CHAPTER II

LITERATURE REVIEW

2.1.1. ADOLESCENT

Adolescence is a crucial developmental period characterized by marked physical, emotional and intellectual changes, as well as changes in social roles, relationships and expectations, all of which are important for the development of the individual and provide the foundation for functioning as an adult (Kipke ,1999).

Adolescence (Lat adolescere, (to) grow) is a transitional stage of physical and mental human development that occurs between childhood and adulthood. This transition involves biological (i.e. pubertal), social, and psychological changes, though the biological or physiological ones are the easiest to measure objectively. Historically, puberty has been heavily associated with teenagers and the onset of adolescent development, Wikipedia (Ed.) (2009) (Accessed on 21 April 2009).

Adolescence starts with a period of very rapid physical growth accompanied by the gradual development of reproductive organs, secondary sex characteristics and menarche in girls. Generally, there is no clear-cut beginning or end to adolescence. However, it is conceived to start when the body changes: the first menstruation cycle in girls and the production of reproductive cells in boys. WHO divided the age ranges of 10-19 years into 3 groups (WHO, 1987):

1. Early adolescence: 10-13 years
2. Middle adolescence: 14-16 years
3. Late adolescence: 17-19 years

2.1.2. ADOLESCENT PSYCHOLOGY

Adolescent psychology is associated with notable changes in mood sometimes known as mood swings. Cognitive, emotional and attitudinal changes which are characteristic of adolescence, often take place during this period, and this can be a cause of conflict on one hand and positive personality development on the other. Because the adolescents are experiencing various strong cognitive and physical changes, for the first time in their lives they may start to view their friends, their peer group, as more important and influential than their parents/guardians. Because of peer pressure, they may sometimes indulge in activities not deemed socially acceptable, although this may be more of a social phenomenon than a psychological one Oberlin (Ed.) (Accessed on 21 April 2009).

Adolescent, the transitional stage of development between childhood and adulthood, represents the period of time during which a person experiences a variety of biological changes and encounters a number of emotional issues. The ages which are considered to be part of adolescence vary by culture, and ranges from preteens to nineteen years. According to the World Health Organization (WHO), adolescence covers the period of life between 10 and 19 years of age. Adolescence is often divided by psychologists into three distinct phases: early, mid and late adolescence. Wikipedia, WHO (Ed.) (2009).

Moreover, adolescents reported that they are far happier spending time with similarly aged peers as compared to adults (Csikszentmihalyi, 1977). Consequently, conflict between adolescents and their parents increase at this time as adolescents strive to create a natural separation and sense of independence (Steinberg, 1989).

Young adolescents are particularly susceptible to conforming to the behavior of their peers. Early adolescence is a stage at which the peer group becomes increasingly important, with conformity to peers peaking at 11-13 years (Costanzo & Shaw, 1966). According to Judith Rich Harris's theory of group socialization, children and adolescents are shaped more by their peers than their parents (Harris, 1997).

Adolescents are widely considered by the psychological establishment to be prone to recklessness and risk-taking behaviors, which can lead to substance abuse, car accidents, unsafe sex and youth crime (Lightfoot Cynthia,1997).
There was some evidence that this risk-taking is biologically driven, caused by the social and emotional part of the brain (amygdala) developing faster than the cognitive-control part of the brain (frontal cortex) (Moretz and Preston, 2007).

2.1.3. ADOLESCENT SEXUALITY

Adolescent sexuality refers to sexual feelings, behavior and development in adolescents and is a stage of human sexuality. Sexuality and sexual desire usually begins to intensify along with the onset of puberty. The expression of sexual desire among adolescents (or anyone, for that matter), might be influenced by family values and the culture and religion they have grown up in (or as a backlash to such), social engineering, social control, taboos, and other kinds of social mores, Wikipedia (Ed.) (2009) (Accessed on 21 April 2009).

Each year in the United States, approximately 1 million adolescents, or 10 percent of females 15 to 19 years of age, become pregnant, (United States, 1995-1997). These

pregnancies, which account for 13 percent of all births, usually are unintended and occur outside of marriage (Ventura et al, 1999).

2.1.4. Impact of Teenage Pregnancy

Compared with no pregnant adolescents, teenage mothers are less likely to graduate from high school and are more likely to score below average in language and reading skills (Hofferth et al, 2001). These teenagers also are more likely to have low self-esteem and symptoms of depression (Barnet et al, 1996). Many of them have behavior and substance-abuse problems and lack the resources to fully foster the emotional development and enrichment of their children's lives (Gilchrist et al, 1996).

2.1.5. Children of adolescent mothers

Those are at greater risk of preterm birth, low birth weight, child abuse, neglect, poverty, and death (Jolly et al, 2000). They are more likely to have behavior disorders and difficulties in school, and to engage in substance abuse (Fergusson & Woodward, 1999). The infant mortality rate (i.e., deaths in infants younger than one year per 1,000 live births) is higher in children of teenage mothers than in other children (MacDorman et al, 1999).

2.1.6. Adolescent pregnancy adversely affects communities

Many girls who become pregnant have to leave school. This has long-term implications for them as individuals, their families and communities. Studies have shown that delaying adolescent births could significantly lower population growth rates,

potentially generating broad economic and social benefits, in addition to improving the health of adolescents.

http://www.who.int/making_pregnancy_safer/topics/adolescent_pregnancy/en/print.html (accessed on 9 April 2009).

Although the proportion of high school students who have had sex has declined in the past decade, many adolescents in the United States are engaging in sexual activity at early ages and with multiple partners. Approximately 47% of high school students have had sexual intercourse. Of these, 7.4% report having sex before the age of 13 and 14% have had ≥4 sexual partners (Grunbaum et al, 2004).

2.1.7 Premarital-sex and teenage pregnancy

Premarital sex has given rise to a range of alarming problems. Nowadays sexual activity has become more acceptable among the youth and the society in general.

According to UNESCO data, about one-fifth (22-23%) of world population is adolescent and adolescents give birth to 15 million infant every year. Over 1.5 million unborn babies are aborted each year and over 80 percent of all these abortions are performed on unmarried mothers (UNESCO, 2003).

Premarital sex during adolescent is often unprotected against unwanted pregnancies and sexual transmitted infections, as a consequence, often results in adverse social, economical, and health consequences. According to the previous researches on premarital sex, some have positive attitude and some have negative attitude on premarital sex (WHO, 1997).

2.2. SITUATION OF MIGRANTS IN THAILAND

Over 2 million migrant workers and their family members are currently living in Thailand. The majority of these workers come from the neighboring countries of Myanmar, the Lao People's Democratic Republic and Cambodia. There were at least 120,000 migrants (98% of which were Burmese) who have registered with the Thai authorities in the four tsunami-affected provinces; Phang Nga, Krabi, Phuket and Ranong in 2004 (TCR, 2005).

The relative economic and social stability of Thailand makes it an attractive destination for migrants from neighboring countries in the region. In 2004, The Royal Thai Government registered over 12 million irregular migrants, over 70% of whom from Myanmar; this may reflect only half of the actual number of migrants residing in Thailand. Assessments have identified a number of cultural, economic, and legal factors impeding access of Myanmar migrants to basic health services. Migrants tend to live and work in conditions that lack access to safe water and with poor or non-existent sanitation systems. In addition, they lack access to appropriate health awareness programming and require assistance in improving health seeking behaviors. These factors contribute to the substandard health situation of migrants (ESCAP, 2003).

Most of the illegal migrants from Myanmar enter Thailand by crossing the border between the two countries, which is 2,532 kilometers in length from Chiangrai to Ranong province. Such a porous border makes it easy for migrants to enter the country without being noticed by the border patrol guards. Many of these migrants come and work temporary in Thailand while some stay permanently in this country. The majority of illegal migrants from Myanmar are unskilled workers engaged in fisheries, agriculture,

construction, trades and personal services etc. More than half of the illegal labor migrants from Myanmar came to Thailand via Ranong Province because the border around this area is generally quite safe from military fighting, Furthermore, the geographical nature of the border makes it not so difficult to travel and use as a transit to travel to other locations (Sumalee P, 2001).

In one study on Reproductive health for migrant Burmese women in Ranong fishing community by Chantavanich S; Paul S, it was found that Family planning use was low, despite widespread availability. Many women did not want more children, but were uncertain about the means of pregnancy prevention. Many women rely on abortion to terminate unwanted pregnancies (Chantavanich and Paul, 1999)

Table 1 Delivery in Migrants in Samut Sakorn (2006-2008)

Variables	2006	2007	2008
Total ANC	1613	1517	1947
Total Delivery	1567	2035	2125
Myanmar migrant pregnancy with anemia haematocrit 33%	173	405	351
Myanmar migrant pregnancy < 20 years old	236	238	212
LSCS	204	300	334
Low birth weight	150	199	200
Still Birth in Myanmar migrant pregnancy	5	11	16
Abortion in Myanmar migrant pregnancy	0	0	35

(Samut Sakorn Provincial Health Office Report, 2006- 2008)

Table 2 Pregnancy and delivery cases in Samut Sakorn Province 2006 – 2009

Category	2006	2007	2008	2009
ANC cases	1613	1517	1947	1507
Delivery cases	1567	2035	2125	1517
Blood result with HIV (+)	16	15	35	10
Abortion	0	0	35	313

(Samut Sakorn Provincial Health Office Report, 2006- 2009)

Table 3 Current Myanmar migrant population in Samut Sakorn

1. Mahachai, Amphor Muang, registered migrant (11163), 2008

Age	person	Female	Female Married	Male
15 years	5			
16 years	487			
17 years	105			
18 years	246			
19 years	580			
Total 15-19 yrs	**1423/11163**	**567**	**126/567 (22%)**	**856**
20 years	537			
21 years	1028			
22 years	1752			
23 years	1167			
24 years	568			
Total 20-24 yrs	**5052/11163**	**2304**	**1046/2304 (45%)**	**2746**

2. Amphor Krathum Baen + Muang+ Kokrak = 14604 registered Myanmar migrants
3. Krathum Baen = (15-24 yrs)= 1755, Female 338 out of 683, Married female 70 out of 338, male 1072.

(Samut Sakorn Provincial Health Office Report, 2006-2008.)

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Table 4 Type of delivery among migrant women in Ranong, 2005-2008

Data	*2005*	*2006*	*2007*	*2008*
1.Myanmar migrant pregnancy				
a. Delivery by health officer	1,019	837	1684	1598
b. Delivery by trained TBA	31	69	1	61
c. Delivery by neighbor	5	7	20	25
2. Myanmar migrant pregnancy < 20 years old	**96**	**39**	**147**	**110**
3. Myanmar migrant pregnancy with anemia	0	0	235	398
4. Abortion in Myanmar migrant pregnancy	0	0	75	59

(Source: Ranong Provincial Health Office, 2008.)

In above table, it can also be obviously seen that Myanmar migrant pregnancy rate under 20 years was about 10%, same as in Samut Sakorn (10.8%).

In one cross sectional study "Sexual risk behaviors among Myanmar migrant adolescents in Samut Sakorn Province (Aye, 2003), the aim was to assess the factors related to sexual risk behavior among 188 Myanmar migrant adolescents.

The demographic characteristic of Myanmar migrant adolescents are 1. The majority of adolescents was 20-24 years (64.9%) and followed by 15-19 years (34%). 2. Thirty four percent had finished secondary school, followed by primary and high school (28.7% and 27.7%) respectively. 3. The proportion of single was highest (69.1%), followed by married living with spouse and separated from spouse (22.9% and 4.8%) respectively. 4. More than half of adolescent never return to Myanmar (58%) and stayed in Samut Sakorn more than one year were (88.3%)

The factors which were statistically significant associated with sexual risk behavior were age, sex, alcohol consumption, cigarette smoking and parents' marital status. On the other hand, the factors which were not statistically significant associated with sexual risk behavior were adolescents' education, marital status, occupation, income, duration of stay, living condition.

According to living condition, the majority of the adolescent (34.6%) lived with their relatives, followed by 29.3 percent with their friends, and 20.2 percent with their spouse where as 8.5 percent lived with their parents. The majority of the adolescents (64.4%) were living in rental apartment and followed by 30.9 percent of them lived at free housing provided by employer.

According to sex risk behaviors (watching X, R related movie, reading X.R-rated magazines, alcohol drinking, going to Karaoke, bar, massage room and brothels, having multiple girl/boy friend and ever had sexual with opposite sex), the majority of adolescents had good level of sex risk behaviors (68.6%) but 31.4 percent had bad sex risk behaviors.

According to level of knowledge about sexuality among Myanmar migrant adolescents, the majority had badly (need to improve) level of knowledge (92.6%). Moreover, According to level of attitude towards the safe sex among Myanmar migrant adolescents, the majority had negative attitude (93.6%). The result found that 12.2 percent of the adolescent who were ranged in 20 to 24 years age had higher sexual risk behavior than younger age group 15-19 years (1.5%) ($p < 0.05$).

2.3. Prevention and control measures

Abstinence is considered the best method of contraception for teens, which may be difficult since there are many temptations in the world today. However, at present there is still no definitive best contraception method, but use of one method is better that not using any. These methods are as follows: abstinence, Coitus interruptus, rhythm method, condoms, oral pills, post-coital pills etc. Abstinence: The term "abstinence" means different things to different people. Most faith-based groups generally view abstinence as a commitment to refrain from sex until marriage. Others view abstinence as delaying sex until some future time, for example, when entering into a committed relationship before marriage. Or the term can refer to those who have been sexually active at one time but now have decided to abstain, referred to as "secondary abstinence" or "secondary virginity" (Marindo et al, 2003).

One recent article states, "Abstinence is the greatest sexual health promotion behaviour available to Americans, especially to adolescents" (London: Health Education Authority, 1994).

A recent overview cites several studies of abstinence pro-grammes showing "a sharp reduction in the number of pregnancies" and that "women who were not participants in the course were as much as fifteen times more likely to have begun sex than were the participants" (Stone et al, 1998).

The first randomized controlled trial of an abstinence intervention in the United States showed that participants were less likely to report having sexual intercourse at three, six, and 12 months (though this was statistically significant only at three months.) the authors

concluded that "future research must seek to increase the longevity of these promising effects" (UN Convention, 1989).

Any total abstinence programme will be at a disadvantage when compared with "safer sex" education because abstinence, unlike condom use, runs against the tide of peer pressure. First intercourse is rarely about love; it is often about peer pressure and the need to conform to it. The strongest predictor of frequency of sexual intercourse among teenagers is the influence of peers. Effective promotion of abstinence involves equipping teenagers to resist such pressure (Ingham, 1977).

2.4. Theories related to this study

2.4.1. Social learning theory

Bandura mentioned that "If most of the traditional approaches are not effective in reducing medical problems associated with teenage sexual activity, several theoretical models have been named in the development of effective sex education, particularly" (Bandura, 1977).

Social influence theory or cognitive-behavior theory: Characteristics of Effective Programs to Reduce Adolescent Sexual Risk-Taking Behaviors:

1. Focus on reducing high-risk sexual behaviors.
2. Present accurate, age-appropriate, and culturally sensitive information about the risks associated with unprotected sexual activity, use of contraceptives, and strategies for prevention of pregnancy and sexually transmitted infections.
3. Actively involve all participants.
4. Allow adequate time for interactive exchange.

5. Teach communication skills necessary to avoid social pressures that may influence sexual activity.

6. Apply theoretic models that have proved effective in changing high-risk behaviors, (Kirby, 2001).

Determining effectiveness: Using health professionals in the classroom may be an effective method. This can include role plays which allow teenagers to learn skills (or even tricks) to gain access to and deal successfully with services and consultations. Some programmes have included other novel activities such as group visits to clinics or buying condoms as 'homework. It has been suggested that school sex education can be effective in reducing teenage pregnancies (Dickson et al, 1997).

2.4.2. Information, Motivation and Behavioural Skills (IMB) Model

Within sexual health education programs (including those informed by other models), evidence supports the inclusion of elements of information, motivation and behavioural skills (Fisher & Fisher, 2000).

Information, motivation and behavioural skills are basic concepts that are easily understood by educators and program audiences. The Information, Motivation and Behavioural Skills (IMB) Model is well supported by research demonstrating its efficacy as the foundation for behaviourally effective sexual health promotion interventions. (Albarracin et al, 2005; John et al, 2001; Fisher et al, 2006).

In one study the adolescent pregnancy prevention education program were also based on the IMB model because there is significant empirical evidence which demonstrates the model's effectiveness. Evidence of the IMB model's effectiveness in

the area of sexual risk reduction has been demonstrated in a number of diverse populations including young adult men (Crosby et al, 2008), low income women (Anderson et al, 2006; Belcher et al, 1998) and minority youth in high school settings. Furthermore, a meta-analysis strongly supports the need to include elements of information, motivation and behavioural skills in interventions that target sexual risk behavioural change (Marsh, Johnson & Carey, 2001).

Using the IMB model, sexual health education programs are based on the three essential elements:

I. Information – helps individuals to become better informed and to understand information that is relevant to their sexual health promotion needs and is easily translated into action;

II. Motivation – motivates individuals to use their knowledge and understanding to avoid negative risk behaviours and maintain consistent, healthy practices and confidences; and

III. Behavioural skills – assists individuals to acquire the relevant behavioural skills that will contribute to the reduction of negative outcomes and, in turn, enhance sexual health.

The IMB model can help individuals to reduce risk behaviours, prevent negative sexual health outcomes and guide individuals in enhancing sexual health. Programs based on the three elements of the model provide theory-based learning experiences that can be readily translated into behaviours pertinent to sexual and reproductive health.

The current study is employed on the Information-Motivation-Behavioral Skills (IMB) model of HIV preventive behavior (Fisher & Fisher, 1992, 2000, 2002, 1993;

Fisher, Fisher, & Harman, 2003) as the basis for the development, implementation, and evaluation of an intervention to reduce sexual risk behavior among Myanmar migrant adolescent.

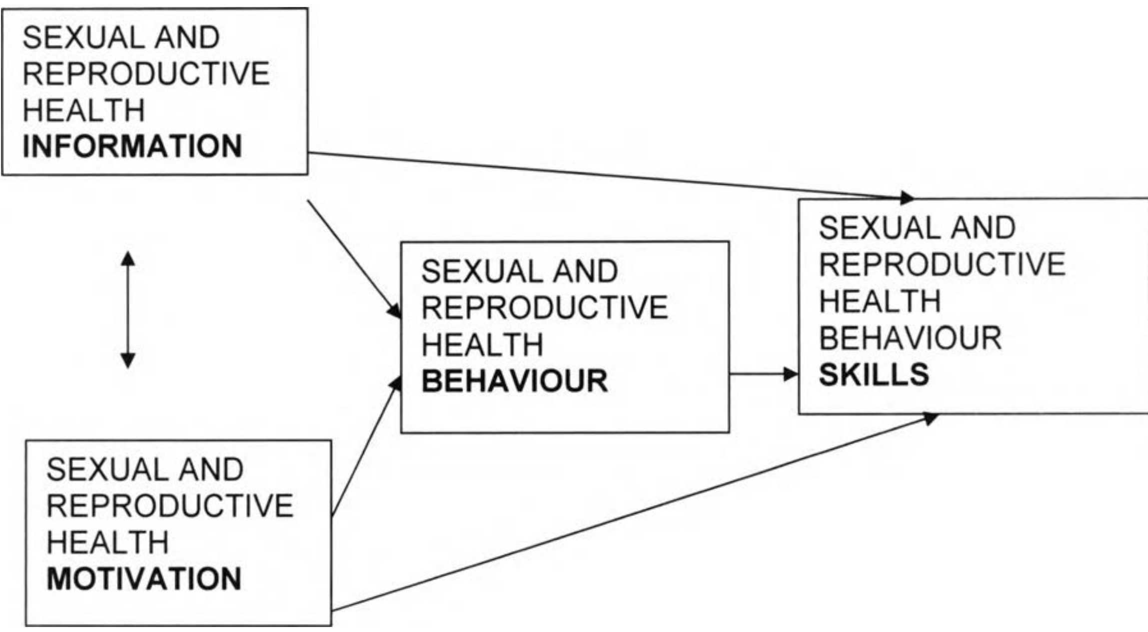

Figure 1 The IMB Model

Note: Adapted from Fisher & Fisher (1998). Understanding and promoting sexual and reproductive health behavior: theory and method. Annual Review of Sex Research, 9, 39-76. This model has been extensively validated in over 15 years of research with diverse populations in cross-cultural settings (Fisher & Fisher, 2000).

2.4.3. Concept of Life skills

Life skills are abilities for adaptive and positive behavior that enable us to deal effectively with the demands and challenges of everyday life (WHO, 1994).

Department of Mental Health, Ministry of Public Health, 1998, defined life skills as capability that composed of knowledge, attitudes and skills that enable us to deal with

problem situations of everyday life and to be well prepared for adaptive in future: for example, sexual, drugs, equality of the gender, family health, media explosion, environment, moral and social problems.

In our study all concerned reproductive health information, motivation, positive health behavior and behavior skills will be disseminated or carried out by training based on like skills and participatory learning.

Conceptualising the role of life skills in health promotion

The model below shows the place of life skills as a link between motivation factors of knowledge (information), attitudes and values, and positive health behavior; and in this way contributing to the primary prevention of health problems as shown in figure (WHO, 1994).

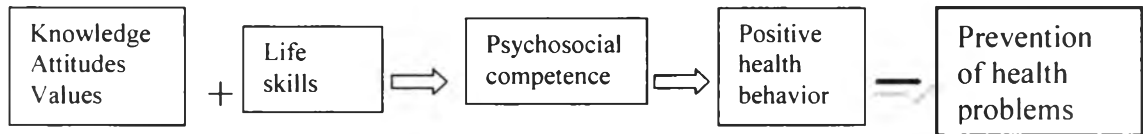

Figure 2 Relationship between life skills to the prevention of health problems.

In summary, life skills enable us to translate knowledge (information), attitudes and values into actual abilities i.e. “What to do and how to do it”. Life skills are abilities that enable us to behave in healthy ways, given the desire to do so and given the scope and opportunity to do so. If the above was placed within a larger more comprehensive framework, there will be many factors that relate to the motivation and ability to behave in positive ways to prevent health problems. These factors include such things as a

supportive environment, cultural and family factors. Life skills contribute to our perceptions of self-efficacy, self-confidence and self-esteem.

Adolescent are at great risk of undesirable behaviors because they are in the period of greatest physical, psychological, emotional and cognitive changes. It is most commonly described as a time of experimental behavior, independence from parents and importance of being a part of a peer group. The key to solve these problems is not only knowledge but also right attitudes and life skill training. (Gazda and Brooks, 1985) They suggested that life skill training helps to protect people from social problems and survive during social changes without adverse effects. In addition to, World Health Organization suggested that life skills are abilities for adaptive and positive behavior that enable us to deal effectively with the demands and challenges of everyday life. There is a core set of skills that are at the heart of skills-based initiatives for the promotion of the health and wellbeing of children and adolescents (WHO, 1994). These are listed below:

1. Decision making
2. Problem solving
3. Creative thinking
4. Critical thinking
5. Effective communication
6. Interpersonal relationship skills
7. Self-awareness
8. Empathy
9. Coping with emotions
10. Coping with stress

Complementary life skills can be paired to reveal 5 main life skills areas, as shown below (WHO, 1994);

1. Critical thinking - creative thinking
2. Decision making - Problem solving
3. Interpersonal relationship skills- Effective communication
4. Self-awareness - Empathy
5. Coping with emotions - Coping with stress

There are much research literatures that indicate that life skills education is needed by young people and should therefore be developed. A nationalwide survey of nearly 47,000 students in grade 6-12 in the USA identified assets and deficits in students' lives which influenced their ability to make positive choices. The results suggested that students had deficits in life skills and the recommendations were that educators should work to enhance the social competencies of young people, including the teaching of friendship making skills, caring skills, assertiveness skills and resistance skills (WHO, 1994). They found that three important factors to correlate with child substance abuse were low self-esteem, inability to discuss feeling and lack of communication skills.

In Thailand, life skills training for children and adolescent has been proceeding since 1994, aiming at building specific life skills for the prevention of some specific problems.

Life skill training was later developed to be part of many subjects and become training to develop generic life skills which are important basic foundations enabling people to deal with problems during their life time and also to protect themselves from risks which are increasing in society. Life skill training has been set as a national

education policy since 1998 and a life skill curriculum for students was developed and training for trainers was arranged. The National Five Years Development Plan during the years 1998-2002 clearly stated that life skill training is an importance strategy in Public Health and Social Development (Department of Mental Health, Ministry of Public Health, 1998).

The 10 life skills have been identified as follows (WHO, 1994):

1. **Self-awareness** refers to adolescents' ability to know self physically, mentally and socially, awareness in self-responsibility, perception of self in respect of weakness, strengths and talents and refers to self-control.
2. **Empathy** refers to adolescent's ability to understand different in situations, status, wants and needs of others, understanding feelings, emotions and behavior of others.
3. **Critical thinking** refers to adolescents' ability; to differentiate among various information, making objective judgments about choice and risk, ability to think thoroughly, ability to think comprehensively and systematically.
4. **Creative thinking** refers to adolescents' ability to be interested and sensitive in observing everything as a whole, eager to know in difficult and complexity, ability to develop capacity to think in creative ways, generate new ideas and being imaginative.
5. **Decision making skills** refers to adolescents' ability to understand the importance of decision making, collect data for decision making, generate alternatives, choose the best choice in decision making, understand the basic steps for decision

making, appraisal of decision making and talking responsibility for self and group decision making.

6. **Problem-solving skill** refers to adolescents' ability to percept problems, analyze and assess cause of problem, find methods for solving problems, select suitable method for problem solving and appraisal of problem solving.
7. **Effective communication skills** refers to adolescents' ability in using basic communication skills such as listening, speaking, reading, writing and acting, evaluate effectiveness and ability in communicating with the others, sharing ideas with family members, friends and others with express feeling without adverse effect on others.
8. **Interpersonal relationship skills** to adolescents' ability to learn value of relationships with family, friends and others, to know the needs, interests, needs of parents, teachers, relations, friends and others, ability to learn how to make friends, ability to adapt for good relations with others and the environment, compromise self-expectations with others, to live and work happily with others.
9. **Coping with emotion** refers to adolescents' ability to understand the basis emotion generating process, the expression of different emotions, understanding how emotion affect behavior and learning to mange emotion properly.
10. **Coping with stress** refers to adolescents' ability to understand the stress formation process, understand the effect of stress on behavior and ability to identify stress and cope in stressful or adverse situations.

There are 10 components of life skills are categorized into 5 pairs in which can be classified into 3 domains according to the learning behavior:

1. Cognitive domain: Critical thinking and creative thinking
2. Affective domain: Self-awareness and empathy
3. Psychomotor domain: Interpersonal relationship skills and effective communication; decision making and problem solving; coping with emotions and stress.

Cognitive domain defined as the factor that shows the individual knows and thinks about health. This domain of behavior is involved with knowledge, memorization, and facts.

Affective domain defined as the mental condition of the individual regarding health, involved with interest, feeling, action, likes/dislikes.

Psychomotor domain defined as the things one does about health. It is the action that could be expressed and observed in a situation. In this study health means adolescent and youth unintended pregnancy prevention and safe sex.

1. Critical thinking

The following list of abilities which comprise critical thinking: (Berger, 1984)

1. The ability to define a problem;
2. The ability to select pertinent information for the solution of a problem:
3. The ability to recognize stated and unstated assumptions;
4. The ability to formulate and select relevant and promising hypothesis;
5. The ability to draw conclusion validly and to judge the validity of inferences

Miller and Babcock, 1992, noted that thinking critically is a practical process, involves an integrated set of thinking abilities and attitudes that include the following:

1. Thinking actively by using our intelligence, knowledge and skills to quest, explore and deal effectively with ourselves, others and life's situation.
2. Carefully exploring situations by asking and trying to answer relevant questions.
3. Thinking for ourselves by carefully examining various ideas and arriving to our own thoughtful conclusions.
4. Viewing situations from different perspectives to develop an in-depth comprehensive understanding.
5. Discussing ideas in an organized way to exchange and explore ideas with others.

WHO suggested that critical thinking is an ability to analyze information and experiences in an objective manner. Critical thinking can contribute to health by helping us to recognize and assess the factors that influence attitudes and behavior, such as peer pressure influences (WHO, 1994).

In this study, critical thinking is ability to differentiate among various informations, making objective judgements about choice and risk, ability to think thoroughly, comprehensively and systematically related to adolescent pregnancy and prevention of unintended pregnancy.

2. Creative thinking

Creativity is a combination of flexibility, originality and sensitivity to ideas or problems which enables the thinker to break away from the usual sequences of thought into different and productive sequences, the result of which gives satisfaction to him and

possibly to others (Jones, 1972). Critical thinking is the product of reason while creative thinking involves reasoning and imagination.

In this study, creative thinking is the ability to develop capacity to think in creative ways, generate new ideas and be imaginative for being prevented from unintended pregnancy.

3. Self-awareness

Self-awareness means simply that a person takes the self to be an object of attention. In addition to this, self-awareness includes our recognition of ourselves, our character, strengths, weaknesses, desires and dislikes. Developing self-awareness can help us to recognize when we are stressed or feel under pressure (WHO, 1994).

In this study, self-awareness is learning to know about physically, mentally and socially awareness in self responsibility and perception of self in respect of weakness, strengths and talents which refers to self control from preventing of unintended pregnancy.

4. Empathy: Empathy was derived from Greek to translate the german word Einfuhlung, meaning "feeling with". To empathize with someone is to feel as that person feels, to experience what the other is experiencing from that person's point of view without losing your own identity (Devito, 1992).

Empathy can be defined in two different ways. One is emotional empathy; is an emotional response to the perceived emotional experiences of others. This type of empathy is usually gained from past associations with that particular emotion. The other

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is predictive empathy; is the imaginative taking of role of the other by accurately assessing and predicting the person's thoughts, feeling and actions (Klemer et al., 1970).

In this study, empathy means the ability understand different situations, status, wants and needs of others, understanding and sharing feeling, emotion and behavior of others.

5. Decision making

WHO suggested that decision making helps us to deal constructively with decisions about our lives. This can have consequences for health if young people actively make decisions about their actions in relation to health by assessing the different options and what effects different decisions may have (WHO, 1994).

Hamrick et al., also mentioned that improving health behavior through decision making approaches is both legitimate and an important goal of health education (Hamrick et al., 1980). The process used in the decision making model has six phases are:

1. Defining the problem (Identify and analyze)
2. Identifying possible solution (identify action alternatives)
3. Gathering, validating, processing information and clarifying values
4. Making a decision
5. Trying out the decision
6. Evaluating the decision

The dynamics of an effective group are as follow (Schermerhorn, 1991):

1. Members create clear group goals that are relevant to their needs.

2. Members communicate their ideas and feeling accurately and clearly.
3. All members actively participate and provide leadership so that it is distributed among members.
4. Members influence each other on the basis of expertise, ability and access to information, not on authority; therefore, power is approximately equal throughout the group.
5. Members flexibly match decision-making procedures with the needs of the situation.
6. Members engage in controversy by disagreeing and challenging each other's conclusions and reasoning, thus promoting creative decision making and problem solving.
7. Members face their conflicts and resolve them in constructive ways.

In this study, decision making skill refers to the ability to collect data for decision making, generate alternatives, and choose the best choice in decision making to prevent self and others, preventing from unintended pregnancy.

6. Problem solving

Kieren et al., 1979, reported that problem-solving process has seven stages as follows: "A problem, therefore, is a situation where the outcome is in doubt"

1. Recognition of a problem: specified a goal
2. Involvement: Do the person(s) want to do anything about the situation they have defined as problem? How much they are motivated to do something about the situation they have defined as problematic?

3. Generation of alternatives: It has been discovered that the more flexible and empathic the person(s) seeking solution, the greater the range of alternatives generated.
4. Assessment of alternatives: Available options, opportunity, personal behavior standards and values, interpersonal and material resources
5. Selection of the best alternative: The best alternative is the one that maximizes benefits at the least cost.
6. Action: The selected course of action is implemented.
7. Evaluation: How well the problem has been solved? How adequately the goal was met?

WHO also suggested that step to solutions and four questions for problem solvers as follow (WHO, 1994):

1. Defining the problem: What happened? What is the problem?
2. Expression of feelings about the problem: How do you feel about it?
3. Creating options for the solution of the problem: What would you like to happen?
4. Setting goals for a practical course of the different options: What could you do?

In this study, problem-solving skill refers to perception of problems, ability to analyze and assess cause of problem, find methods for solving problems, select suitable method for problem solving related to unintended pregnancy prevention.

7. Effective Communication

Communication is defined as an interpersonal activity involving the transmission of messages by a source to a receiver for the purpose of influencing the receiver's behavior. (60). Communication refers to the process of exchanging feeling, desires,

needs, information and opinions. Everyone can learn the basics of interpersonal communication and developing communication skills as follows (Phillips GM & Wood JT, 1983):

1. Effective communication depends on the recognition that it is more useful to plan your speech than to depend on luck.
2. It is goal-centered.
3. It requires that you are able to understand the requirements of various social situations and adapt to them.
4. It also requires that you understand what others are seeking and that you adapt your request to it.
5. It requires that you make others to understand your goals and how you can assist them in return.
6. It involves skill in identifying your own success.

The skills of sending messages effectively include the following (Johnson DW, 1986):

1. Your messages by using first person singular pronouns.
2. Make your messages complete and specific.
3. Make your verbal and nonverbal messages congruent.
4. Be redundant.
5. Ask for feedback concerning the way your messages are being received.
6. Describe your feelings by name, action, or figure of speech.
7. Describe other people's behavior for without evaluating or interpreting.

One of the most important communication skills is the communication skills in refusing offers or saying "No" when ask to conduct risk behaviors for example to go to sleep together at night, drink alcohol and consume drugs. It has been found that most teenagers who practiced unwanted behavioral problems repeatedly because they could not refuse the offers as they feared to break their good relationship with their friends. Thus, after carefully thought, predicted and decided how to refuse the offers these teenagers were expected to have skills in negotiating or saying "No" which protect their rights and prevented them from conducting risk behaviors. It was their own rights to refuse the unwanted offers which other people must respect these rights since they were individual different. The practice of refusing offered skills can be done by 3 following factors (Ministry of Public Health, 1998):

1. Expressing one's own feeling together with reasons.
2. Expressing one's own refusal which shows that his/her own right to disagree with something.
3. Asking other people's opinions and thanking them when they accept the refusal gently, caring other people's feeling in order to prolong their good relationship.

If the refusal is ignored and the listener still insists on his/her persuasion or insults, the following processes may be introduced:

1. Direct refusal is used for their own rights
2. Negotiation of better activities to substitute
3. Stall the time to change the listener's mind.

In this study, effective communication skills refers to basic communication skills such as listening, speaking, reading, writing and acting, evaluate effectiveness and ability

to communicate with others, share ideas with friends, facilitate others to help them from preventing unintended pregnancy.

8. Interpersonal relationship skills

In this study, interpersonal relationship skills refers to the ability to learn the value of relationships with friends and others; to know the needs, interests, wants of relations, friends and others; to make friends; the ability to adapt for good relationships with others and environment; compromise self-expectations with others, to live and work happily with others to reach the goal i.e. prevention from getting unintended pregnancy.

2.4.4. Principles of Participatory Learning

Participatory learning developed knowledge, attitude, and practice efficiently. Major principle of participatory learning includes Experiential Learning and Group Process.

Definition of experiential learning

Johnson stated that experiential learning refers to the concept of action theory, which is based on the experience of learners adjusted to make new learning more effective, with three learning objectives, as follows:

1. The learner's cognitive structures are altered;
2. The learner's attitudes are modified; and
3. The learner's behavioral skills are expanded. (Johnson, 1997)

Components of experiential learning

Kolb proposed that experiential learning consists of 4 components, as follows:

1. Experience: the teacher helps the learners bring their own experience to develop the organization of knowledge.

2. Reflection and Discussion: the teacher helps the learners to have opportunities in expressing their ideas, so that those learners exchange opinions and learn from each other.
3. Understanding and Conceptualization: the learners understand and this will lead them to conceptualization. This may happen in different ways, for example, the learner initiates the idea, which would then be fleshed out by the teacher, or the teacher initiates and the learners flesh out to reach conceptualization.
4. Experiment/Application: the learners use the newly offered messages in different situation until they become the learners' own way of practice. (David Kolb, 1991)

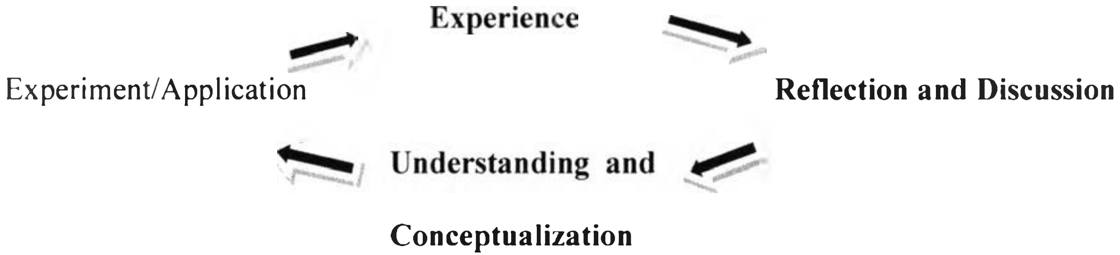

Figure 3 Four components of learning through experience in participatory learning

Group Process: Therefore, learning through group process is also important basic learning that provides learners with maximum participation and maximum performance, as shown in Figure .

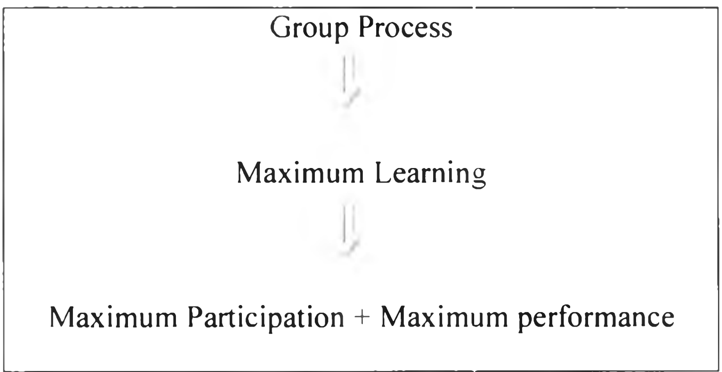

Figure 4 The group process components (David Kolb, 1991)

Teaching principles for participatory learning

Teaching that used the principles of participatory learning is assisted in constructing with all other basic skills and is the co-component of all other life skill components. These components are creative thinking and critical thinking. The characteristics of knowledge teaching which uses principle of participatory learning are shown in table (David A Kolb, 1991).

Table 5 Characteristics of Teaching Knowledge

Component of PL	Characteristics of Teaching Knowledge
Experience	Asking questions based on previous experience
Reflection of ideas and discussion	Learners' exchange information to create a knowledge base for assigned tasks
Conceptualization	Lecturing by the teacher or media, group work report, and large group discussion of outcome derived from small group discussion
Application of concepts	Learners' participation in activities to apply the knowledge gained, such as writing slogan, report, or composition.

Teaching principle for attitude in participatory learning

Teaching attitude has two components: building feeling related to a specific attitude, and systematizing ideas and beliefs. When relating these 2 components with the general principles of participatory learning, the teaching must have both components, which are the feeling and belief perspectives, as follows (David A Kolb, 1991):

Table 6 Teaching principles for attitude participatory learning.

Steps and Activities in Teaching Attitude	
1. Creating the feeling	2. Systematizing ideas and beliefs
- media or activities to create the feeling	- discussion on the arguments
- reveal oneself	- conclusion
	- application of concepts

Table 7 Components of participatory learning (PL) and characteristics of teaching attitude

Component of PL	Characteristics of Teaching Attitude
Creating the feeling	
Experience	Media or activities to construct the feeling
Large group	are used to make the learners feel involved in any specific, e.g., audio/video, games
Arrange the belief/thinking system	Discussion is done to raise questions for
Reflection of ideas and discussion	discussion in the group, to elicit and manage the belief/thinking of members in the group
Conceptualization	As a conclusion, let the groups present their conclusion reports and conclude the conceptualization together in large group
Experiment and Application	Learners participate in activities to apply the attitude gained, such as writing a slogan, report, or composition.

Teaching principle for skill participatory learning

Designing different group activities requires clarity in the skills to be developed, and the practical steps should be clearly stated. In addition, group members need a chance for actual practice in similar situations. In general, new skills are abilities that persons have never had, but they can learn and practice these skills until they achieve expertise. Therefore, designing group activities consists of two steps: (1) "Seeing" which enables learners to learn that these skills are important and how they can practice these skills and (2) "Doing" which provides them with an opportunity to actually practice what they have learned about these skills in the first step (David A Kolb, 1991).

Table 8 Teaching principles for skill participatory learning

Steps and Activities in Teaching skill			
1. Experiencing		**2. Doing**	
3.2.	Lecture and discuss	3.6.	Practice
3.3.	Case study, simulated situation	3.7.	Evaluation
3.4.	Demonstration		
3.5.	Analyze the case study/simulated situation/demonstration		

Table 9 Components of participatory learning and characteristics of teaching skill

Component of PL	Characteristics of Teaching Skill
Understanding Step Conceptualization Large group	Preceding lecture to provide necessary information or knowledge in a short time
Experience Large group	Teacher presents case study, set-up situation about skill teaching
Reflection of ideas and discussion	Analysis: case study, set-up situation
Acting Step Application of ideas Buzz group	Practicing: practice the skill step-by-step or until the components of the specified skill have been completed by role-play or rehearsal-play to achieve expertise.
Conceptualization	Evaluation of the practice: allow the group members to evaluate among them and the teacher will evaluate in the large group.

2.5. Related Studies

A recent meta-analysis found that school sex education programmes improved sexual knowledge (Song et al, 2000). They compared school-based abstinence-only programs with those including contraceptive information (abstinence-plus) to determine which has the greatest impact on teen pregnancy. The United States has one of the highest rates of teen pregnancy in the industrialized world. Programs aimed at reducing the rate of teen pregnancy include a myriad of approaches including encouraging

abstinence, providing education about birth control, promoting community service activities, and teaching skills to cope with peer pressure. They systematically reviewed all published randomized controlled trials of secondary-school-based teen pregnancy prevention programs in the United States that used sexual behavior, contraceptive knowledge, contraceptive use, and pregnancy rates as outcomes (Bennett & Assefi , 2005). A recent study of over 400 adolescents clearly shown that where parents, especially mothers, were the major source of sexual information, their adolescents' sexual behavior was less risky. Those adolescents who reported discussing a greater number of sex based topics with their mothers were more likely to express conservative attitudes about sex and were less likely to have engaged in it (Family bulletin Oxford, 1999).

In one quasi-experimental study, "The effect of culturally-sensitive comprehensive sex education programme among Thai secondary school students", their outcome measures included sexual behavior, condom use, intention to refuse sex, intention to use condoms, and knowledge regarding sexually transmitted infections/Human immunodeficiency virus/acquired immunodeficiency syndrome and pregnancy. They found that knowledge on pregnancy in intervention group was statistically significant higher than control group, p=0.03, Mean ± SD, 8.67 ± 2.01 and 5.73 ± 2.35 respectively (Thato et al, 2008). In previous quantitative cross sectional study the factors which were statistically significant associated with sexual risk behavior were age, sex, alcohol consumption, cigarette smoking and parents' marital status. On the other hand, the factors which were not statistically significant associated with sexual risk behavior were adolescents' education, marital status, occupation, income, duration of stay, living condition (Aye, 2003).

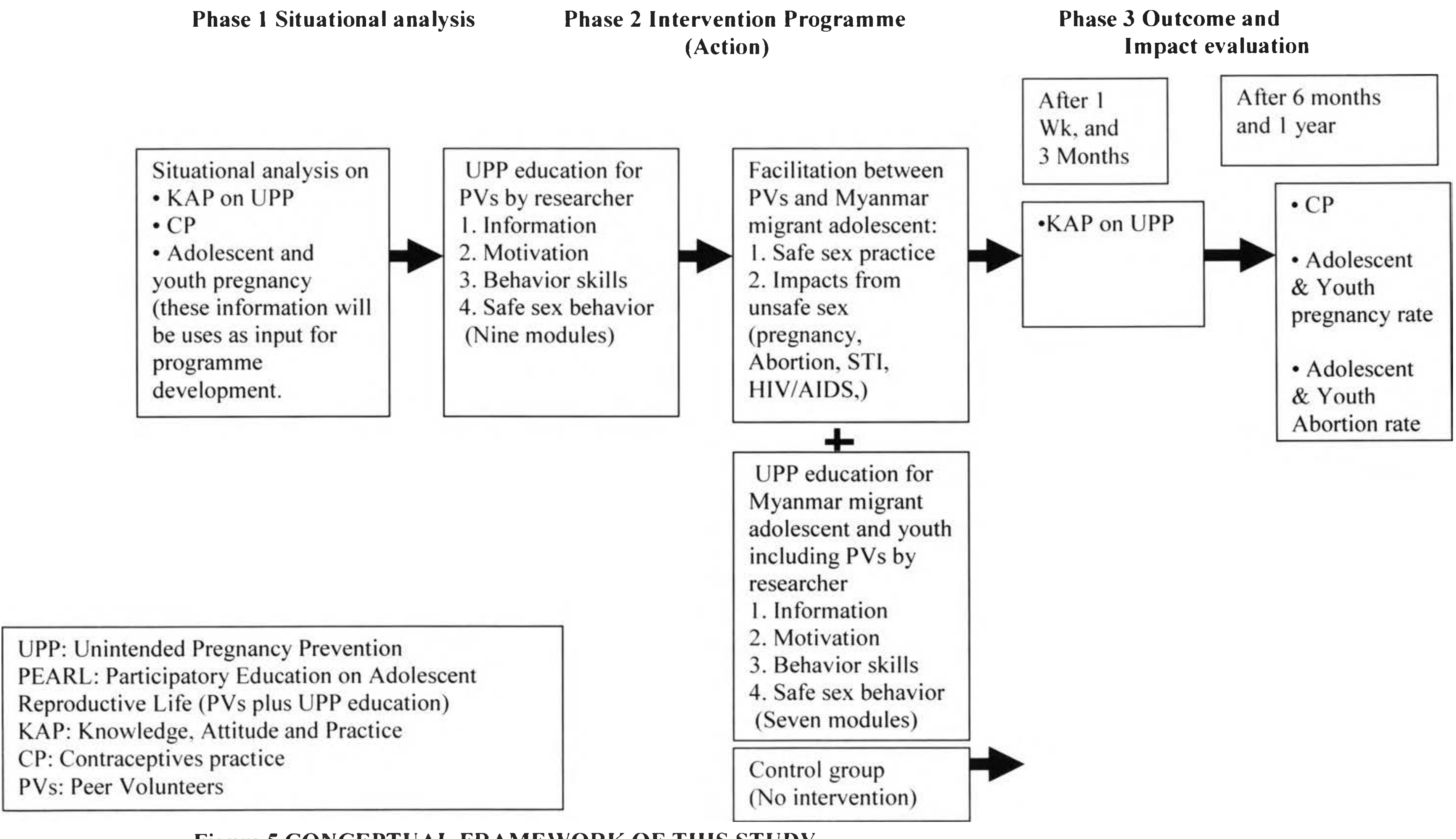

Figure 5 CONCEPTUAL FRAMEWORK OF THIS STUDY

Table 10. 3 Phases: 1. Situation Analysis; **2. Intervention (Action); 3**. Outcomes/ Impact Analysis (Monitoring and Evaluation)
Intervention to reduce Unintended Adolescent & Youth pregnancy among Myanmar migrant in Samut Sakorn, THAILAND

Phase: 1. Situation Analysis	Phase 2. Intervention	Phase 3. Outcome/Impact analysis
↓ Contraceptive practice (CP) **↑ Unwanted pregnancy in Youth** **↑ Unsafe abortion in adol.** **↑ unsafe sex practice** ▼ **Knowledge on Adol Preg./CP** **Motivation on Adol Preg./CP** **Sex behavior on CP**	* on adolescent sexual risk behaviors (PEARL program on Unintended Pregnancy Prevention Education) **Step I**; Taught course to 6 Peer Volunteers (1 in 10 participants in intervention group I) , 3 hours workshops/day for 9 days (Curriculum is developed, 9 modules) **Step II** .7 workshops, one/week, 3 hour duration, in Intervention group I and II separately. 1 hour lecture 2 hours role play and group discussion 1 hours exercise such as badminton, bamboo ball Excursion to hospital and antenatal care unit. (separate each group) (Curriculum is developed, 7 modules) **Step III**. Close facilitation by PVs especially target on high risk persons and index case.	**↑ Knowledge (K)** **↑ Attitude (A)** **↑ Contraceptive practice (immediate outcome analysis)** **After 6 months (Impact analysis)** **↓ Unwanted pregnancy in Adolescent & Youth** **↓ Unsafe abortion in Adolescent & Youth** **Adolescent= Age 15-19 yrs** **Youth = Age 20-24 years)**

(Unintended Adolescent & Youth Pregnancy Prevention), Model development, contact specific.

Table 11 (Unintended Adolescent & Youth Pregnancy Prevention), Model development, contact specific (A)

STUDY GROUP 1	STUDY GROUP 2	CONTROL GROUP
Pretest Assessment	Pretest Assessment	Pretest Assessment
↓	↓	↓
"PEARL" Facilitation by PVs (Peer Volunteers) plus (Unintended Pregnancy Prevention Education) Participatory Action Orientated Training	Only (Unintended Pregnancy Prevention Education) Participatory Action Orientated Training	No Intervention (routine service)
↓	↓	↓
Post-test Assessment Immediate outcome Impact after 6 months	Post-test Assessment Immediate outcome Impact after 6 months	Post-test Assessment Immediate outcome

Table 12 (Unintended Adolescent and Youth pregnancy prevention), Model development, contact specific (B)

	Evaluation phase
Experimental Group I *n= 33*	UPP education (7 modules, 1 module/day) Plus Facilitation by PVs Before: -KAP, -CP practice, - Youth pregnancy, -Abortion After 1 wk: Immediate — K, A, P 3 months: Intermediate — K, A, P 6 months: Impact assessment — - CP practice, - Pregnancy rate, - Abortion rate
Experimental Group II *n= 33*	UPP education (7 modules, 1 module/day) Before: -KAP, -CP practice, - Youth pregnancy, -Abortion After 1 wk: Immediate — K, A, P 3 months: Intermediate — K, A, P 6 months: Impact assessment — - CP practice, - Pregnancy rate, - Abortion rate
Control Group *n = 33*	No intervention (routine service) (routine service) Provide PEARL training manual guide Before: -KAP, -CP practice , Abortion, - Youth pregnancy After 1 wk: -KAP 3 months: KAP 6 months: - CP practice, - Pregnancy rate, - Abortion rate

K: Knowledge; A: Attitude: P: Practices: CP: contraceptive practice: UPP: Unintended Pregnancy Prevention