2.4	85	6.33
School B	57.1	40.3	2.6	77	(0.1)
School C	61.5	36.3	2.4	91	
Age					
15	75.0	25.0	0.0	4	7.78
16	53.0	43.0	4.0	100	(0.2)
17	55.9	42.8	1.4	145	
18	0.0	100.0	0.0	4	
Major of Study					
Natural Science	56.8	41.5	1.7	234	12.85
Social Science	21.1	68.4	10.5	19	(0.002)
Education of Father					
Primary School					
Junior High School	50.0	41.7	8.3	12	6.88
Senior High School	50.0	50.0	0.0	8	(0.56)
Diploma	49.3	47.8	2.9	69	
Bachelor Degree and	42.4	54.5	3.0	33	
upper	60.3	38.2	1.5	131	
Education of Mother					
No education	33.3	33.3	33.3	3	14.83
Primary School	42.9	57.1	0.0	7	(0.1)
Junior High School	61.5	38.5	0.0	13	
Senior High School	53.5	44.4	2.0	99	
Diploma	53.1	46.9	0.0	32	
Bachelor Degree and	55.6	41.4	3.0	99	
upper					

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Table 4.21 Bivariate table of student's knowledge by different demographic characteristics (cont.)

Factors	Knowledge			Total N=253	Test of significance X^2 (*P*)
	Good %	Average %	Poor %		
Occupation of Father					
No occupation	100.0	0.0	0.0	3	11.76
Government officer	60.9	37.9	1.1	87	(0.1)
Farmer	0.0	100.0	0.0	3	
Non-Government worker	47.1	49.6	3.4	119	
Other	61.0	36.6	2.4	41	
Occupation of Mother					
No occupation	64.3	34.3	1.4	70	5.76
Government officer	48.5	48.5	2.9	68	(0.6)
Farmer	100.0	0.0	0.0	1	
Non-Government worker	50.8	47.5	1.6	61	
Other	50.9	45.3	3.8	53	
Important of curriculum					
Intra-curriculum	57.5	40.3	2.2	186	8.73
Extra-curriculum	43.2	56.8	0.0	44	(0.06)
Student Guidance	47.8	43.5	8.7	23	

4.3.4 Student's ARH Knowledge by Different Source of Curriculum

Student's ARH knowledge by different source of curriculum is measured by the means score of student's knowledge in different types of curriculum. Students were asked about the source of their ARH knowledge in term of school curriculum source. There are four types of curriculum were assessed; intra-curriculum, extra-curriculum, students guidance and combine (>1 type of curriculum).

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Table 4.22 shows there is a significantly different of mean score of student knowledge in some issues that are menstruation, puberty, fertile period, pregnancy, teen pregnancy, abortion, STI's, risk behavior, HIV and AIDS, and contraception in different source of curriculum.

There are two issues of ARH knowledge that not significantly different among student in different source of curriculum that are knowledge about sexual desire and knowledge about sexual violence.

Table 4.22 Compare means of student's knowledge based on the type of curriculum

Knowledge items	(Min-Max)	Mean score of knowledge in the different type of curriculum source				F-value (sig)
		Intra-curriculum	Extra-curriculum	Student Guidance	>1 type of curriculum	
Menstruation	(0 – 2)	1.72	0.67	-	1.14	29.09***
Puberty	(0 – 9)	8.63	8.00	-	7.93	11.79***
Fertile period	(0 – 6)	3.41	0.75	-	1.64	41.49***
Sexual desire	(0 – 2)	1.13	0.67	-	0.97	2.06
Pregnancy	(0 – 4)	2.08	1.25	1.00	1.63	6.43***
Teen pregnancy	(0 – 8)	4.64	4.00	-	3.96	5.11**
Sexual violance	(0 – 14)	10.37	9.11	10.00	10.59	11.52
Abortion	(0 – 10)	6.16	5.73	-	4.71	9.97***
STI's	(0 – 9)	7.67	5.50	-	6.98	3.41*
Risk Behavior	(0 – 8)	6.60	5.80	-	5.80	5.62**
HIV and AIDS	(0 – 16)	12.17	9.25	-	10.87	7.64**
Contraception	(0 – 10)	6.99	6.29	-	5.96	5.02**

*P< 0.05 **P< 0.01 ***P< 0.001

Table 4.23, the post hoc test (scheffe) was used to examine the specific difference between each pair of the means. The result shows that there is a different between the mean score of student's knowledge they got from intra-curriculum and extra curriculum source. The specific different knowledge in this pair is knowledge about menstruation and fertile period. The others knowledge are not significant different between this group.

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The differences between knowledge of students that they got from intra curriculum and more than one type of curriculum are reliable significant. Most of the knowledge; menstruation, puberty, fertile period, and abortion are strongly significant (*P*=0.000) in this pair. Pregnancy, teen pregnancy, risk behavior, HIV and AIDS, and contraception are significantly difference in P < 0.01. Sexual desire, sexual violence and STI's are not significantly different.

The mean score of student's knowledge from intra-curriculum and student guidance are not significant different. The same as extra-curriculum and student guidance pair, also extra-curriculum and more than 1 type of curriculum.

Table 4.23 The Post hoc test (scheffe) of compare means of student's knowledge based on the type of curriculum

Knowledge items	The different means score between category:				
	Intra-curriculum and Extra - curriculum	Intra-curriculum and Student Guidance	Intra-curriculum and >1 type curriculum	Extra-curriculum and Student guidance	Extra-curriculum and >1 type curriculum
Menstruation	1.06**		0.59***		-0.47
Puberty	0.63		0.70***		0.07
Fertile period	2.66**		1.78***		-0.89
Sexual desire	0.46		0.16		-0.30
Pregnancy	0.83	1.08	0.45**	0.25	-0.38
Teen pregnancy	0.64		0.68**		0.04
Sexual violance	1.25	0.37	-0.22	-0.89	-1.48
Abortion	0.44		1.45***		1.02
STI's	2.17		0.69		-1.48
Risk Behavior	0.80		0.80**		0.00
HIV and AIDS	2.92		1.30**		-1.62
Contraception	0.71		1.03**		0.33

*P< 0.05 **P< 0.01 ***P< 0.001

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4.4 Attitude Toward ARH (Adolescent Reproductive Health)

4.4.1 Percentage distribution of student's permissiveness attitude toward ARH

Table 4.24 shows about the percentage distribution of student's permissiveness attitude both male and female students.

The results reveal that about two-thirds (67.0%) of male students strongly agree that sexual intercourse should be done after marriage, whilst slightly higher (80.4%) female students strongly agree about that. Consistently, the majority of students both male and female strongly disagree on the next statement about premarital sexual intercourse which is a commonly friends as a sexual partner is higher strongly disagree than permanent partner. As well as a statement about premarital sexual intercourse as an adjustment after marriage, about half of female students (53.6%) strongly disagree but slightly lower for the male students (31.0%) strongly disagree about that. The majority both male and female student strongly disagree about when asked about statement on parent and friends perception about premarital sexual intercourse.

Statement about contraception use as a responsible action was responded neither agrees nor disagrees by majority of students both male and female. It is similar to statement of using condom for someone who is sexually active before marriage. Specifically about condom use, the students were asked about not using a condom during sexual intercourse with a boyfriend or girlfriend, majority students both male and female strongly disagree.

When the students were asked about cohabitation, both of male and female students are strongly agree that cohabitation is an immoral and not accepted by society. About teenage pregnancy and induce abortion without any health reason, majority both male and female students strongly disagree with that.

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Table 4.24Percentage distribution of student permissiveness attitude toward ARH both male and female students

Student attitude	Strongly Disagree (%) M / F	Disagree (%) M / F	Neither (%) M / F	Agree (%) M / F	Strongly Agree (%) M / F
Sexual intercouse after married	4.0 / 0.7	3.0 / 0.7	6.0 / 2.0	20.0 / 16.3	67.0 / 80.4
Premarital sexual intercourse with permanent partner	27.0 / 35.3	24.0 / 30.1	21.0 / 18.3	15.0 / 12.4	13.0 / 3.9
Premarital sexual relations with a commonly friend	55.0 / 66.7	22.0 / 25.5	12.0 / 6.5	7.0 / 1.3	4.0 / 0.0
Premarital sexual relationship occurred due to adjust after marriage	31.0 / 53.6	27.0 / 30.1	27.0 / 14.4	9.0 / 2.0	6.0 / 0.0
Parent perception about premarital sexual intercourse	71.0 / 90.2	15.0 / 6.5	9.0 / 2.6	1.0 / 0.0	3.0 / 0.7
Friends perception about premarital sexual intercourse	29.0 / 59.5	26.0 / 32.7	29.0 / 7.2	12.0 / 0.7	4.0 / 0.0
Using contraception is a responsible action	10.0 / 11.8	15.0 / 25.5	36.0 / 40.5	24.0 / 19.6	15.0 / 2.6
No need to use a condom during sex with a boyfriend / girlfriend	47.0 / 72.5	29.0 / 10.5	16.0 /14.4	3.0 / 2.6	5.0 /0.0
Condoms used for someone who is sexually active before marriage	20.0 / 31.4	11.0 / 12.4	28.0 / 35.9	26.0 / 14.4	15.0 / 5.9
parent perception about condom use for someone who is sexually active before marriage	33.0 / 46.4	13.0 / 15.7	36.0 / 26.1	13.0 / 8.5	5.0 / 3.3
Friends perception about condom use for someone who is sexually active before marriage	17.0 / 35.3	13.0 / 22.2	48.0 / 23.5	15.0 / 16.3	7.0 / 2.6
Cohabitation is an immoral and not accepted by society	11.0 / 10.5	2.0 / 6.5	20.0 / 11.8	25.0 / 22.9	42.0 / 48.4
Teenage pregnancy	61.0 / 69.9	30.0 / 23.5	5.0 / 4.6	2.0 / 0.0	2.0 / 2.0
Induced abortion without any health reason	44.0 / 64.1	37.0 / 22.9	9.0 / 7.8	7.0 / 4.6	3.0 / 0.7

4.4.2 Level of attitude

Level of attitude is defined by three categories; low permissive, moderate permissive and high permissive. These categories are taken from some of questions related to permissiveness of sexual attitude, which is the calculation was done by the quartiles; upper and lower.

Table 4.24 tells about the level of permissiveness among students male and female. Most of male students (86.0%) and female students (69.9%) were moderate permissive, and there's no (0.0%) more permissive for female students whilst male students were 2.0 %.

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Table 4.25 Distribution of student's permissiveness level among male and female

Level of Permissiveness	**Male**		**Female**	
	Frequency	Percentage	Frequency	Percentage
High Permissive	2	2.0	0	0.0
Moderate permissive	86	86.0	107	69.9
Low Permissive	12	12.0	46	30.1

4.4.3 Attitude toward ARH by Demographic Characteristic

The proportion of high permissive related to ARH attitude was higher among male students than female students. School come from, age, major of study, education of parents (father and mother), and occupations of parents were not significantly difference.

Table 4.26Bivariate table of student's attitude toward ARH by different demographic characteristics

Factors	Attitude			Total	Test of significance
	High Permissive %	Moderate Permissive %	Low Permissive %	N=253 (100%)	X^2 (*P*)
Gender					
Male	2.0	86.0	12.0	100	13.72
Female	0.0	69.9	30.1	153	(0.001)
School					
School A	0.0	76.5	23.5	85	10.65
School B	1.3	87.0	11.7	77	(0.31)
School C	1.1	67.0	31.9	91	
Education of Father					
Primary School	0.0	100.0	0.0	12	5.41
Junior High School	0.0	75.0	25.0	8	(0.71)
Senior High School	1.4	71.0	27.5	69	
Diploma	0.0	78.8	21.2	33	
Bachelor Degree and upper	0.8	76.3	22.9	131	

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Table 4.26Bivariate table of student's attitude toward ARH by different demographic characteristics (cont.)

Factors	Attitude			Total	Test of
	high Permissive (%)	Moderate Permissive (%)	low Permissive (%)	N=253 (100%)	significance X^2 (*P*)
Education of Mother					
No education	0.0	100.0	0.0	3	3.21
Primary School	0.0	85.7	14.3	7	(0.97)
Junior High School	0.0	84.6	15.4	13	
Senior High School	1.0	72.7	26.3	99	
Diploma	0.0	81.3	18.8	32	
Bachelor Degree and upper	1.0	75.8	23.2	99	
Occupation of Father					
No occupation	0.0	33.3	66.7	3	6.68
Government officer	0.0	75.9	24.1	87	(0.57)
Farmer	0.0	100.0	0.0	3	
Non-Government worker	0.8	78.2	21.0	119	
Other	2.4	73.2	24.4	41	
Occupation of Mother					
No occupation	0.0	75.7	24.3	70	7.22
Government officer	0.0	69.1	30.9	68	(0.51)
Farmer	0.0	100.0	0.0	1	
Non-Government worker	1.6	78.7	19.7	61	
Other	1.9	83.0	15.1	53	
Important of curriculum					
Intra-curriculum	0.0	75.3	24.7	186	7.48
Extra-curriculum	2.3	79.5	18.2	44	(0.11)
Student Guidance	4.3	78.3	17.4	23	

4.4.4 Determinant of Attitude Towards ARH by Multivariate Analysis

Prediction on occurred the attitude toward ARH due to demographic and curriculum factors was examined by multivariate analysis using ordered logistic regression. The result shows that female students are more likely to have

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lowpermissive attitude 3.75 times than male students. Students who have father had attended primary school are less likely 0.04 times to have low permissive attitude compare with students who have father had graduated from bachelor degree and upper. Students who have father had worked as government officer are 0.04 suggestive less likely to have low permissive attitude compare with students who have father had no permanent worked, although it not reaches statistical significant ($p \leq 0.09$).

Table 4.27 Ordered Logistic Regression on Attitude toward ARH

Variable	Coefficient	SE	OR
Age			
15®	2.25	2.18	9.54
16	2.13	2.18	8.44
17	0.85	2.89	2.35
18			
Gender	1.32	0.37	3.75***
Male®			
Female			
Major of Study	0.56	0.85	1.76
Natural Science			
Social Science®			
Education of father			
Primary School	- 3.20	1.45	0.04*
Junior High School	0.19	1.03	1.21
Senior High School	- 0.01	0.43	0.98
Diploma	0.02	0.51	1.02
Bachelor Degree and upper®			
Education of Mother			
No education	1.93	2.41	6.92
Primary School	1.66	1.45	5.26
Junior High School	0.54	0.93	1.72
Senior High School	0.51	0.45	1.67
Diploma	- 0.01	0.56	0.98
Bachelor Degree and upper®			

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Table 4.27 Ordered Logistic Regression on Attitude toward ARH (cont.)

Variable	Coefficient	SE	OR
Occupation of Father			
No Occupation®			
Government officer	- 3.10	1.78	0.04†
Farmer	- 3.39	2.79	0.03
Non-Government worker	- 3.00	1.78	0.49†
Other	- 2.99	1.80	0.05†
Occupation of Mother			
No Occupation®	0.75	0.49	2.12
Government officer	- 4.46	4.63	0.01
Farmer	0.02	0.48	1.02
Non-Government worker	- 0.40	0.49	0.67
Other			
Important of curriculum			
Intra-curriculum®	- 0. 37	0.48	0.68
Extra-curriculum	- 0.68	0.63	0.50
Student Guidance			
Level of Knowledge			
Good®	- 0.13	0.64	0.87
Average	- 1.45	0.34	0.23
Poor			

†$P \leq 0.09$ *$P < 0.05$ **$P < 0.01$ ***$P < 0.001$

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Table 4.28 Simulation of predict probability of Attitude towards ARH by significant variables

Variable	Attitude			Total
	High permissive	Moderate	Low Permissive	
Gender				
Female	0.01	0.69	0.30	1
Male	0.02	0.87	0.11	1
Education of father				
Primary School	0.10	0.88	0.02	1
Junior High School	0.01	0.73	0.26	1
Senior High School	0.01	0.76	0.23	1
Diploma	0.01	0.76	0.23	1
Bachelor degree and upper	0.01	0.76	0.23	1
Occupation of Father				
No occupation	0.01	0.76	0.23	1
Government officer	0.08	0.82	0.10	1
Farmer	0.13	0.85	0.02	1
Non-Government worker	0.05	0.84	0.11	1
Other	0.09	0.86	0.05	1

Picturing order of predicts probability of attitude:

1. Student attitude toward ARH is influence by gender.

Female students are more likely 3.75 times to have low permissive attitude than male students.

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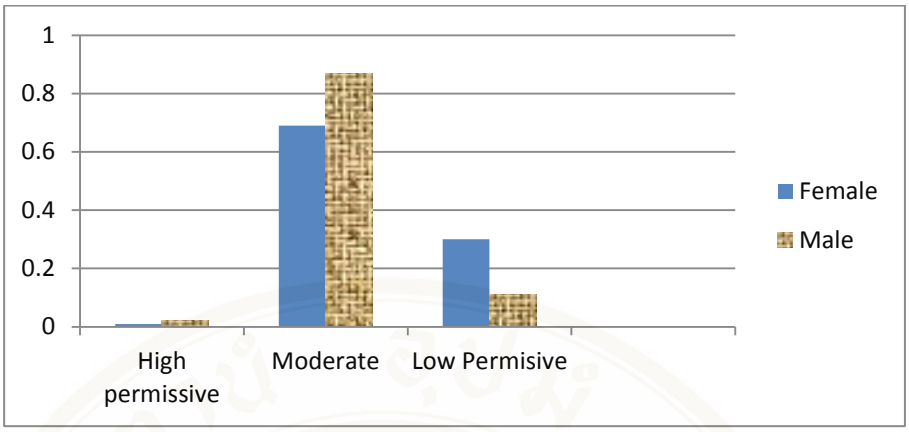

Figure 4.5 Student attitudes toward ARH by gender

2. Student attitude toward ARH is influence by education of father

Students who have father had attended primary school are low likely 0.04 times to have low permissive attitude compare with students who have father had graduated from bachelor degree and upper.

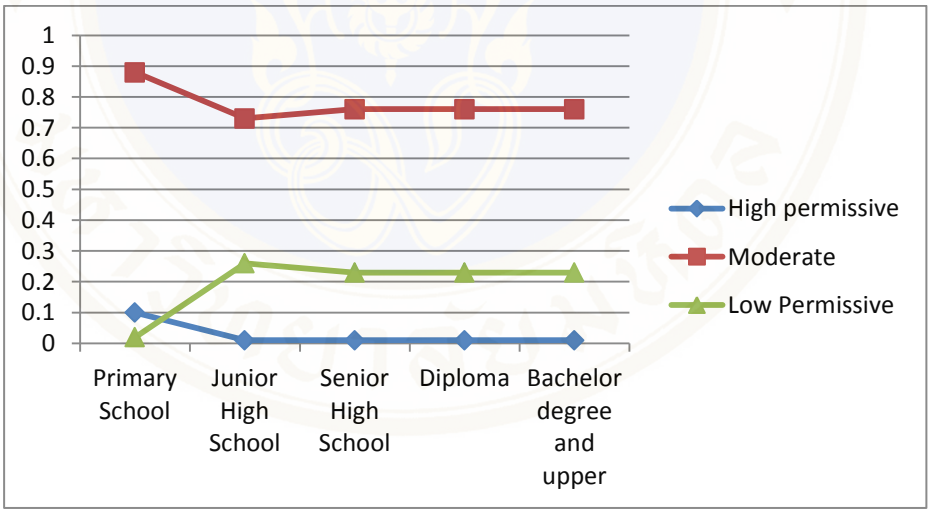

Figure4.6 Student attitudes toward ARH by education of father

3. Student attitude toward ARH is influence by occupation of father

Students who have father were working as government officer are 0.04 suggestive low likely to have less permissive attitude compare with students who have father had no permanent worked, although it not reaches statistical significant ($p \leq 0.09$). Similar result is showed on the other occupation except farmer.

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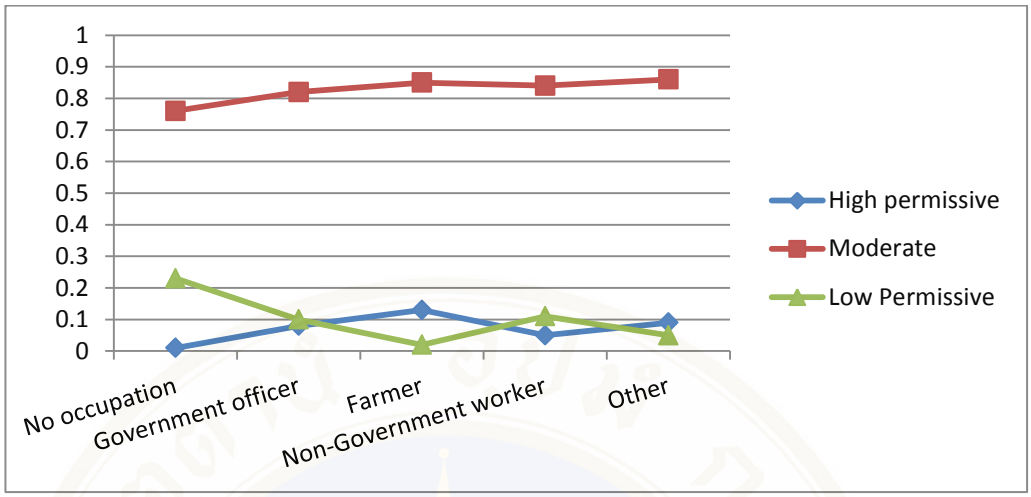

Figure4.7 Student attitudes toward ARH

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CHAPTER V
DISCUSSION

The objectives of this research are describing the knowledge and attitude of students related to adolescent reproductive health (ARH), and their level of that knowledge and attitude. It also tries to investigate the student assessment on ARH education in school curriculum, than examine the relationship between ARH education and student's knowledge and attitude on ARH.

5.1 ARH (Adolescent Reproductive Health) Knowledge

In this study the highest percentage of student's knowledge related to adolescent reproductive health is puberty. It is agreed with some of theories that puberty is a normal event for adolescent. It is often used to refer to developmental transition from childhood to adulthood. Hormonal changes are the main aspect of adolescent changes; yet puberty also triggers emotional, cognitive and behavioral changes. It leads them realize and know better the changes in their body because it is their own experience (Patton, C. G. & Viner, R, 2007; Ahmadi, F., et. all., 2009).

The sign of puberty in male that is change in voice and growth of facial hair and pubic hair seems to be more familiar than other signs, especially when compared with knowledge related to desire to get confession about maturity or to be accepted as a mature. One reason that is found in other article in the same result (Lewis, M., 2002) that Adolescents' psychological (especially sexual) changes during puberty are embarrassing and worrying to the individual if they occur unexpectedly. The possibility that behavioral problems arise because of a mismatch between the emotional reactions and cognitive capacities of young adolescents has important roles (Patton, C. G. & Viner, R, 2007).Challenging autonomy and independence gain, which are the adolescents' characteristics, can lead to adolescents experiencing high-risk behaviors such as unsafe and early sexual activities, alcohol and drug abuse(McEwen,

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M., 2002).Basic knowledge of the mechanisms of reproduction, including the women's monthly fertile cycle is important. However, this study shows that knowledge issue about fertile period is the least known knowledge among students. An attention should be addressed to this issue since many misconceptions were still occurred. There were only few respondents correctly answer when the actual fertile period was. Some of them were still assumed about fertile period started just before menstruation began, during menstruation, and right after menstruation has ended. In fact it is similar result with a global survey of almost 17 500 people (most of childbearing age) from 10 countries in Europe, Africa, the Middle East and South America also revealed that on the whole level of knowledge regarding fertility and biology of reproduction was very poor (Adamson, G. D., et all., 2006).Other research shows that participants over-estimate the chances of pregnancy at the time of ovulation have little awareness of when they are most fertile, and lack a general understanding of infertility, such as a definition and its prevalence within the general population (Lampic, C., et all, 2006; Blake, D., et all, 1997; Bunting, L, Boivin, J., 2008).Education plays a major role in addressing concerns and correcting the misunderstandings that the youngsters may have gained from sources such as the media and their peers. In addition, they will learn to make decisions that respect themselves and others by taking account the possible consequences (Lyrad, 2011).

This result could be correlated with the following knowledge on risk of pregnancy they might have. This study found that these adolescents had low awareness on the risk of being pregnant at their first sexual intercourse, and mostly misunderstood about having sex during menstrual period. They assumed that a woman might pregnant if she had an intercourse during a menstrual period. Moreover, most of them perceived that withdrawal before ejaculation and urinate after sexual intercourse, and using herb might prevent pregnancy. However, the result is lower than Indonesia Young Adolescent Survey, 2007, in whole country which is roughly a half of adolescent did not know about that (Pngakhila, W., 2011).Therefore, the need of providing appropriate sexual and reproductive education is rising nowadays in order to prepare these adolescents against high exposure of sexuality explicit material they had from media.

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Sexual violence is one of sexual and reproductive health issues in developing countries that should be considered seriously. Since everybody is vulnerable to get sexual violence, and it is highly possible to prevent, it becomes necessary to address that knowledge. This study found that many of students just familiar in some of forms of sexual violence, such as rape, sexual abuse of children, war rape, forced prostitution, genital mutilation, but only few of them recognize other act such us rape within marriage, forced marriage, and obsessive behavior as sexual violence. In fact, many research found arrange marriage was existing in Indonesia culture and the traditional Indonesian societies; women clearly occupy a lower social status than men. Even though, the role of women is improving in modern Indonesian society, this is still the dominant value in Indonesian culture (Pngakhila, W., 2011).In turn; these conditions may contribute to creating and sustaining vulnerability to sexual violence. Effective sexuality and reproductive health education is therefore essential in order to do the prevention. As mention it on UNESCO (2009) primary goal of sexuality that young people need to learn about the risk of sexual exploitation and abuse in order to recognized these when they occur, to protect themselves as far as possible and to identify and access available sources of support.

The next closest issue of those all is abortion. In fact abortion is a very complex issue in some developing countries, including Indonesia where abortion is usually legally restricted (PAC, 2007).In this conditions young people are often more vulnerable to unsafe abortion due to their psycho social development, power imbalances compared with adults, poverty, sexual abuse and coercion, as well as traditional/cultural values that prevent access to sexual and reproductive health (SRH) information and services. This study revealed that still many students were less knowledgeable about safe and unsafe abortion. Only a quarter of respondent percept herbs is safe and does not lead to any complication.

STI’s and HIV and AIDS knowledge among students in this study are high on term definition and the symptoms of disease. However, misperception did exist, especially related to transmission. More than one fourth of students stated that mosquito biting, shake hand, eating, drinking, and swimming together with infected person will transmit HIV. This condition will lead to the issue of discrimination and stigmatization. And about a half of students did not know that HIV infected person

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looks like a healthy person. It will turn to possibility of less awareness of self-perceived when they are doing some risk behavior (Ogden, J., 1996).

Assessment on knowledge of risk behavior shows many students, more than eighty percent roughly, knew about risky behavior such as sexual intercourse with an infected person without condom, sexual intercourse with a female sex worker without condom, sexual intercourse with another people without condom, sexual intercourse with multiple partners, received blood donor transfusion from infected persons, and share a needle amongst infected persons. However, many of them knew that oral sex and anal sex with an infected person are not risky.

Contraception knowledge among young people in Indonesia Young Adult Reproductive Survey (IYARS, 2007) for both women and men has increased slightly since 2002-2003. Knowledge among women increased from 95 percent in 2002-2003 to 96 percent in 2007. Result in this study is lower than IYARS 2007.

5.2 Attitude Toward ARH (Adolescent Reproductive Health)

This study shows most of students agreed that sexual intercourse should be perform after marriage and disagree about premarital sexual intercourse both a commonly friends and permanent partner as a sexual partner also if it done as an adjustment after marriage, even their view on parent perception and friends perception. Majority of students have any confusion about contraception use as a responsible action. However, they still consider about safer sex attitude, they agreed on using contraception to prevent STI's and to prevent pregnancy. So they also did not agree about not using a condom during sexual intercourse with a boyfriend or girlfriend. However, students neither agreed nor disagreed about the using of condom for someone who is sexually active before marriage, it quite different with their opinion on parent perception in that issue that strongly disagree about that, whilst agreed nor disagree related that issue by the views of friends perception.

That result reflects that in the first statement about strong social, cultural and religious norms that prohibit premarital sexual contact between young unmarried men and women. Sexual behavior is limited to marriage. This taboo on sex is particularly more rigid for young women who are traditionally expected to maintain

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virgin until their first marriage. However, Due to new circumstances, higher age at first marriage, more contact with the opposite sex in the society, greater exposure to the worldwide ideas about sex, premarital relationships are becoming more inevitable. In today's globalization trends, sexual attitudes and behaviors are changing rapidly in all the cultures of Indonesia (Pngakhila, W., 2011). The almost similar result from Zaluhiah research that revealed there was a change in socio-sexual attitude in adolescent in central java (Ford, N. J., et all, 2007).

When the students were asked about cohabitation, almost a half of them strongly agree cohabitation is an immoral and not accepted by society. It could be because cohabitation is regarded as the action which does not agree with the traditions and religious norms applying in Indonesia. Even now days, many issue rise for idea to criminalize (and to put into) the action of cohabitation to be one of criminal cases which has recently based the concept of penal law (Anonim, 2011).

About teenage pregnancy, more than a half of students strongly disagree, and strongly agree that teenage pregnancy is a risk for the mother health. In Indonesian societies unmarried adolescent girls who give birth are social outcasts (Anonim, 2011).

In case of teenage pregnancy among students, most of students strongly agree about the regulation to drop out the students that pregnant during the study and strongly disagree about abortion among the student in order to continue the study. Actually this result shows the reality which in fact In Indonesia there is a school rules that discriminate against pregnant students. Most of the cases in Indonesia, roughly 90% the school expelled the pregnant student. This is difficult and complex issue because this phenomenon will put students to go in for an abortion to terminate an abrupt and unplanned pregnancy. Even though a number of social factors also drive unwanted pregnant students to the abortion act, include conditions at home, and the social stigma associated with being an unwanted mother (Dipo, H., 2008).

For induced abortion without any health reason, more than a half of respondent strongly disagree, Even about the statement about the mother have a right to abort the pregnancy such as even though in the case of rape.It contraventions issue since abortion is illegal in Indonesia. It is often performed by unskilled providers in unsafe conditions. Unsafe abortion will be hazardous to the life of a teenager than

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unexpected motherhood. Moreover, unsafe abortion is a major cause of injury and death among women worldwide (Utomo, B., et all., 2001)

Statement related to sexual violence, majority of students agree that sexual violence can be occurred to everybody. It was a good sign for doing intervention to students related to sexual violence since the traditional Indonesian societies; imbalance gender roles put them in the condition that may contribute to creating and sustaining vulnerability to sexual violence (Pngakhila, W., 2011).

5.3 ARH (Adolescent Reproductive Health) Education In School Curriculum

School-based sexuality and reproductive health education is one of the most important and widespread ways to help young people improve their reproductive health. Such programs, if thoughtfully designed and well implemented, can provide young people with a solid foundation of knowledge and skills. A recent review of school-based programs in developing countries (FOCUS, 2001) found strong evidence of the effectiveness of such programs in improving ARH outcomes.

ARH knowledge provided in high school setting in Indonesia are divided to three types; Intra-curriculum, extra-curriculum and student guidance. Adolescent reproductive health is supposed to be one of the integrated points in that curriculum, because there is no specific curriculum for ARH education.

Assessment on content related adolescent reproductive health in school curriculum found that Intra curriculum does not have much information on sexual desire, sexual violence, teen pregnancy and abortion. While in extra-curriculum less information about abortion, sexual violence, contraception, fertile period and in student guidance are contraception, sexual desire, sexual violence and abortion are provided. The findings also highlight that sexual violence and abortion found to be less provided in all of the 3 types of curriculum.

Internet source is the highest material used for teaching in all curriculums, more over students also stated that internet source was the most effective material teaching and most of the students like it. This reflects about the existing high demand on internet in education sector.

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For the ARH education material, the result shows that internet source was the most material used in three curriculum by order; intra-curriculum, extra-curriculum and student guidance. In term of method used; class teaching and assignment were the most method used in intra-curriculum, seminar and group discussion were the most method used in extra-curriculum, class teaching and group discussion were the most method used in extra-curriculum.

Intra-curriculum reported by students as an important source of curriculum in ARH education. Because there was no question about the reason, it just predict that it because the intra-curriculum that was the highest source information that they get so far.

5.4 ARH Knowledge among Students by Demographic Characteristic and School Curriculum

Gender, schools, age, education of parents (father and mother), and occupations of parents were not significant to yield difference distribution to the level of knowledge. However, the major of study was significant. The students come from natural science major had significantly higher adolescent reproductive health (ARH) knowledge than students from social science major. One of the explanation; it could be because of many subject related to reproductive health available in natural science class, such as biology and chemistry.

Student's ARH knowledge by different source of curriculum is measured by the means score of student's knowledge in different types of curriculum. Result shows there is a significantly different of mean score of student knowledge in some issues that are menstruation, puberty, fertile period, pregnancy, teen pregnancy, abortion, STI's, risk behavior, HIV and AIDS, and contraception in different source of curriculum. The post hoc test (scheffe) was used to examine the specific difference between each pair of the means. The result shows that there is a different between the mean score of student's knowledge they got from intra-curriculum and extra curriculum source. The differences between ARH knowledge of students that they got from intra curriculum and more than one type of curriculum are reliable significant. The mean score of student's knowledge from intra-curriculum and student guidance

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are not significant different. The same as difference between extra-curriculum and student guidance, also extra-curriculum and more than 1 type of curriculum that are not significant.

5.5 Attitude toward ARH Among Students by Demographic Characteristic and School Curriculum

The proportion of more permissiveness related to ARH attitude was higher among male students than female students. School, age, major of study, education of parents (father and mother), and occupations of parents were not significantly contributed to level of permissiveness difference. It is consistent with result of multivariate analysis using ordered logistic regression that shows female students are more likely 3.75 times to have less permissive attitude than male students (p<0.000) . This finding agreed to many studies had been conducted before. In many studies, scholars found that males were more likely to have more permissive sexual attitudes than did females (O-Prasetsawat, P., et all., 2004; Oliver, M. B., et all., 1992; Werner-Wilson, R. J., 1995). Male in most studies are held more recreational attitudes toward sex whereas female are held more traditional value (Werner-Wilson, R. J., 1995).

Other result from multivariate analysis by ordered logistic regression shows that students who have father had attended primary school are 0.04 times less likely to have less permissive attitude compared with students who have father had graduated from bachelor degree and upper. Students who have father had worked as government officer are 0.04 time less likely to have less permissive attitude compared with students who have father had no permanent worked, although it did not reach statistical significance ($p \leq 0.09$).It supports the concept that the socialization of attitude concerning sexuality, learning norm of sexual behavior begin in early life, are influenced by the environment of the home and values of parent.

As for type of curriculum, it does not give an influence on sexual attitude whereas gender did, it could be because the proceed of attitude is very broad not only curriculum, and the most curriculum exist that support ARH education in school that is intra-curriculum, less highlight appropriate content, method and material to build awareness and attitude toward ARH.

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CHAPTER VI
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The majority of students involved in the study were female (60.5 %). The age of students ranged between 15 – 18 years old. Majority of the students werefrom natural science classes (92.5%). The education of their father mostly was graduated from bachelor degree and upper(51,8%) and work as non-government worker (47.0%). Whilst, education of their mother mostly was graduated from senior high school (39.1%) and work as house wife (27.7%).

The most important source of ARH knowledge existed to support adolescent reproductive health education among in school curricula; Intra curriculum, extra-curriculum, and students guidance, was intra-curriculum.

Adolescent reproductive health knowledge of Senior High School students in Semarang is at high level; 57.5% for female students and slightly fewer (49.0%) for male students. However, misconceptions did exist in some ARH knowledge such as fertile period, pregnancy, STI's and HIV transmission.The mean score of student's ARH knowledge is proved statistically different between curriculums; intra-curriculum and extra curriculum, intra curriculum and combined (>1 type of curriculum), whilst intra-curriculum and student guidance are not significantly different.

Attitude toward sexual permissiveness shows most of male students (86.0%) and female students (69.9%) were moderate permissive. Students who hadhigh level of permissiveness were0.0% for female students whilst male students were 2.0 %. As for curriculum, it does not give an influence on sexual attitude whereas gender did (OR = 3.75, p<0.000), so did education of father (primary school, OR = 0.004, p <0.05).

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6.2 Recommendations

1. The findings suggest that improving ARH education among students should be integrated it with intra-curriculum.

2. ARH education in school curriculum needed to add more information about sexual violence, teen pregnancy, abortion, sexual desire, and fertile period.

3. The demand of internet source is rising, it could be as strategic approach for the provider; government (teacher, health educator) or non-government, however, due to the consideration of disadvantage of internet side, it must be considered again by providers. This research does not provide information about particular website source that students favor and affective, it could be the other issue that next research should be address.

4. Management and life skill related to psychological maturity is important to give adolescent balances in emotional and cognitive due to challenging autonomy and independent gain which are can lead to adolescents experiencing high-risk behaviors such as unsafe and early sexual activities, alcohol and drug abuse.

5. The need of providing appropriate sexual and reproductive education is rising nowadays in order to prepare these adolescents against high exposure of sexuality explicit material they had from media since the knowledge and awareness related to risk being pregnant are low, and many misperception did exist.

6. Test of education setting toward ARH (Adolescent reproductive health) need to be conducted globally, in order to assess the appropriate curriculum of ARH.

7. The view of teacher related to ARH education in school need to be addressed.

8. An Attention also should be givento social science' students since they had lower level of knowledge that their natural science counterparts who have more class on biology.

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APPENDIX

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Respondent Number :
Surveyor :

Major: IPA / IPS *

*Mark your answer

QUESTIONNAIRE A
STUDENT CHARACTERISTICS

Answer the following statement with only one answer that best matches the characteristics of you.

NO	STATEMENTS	CATEGORY	ANSWER
	IDENTITY		
1.	How old are you?	….....	
2.	What is your sex?	1. Male 2. Female	
3.	What is your parent education? 3. Father 4. Mother	5. No Education 6. Primary school 7. Secondary school 8. Diploma 9. Bachelor and upper	
4.	What is your parent occupation? a. Father b. Mother	1. No permanent occupation 2. Government officer 3. Farmer 4. Non-government worker 5. Other, mention it……	
5.	What is the most important source information on ARH that you receive in school: (choose only one answer)	1. Intra-curriculum 2. Extra-curriculum 3. Student guidance	

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QUESTIONNAIRE B
SEXUAL AND REPRODUCTIVE HEALTH KNOWLEDGE

Fill out the answers by writing the number of available options in the box and check list below as you know:

No.	Questions	Options	Answer	Information Source (check list)				
				Academic Subject	Student group activity	Outreach LSM	Counseling (class/individual-BK)	Other (Mention it) ....
MENSTRUATION								
What do you know about menstruation :								
1	Menstruation occurs when an egg cell fertilized egg produced by the sperm.	1.Yes 2. No 3. Don't know	☐					
2	Normal menstrual cycle is 28 until 35 days of the next menstrual period.	1.Yes 2. No 3. Don't know	☐					
PUBERTY								
What do you know about the sign of puberty in male?								
3	Wet dream	1.Yes 2. No 3. Don't know	☐					
4	Growth of Adam's Apple	1.Yes 2. No 3. Don't know	☐					

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No.	Questions	Options	Answer	Academic Subject	Student group activity	Outreach LSM	Counseling (class/individual-BK)	Mention it) …… …… ….
5	Increase In Sexual Arousal	1.Yes 2. No 3. Don't know	☐					
6	High desire to get confession about the maturity.	1.Yes 2. No 3. Don't know	☐					
7	Growth Of Facial Hair, Pubic Hair, Underarm Hair, Chest, Legs And Arms	1.Yes 2. No 3. Don't know	☐					
8	Change In Voice	1.Yes 2. No 3. Don't know	☐					
What do you know about the sign of puberty in Female?								
9	Menstruation	1.Yes 2. No 3. Don't know	☐					
10	Growth In Breasts and Hips	1.Yes 2. No 3. Don't know	☐					

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No.	Questions	Options	Answer	Academic Subject	Student group activity	Outreach LSM	Counseling	Mention it) …… …… ….
11	Growth of Pubic and Underarm Hair	1.Yes 2. No 3. Don't know	☐					
12	Increase In Sexual Arousal (Like dressing up, attract the opposite sex).	1.Yes 2. No 3. Don't know	☐					
FERTIL PERIOD								
What Do you Know about Fertil period :								
13	For women who have menstruated, from one menstrual period to the next, are there certain days when she is more likely to become pregnant if she has sexual relations?	1.Yes 2. No 3. Don't know	☐					
14	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods? b. Just before her period begin c. During her period d. Right after her period has ended e. Halfway between	1.Yes 2. No 3. Don't know	a. ☐ b. ☐ c. ☐ d. ☐					
15	Sperm can fertilize an egg at the time of men experiencing fertility.	1.Yes 2. No 3. Don't know	☐					

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SEXUAL DESIRE								
What do you know about sexual desire?								
16	Women no have sexual desire	1.Yes 2. No 3. Don't know	☐					
17	Man and women have the same sexual desire	1.Yes 2. No 3. Don't know	☐					
PREGNANCY								
18	Can a woman become pregnant by having one sexual Intercourse?	1.Yes 2. No 3. Don't know	☐					
19	Can a woman become pregnant by having sexual Intercourse during menstruation period?	1.Yes 2. No 3. Don't know	☐					
20	Can a woman become pregnant by having sexual Intercourse and the partner immediately pull out the penis before releasing the sperm.	1.Yes 2. No 3. Don't know	☐					
21	Can a women prevent the pregnancy by doing the urinate immediately after having sexual intercourse.	1.Yes 2. No 3. Don't know	☐					

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	TEENAGE PREGNANCY							
22	Do you know how to avoid teen age pregnancy? 1. Abstain From Sex 2. Use Contraception Method 3. Rhythm or Periodic Abstinence 4. Withdrawal 5. Herbs	1.Yes 2. No 3. Don't know						
23	What kind of risk of teenage pregnancy : 1. Complication of pregnancy 2. Childbirth 3. Death among female adolescent	1.Yes 2. No 3. Don't know						
	SEXUAL VIOLANCE							
24	What is the context of sexual violance? 1. Rape 2. Rape within marriage 3. War rape 6. Sexual abuse of children 7. Forced marriage 8. Forced abortion 9. Violance act such as genital mutilation 10. Forced prostitution	1.Yes 2. No 3. Don't know						
25	What is the impact of sexual violance : 1. Injury 2. Suicide 3. HIV infection 4. Mental Health 5. Murder 6. Stigmatization	1.Yes 2. No 3. Don't know						

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	ABORTION							
27	What is the risk of abortion : 1. maternal mortality 2. Trauma 3. Physical injury 4. Infertil	1.Yes 2. No 3. Don't know						
28	Is there any different risk level between safe abortion and unsafe abortion?	1.Yes 2. No 3. Don't know						
29	What is the method that include in unsafe abortion? 1. massage 2. Herb 3. Pill 4. Abdominal pressure	1.Yes 2. No 3. Don't know						
30	What is the method that include in safe abortion? 1. Vacuum abortion 2. Using abortifacients/drug 3. Dilatation and curettage	1.Yes 2. No 3. Don't know						

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STI's								
31	Sexually transmitted disease is a disease that attacks the female or male genitals due to sexual intercourse.	1.Yes 2. No 3. Don't know	☐					
	The STI's include : a. HIV/AIDS b. Sifilis c. TBC d. Gonorrhea e. Herpes Genital	1.Yes 2. No 3. Don't know	a. ☐ b. ☐ c. ☐ d. ☐ e. ☐					
32	General Symptoms for STI's are : a. Itching around the genitals b. Redness around the genitals c. Pain around the genitals d. The existence of nodule - pimples around genitals e. Removing the pus from the genitals	1.Yes 2. No 3. Don't know	a. ☐ b. ☐ c. ☐ d. ☐ e. ☐					
STIS's Risk Behaviour :								
33	Do the sexualintercourse with infected person without condom	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					

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No.	Questions	Options	Answer	Academic Subject	Student group activity	Outreach LSM	Counseling	Mention it) …… …… ….
34	Do the sexual intercourse with female sex worker without condom	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
35	Do the sexual intercourse with other people without condom	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
36	Do the sexual intercouse with multiple partner.	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
37	Receive blood donor tranfusion from infected person	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
38	Share the needle among infected person	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
39	Do the oral sex with infected person	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					
40	Do the anal sex with infected person	1.High Risk 2.Low Risk 3.No Risk 4.Don't know	☐					

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HIV AND AIDS								
.41	HIV is a virus that destroy the human immunity which is can transmit to other people	1. Yes 2. No 3. Don't know	☐					
42	HIV can transmit through : a. Blood. b. Sexual Fluid c. Breast Milk d. Mosquito biting e. Shake hand f. Swimming together g. Eat and drink together	1. Yes 2. No 3. Don't know	a. ☐ b. ☐ c. ☐ d ☐ e. ☐ f. ☐ g. ☐					
43	HIV infected person not always shows the symtoms, just like a healthy person	1. Yes 2. No 3. Don't know	☐					
44	HIV is the same with AIDS	1. Yes 2. No 3. Don't know	☐					
45	AIDS is a collection of symptoms that are caused due to reduced immunity due to HIV-infected	1. Yes 2. No 3. Don't know	☐					
46	AIDS symptomps : a. Diarrhea that is not cured b. A cough that does not heal c. Weight loss up to 20% dg d. The body temperature often increases	1. Yes 2. No 3. Don't know	a. ☐ b. ☐ c. ☐					

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No.	Questions	Options	Answer	Academic Subject	Student group activity	Outreach LSM	Counseling	Mention it) …… ……
47	Nowdays, Can the HIV and AIDS be cured?	1. Yes 2. No 3. Don't know						
	CONTRACEPTION							
48	Do you know about this kind of contraception method : a. Pil b.IUD c.Implant d.Foam e.Condom g.Tubektomi h.Vasektomi i.Rhythm j. Coitus interuptus/withrawal	 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No 1.yes 2. No	 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐					

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ATTITUDE OF SEXUAL AND REPRODUCTIVE HEALTH

Choose the Attitude Option according to you by this category :

1. Strongly Disagree
2. Disagree
3. Neither Agree
4. Agree
5. Strongly agree

No	Questions	Attitude Option					
		1	2	3	4	5	
1.	Sexual intercouse should be done after married						
2.	Premarital Sexual intercourse should be done just with permanent partner						
3.	Premarital sexual relations could be done with a commonly friend						
4.	Premarital sexual relationship may be occurred due to adjust after marriage						
5.	Parent perception about premarital sexual intercourse is Agree						
6.	Friends perception about premarital sexual intercourse is Agree						
8	Using a condom is intended to prevent Sexually Transmitted Diseases (STDs) and HIV / AIDS						

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No	Questions	Attitude Option					
		1	2	3	4	5	
9	Using contraception is intended to prevent pregnancy						
10	No need to use a condom during sex with a boyfriend / girlfriend						
11	Condoms should be used for someone who is sexually active before marriage						
12	Parent perception about condom use for someone who is sexually active before marriage is agree						
13.	your friends perception about condom use for someone who is sexually active before marriage is agree						
14.	Cohabitation is an immoral and not accepted by society						
15	Nothing wrong with teenage pregnancy						
16	teenage pregnancy is a risk for the mother health						
17	Do you agree about the regulation to drop out the high school student that pregnance during the study						
18	Sexual violace could be occured to everybody						

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No	Questions	Attitude Option					
		1	2	3	4	5	
20.	Somebody can do induced abortion without any health reason						
21.	Do you agree about the abort the pregnancy among student to continue the study reason						
22.	Do you agree the mother have a right to abort the pregnancy, for example in the case of pregnancy because of rape						

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QUESIONNAIRE C
STUDENT PERCEPTION OF ARHE CURRICULUM

a. Main questions

No.	Questions	Intra-curriculum			Extra-curriculum			Student-Guidance		
		Yes	No	Forget	Yes	No	Forget	Yes	No	Forget
1	Are they any information about this topic on your school : a. Menstruation b. Puberty c. Fertil period d. Sexual desire e. Pregnancy f. Teen pregnancy g. Sexual violance h. Abortion i. STI's j. HIV and AIDS k. Contraception									

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No.	Questions	Intra-curriculum			Extra-curriculum			Student-Guidance		
		Yes	No	Forget	Yes	No	Forget	Yes	No	Forget
3	Which one of this material that most effective for you? In each curriculum (intra-curriculum, extra-curriculum, student guidance); mention the code in list box.									
4	Which one of this material that you like it the most? In each curriculum (intra-curriculum, extra-curriculum, student guidance); mention the code in list box.									
5	Are these method used to deliver the reproductive health information in your school : a. Class teaching b. Group Discussion c. Individual presentation d. Assignment e. Seminars f. Workshop									

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	g. Brainstorming h. Roleplay j. Case-study k. Fieldwork l. Simulation k. Other.....									
6	Which one of this method that most effective for you? In each curriculum (intra-curriculum, extra-curriculum, student guidance); mention the code in list box.									
7	Which one of this method that you like it the most? In each curriculum (intra-curriculum, extra-curriculum, student guidance); mention the code in list box.									

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a. Additional Questions

No	Questions	Answer		Additional Information
INTRACURRICULUM				
8	Do you have any others topic that you get from academic subject that related to reproductive health :	Yes	No	What kind of that other topic / information : (Mention it)
	a. Biology class b. Sport Class c. Religion Class d. Nationality Class e. Other class, ...			....
9	Do you think you still need any other information related reproductive health that the academic subject did not provide ?	Yes	No	Mention it : .....
10	Which one of this method that most effective for you? (mention it)			.....
	Which one of this method that you like it the most? (mention it)			.....

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EXTRACURRICULUM				
11	Are they any student group actuvity / Club in this school that concern to in the spesific reproductive health issue, such us HIV and AIDS, Drug abuse, etc	Yes	No	Mention it :.....
12	Do you join that student activity	Yes	No	Mention it.....
	If yes,			
13.	Are they any student other group actuvity / Club in this school that included the topic of Reproductive Health information	Yes	No	Mention it.....
14	Do you join that student activity	Yes	No	Mention it.....
STUDENT GUIDANCE				
15	Are they any student guidance that give private counselling in the spesific reproductive health issue, such us HIV and AIDS, Drug abuse, etc	Yes	No	
16	Are they any student guidance that give class teaching in the spesific reproductive health issue, such us HIV and AIDS, Drug abuse, etc	Yes	No	

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BIOGRAPHY

NAME	Siti Masfiah
DATE OF BIRTH	June, 16, 1986
PLACE OF BIRTH	Tulungagung, Indonesia
INSTITUTIONS ATTENDED	Degree of Public Health, 2004 - 2008, University of Diponegoro, Indonesia. Master of Arts (Population and Reproductive Health), Institute for Population and Social Research, 2010 – 2011, Mahidol University, Thailand.
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