

**PERFORMANCE OF PEER EDUCATORS
ON HIV/AIDS PREVENTION
AMONG HIGH SCHOOL STUDENTS
IN BANGKOK METROPOLITAN, THAILAND**



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THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF PRIMARY HEALTH CARE MANAGEMENT
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Thesis
entitled
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ABSTRACT

A cross-sectional descriptive study was conducted to study the performance of peer educators on HIV/AIDS prevention among high school students in Bangkok, Thailand. The aims of the research were to describe the independent variables including predisposing factors, enabling factors, reinforcing factors and performance of peer educators, and to identify the associations between the independent variables and performance of peer educators. There were 157 students in this study and data were collected from January to February, 2009.

50.96% of the peer educators had a high performance for peer education on HIV/AIDS prevention. More than 70% of them performed all kinds of roles for HIV/AIDS prevention. The role which they performed the most was to facilitate students to think about their ideas and attitudes (85.99%). 66.88% of them had a moderate knowledge of HIV/AIDS prevention and only 8.92% had a poor knowledge. 63.06% had a high level of perception concerning peer education. 77.71% had a high level of self-efficacy. The majority of them (80.89%) had a high level of internal motivation. A training course was the most available and accessible resource for the peer educators (68.79% and 61.78% respectively). Among those who attended the training course, nearly 70% had a chance to attend the training course two times or more. 54.14% of them received moderate social support and only 9.55% received poor social support. Informational support was relatively better for them, and they received relatively more support from other peer educators while they received relatively less support from family.

The performance of peer educators was found to have significant associations with duration of working as a peer educator, the number of training courses attended and social support. The longer the peer educators had worked, the more they performed their roles. It was likely that the more training they had attended, the more they performed their roles. The more support they received, the more they performed their roles.

It is recommended to strategically start selecting and training peer educators beginning at the secondary level. In addition, more training should be provided to them and social support for them should be strengthened.

KEY WORDS : PERFORMANCE / PEER EDUCATORS /
HIV/AIDS PREVENTION

125 pages.

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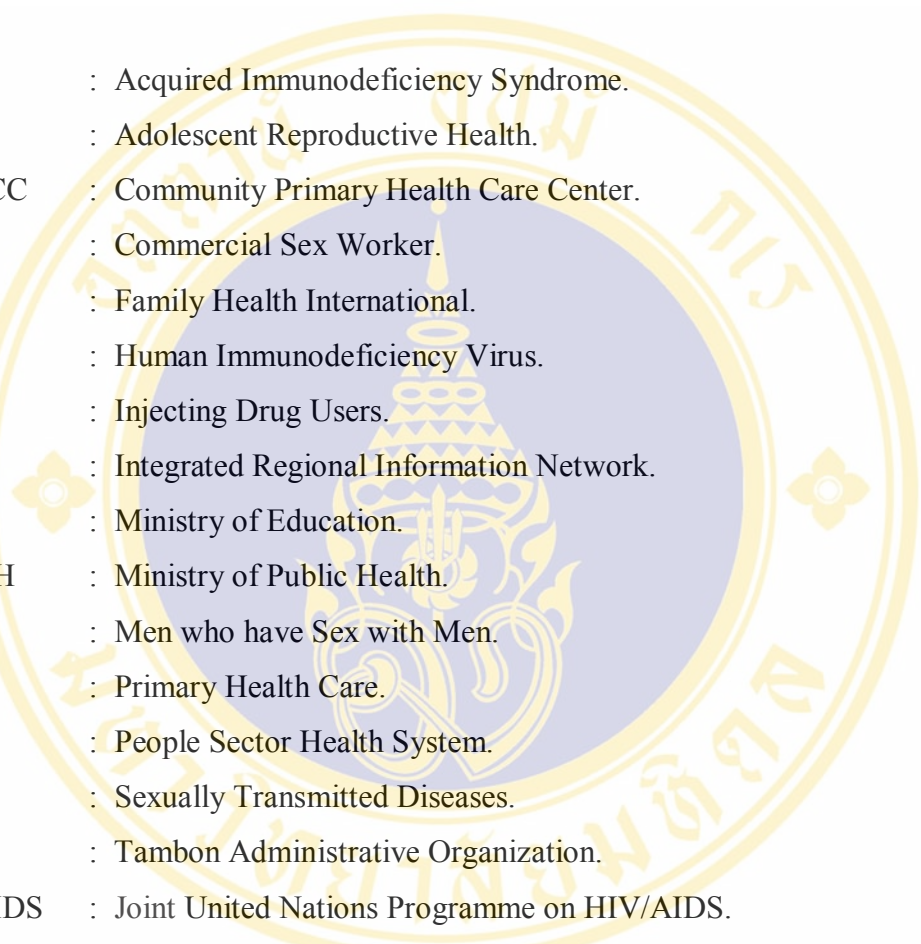
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LIST OF ABBREVIATIONS



AIDS	: Acquired Immunodeficiency Syndrome.
ARH	: Adolescent Reproductive Health.
CPHCC	: Community Primary Health Care Center.
CSW	: Commercial Sex Worker.
FHI	: Family Health International.
HIV	: Human Immunodeficiency Virus.
IDU	: Injecting Drug Users.
IRIN	: Integrated Regional Information Network.
MOE	: Ministry of Education.
MOPH	: Ministry of Public Health.
MSM	: Men who have Sex with Men.
PHC	: Primary Health Care.
PSHS	: People Sector Health System.
STD	: Sexually Transmitted Diseases.
TAO	: Tambon Administrative Organization.
UNAIDS	: Joint United Nations Programme on HIV/AIDS.
UNDP	: United Nations Development Programme.
UNESCO	: United Nations Educational, Scientific and Cultural Organization.
UNFPA	: United Nations Population Fund.
UNGASS	: United Nations General Assembly Special Session on HIV/AIDS.
UNOCHA	: United Nations Office for the Coordination of Humanitarian Affairs.
VCT	: Voluntary Counseling and Testing.
VHV	: Village Health Volunteer.
WHO	: World Health Organization.

CHAPTER I

INTRODUCTION

1.1 Rationale and justification of the research

Since the first report of AIDS in 1981 in the United States, HIV/AIDS has become pandemic (1). In 2007, the number of people living with HIV was estimated to be 33.2 million, the number of new HIV infections to be 2.5 million, and the number of AIDS deaths to be 2.1 million. Every day, over 6,800 persons became infected with HIV and over 5,700 persons died from AIDS in 2007, mainly because of inadequate access to HIV prevention and treatment services. The HIV/AIDS pandemic remains the most serious infectious disease in the world (2).

HIV/AIDS is not only epidemiologically the world's most serious infectious disease depriving more than 2 million persons of their lives yearly, but also leads to social and economic problems such as stigma and discrimination, unemployment and loss of income, inability to afford to educate children, and creation of many orphans. In this way, therefore, HIV/AIDS has a massive negative impact on people's lifestyles, not only those of suffers but also the lifestyles of those associated with them. As a result of HIV/AIDS infections, many people worldwide find themselves in desperate dire strait.

Young people remain at the center of the HIV/AIDS pandemic in terms of infection rates, vulnerability, impact and potential for changing the HIV/AIDS pandemic. Of the over 1 billion young people in the world, 5.4 million were estimated to be infected with HIV at the end of 2007. About 40 percent of new HIV infections afflict young people aged 15 to 24 years (3). This age group also has the highest rate of STDs, excluding HIV/AIDS, over 500,000 infections daily.

In Thailand, some studies have shown an increasing proportion of adolescents experience sexual intercourse, and a decreasing age at sexual debut (4). The percentage of young males and females aged 15 to 24 who have had sexual intercourse before the age of 15 were 6.38 percent in 2004, 12.10 percent in 2006 and 13.40 percent in 2008 (5). Thai adolescents, therefore, are nowadays increasingly at risk of becoming infected with HIV.

Concerning HIV/AIDS cases by regions of Thailand, the North is the most affected region with 22.20 per 100,000 population in 2003, followed by the Central region with 19.60, the South with 12.12, and the Northeast with 6.96. Even though the rates have been decreasing, this order has never changed (6).

Education about HIV/AIDS is one of the most important means of preventing new HIV infections. However, extensive sex education program, including HIV/AIDS prevention over many years, have not been effective to convert risky behavior into preventive behavior so as to reduce the rate of HIV infection. In other words, traditional sex education which provides only information does not affect people's behavior to prevent HIV infections (7-8).

Throughout the world, peer education has been widely adopted in the response to the HIV/AIDS pandemic since the effectiveness of peer education was first identified. Peer education is defined as a program designed to train selected members who belong to a particular societal group based on age, grade or status to effect change in other members of that same group. Peer education is then further designed as a program by peer educators fulfill their roles (9).

Arguably, the most important elements of an effective peer education program is the peer educators who are selected and trained to convey messages to, and effect changes in their peers. It has been established that peer educators, particularly their retention and work performance, is an important link between a peer education program's effectiveness and its sustainability. Most are usually recruited on a voluntary basis, without salary or adequate compensation. Accordingly, it is difficult

to keep their motivation to perform well (10), and it is important to know and understand the performance of peer educators and its related factors.

Nevertheless, few studies have investigated the performance of peer educators although extensive research has been conducted to ascertain the effectiveness of different peer education approaches. The present research concerning the performance of peer educators, therefore, is intended to complement previous research and enable more effective peer education programs to be implemented and peer educators to be supported more efficiently and effectively.

In Thailand, Thai adolescents are most at risk of becoming infected with HIV/AIDS. The Central Thailand region, including Bangkok, the largest city in Thailand and its capital has the second highest HIV/AIDS infection rate. It also exerts a lot of influence on Thai adolescents' risk behaviors regarding HIV/AIDS infection. Therefore, this research focuses on the performance of peer educators in HIV/AIDS prevention programs for high school students in Bangkok. It targets only one group providing peer education about HIV/AIDS prevention for high school students in Bangkok.

1.2 Research question

What are the performances of peer educators on HIV/AIDS prevention and its related factors among high school students in Bangkok, Thailand?

1.3 Research objective

1.3.1 General objective

To study performance of peer educators on HIV/AIDS prevention and its related factors among high school students in Bangkok, Thailand.

1.3.2 Specific objectives

- 1) To describe performance of peer educators with regard to HIV/AIDS prevention
- 2) To describe the independent variables including predisposing factors, enabling factors, and reinforcing factor
- 3) To identify the associations between the independent variables and performance of peer educators

1.4 Conceptual framework

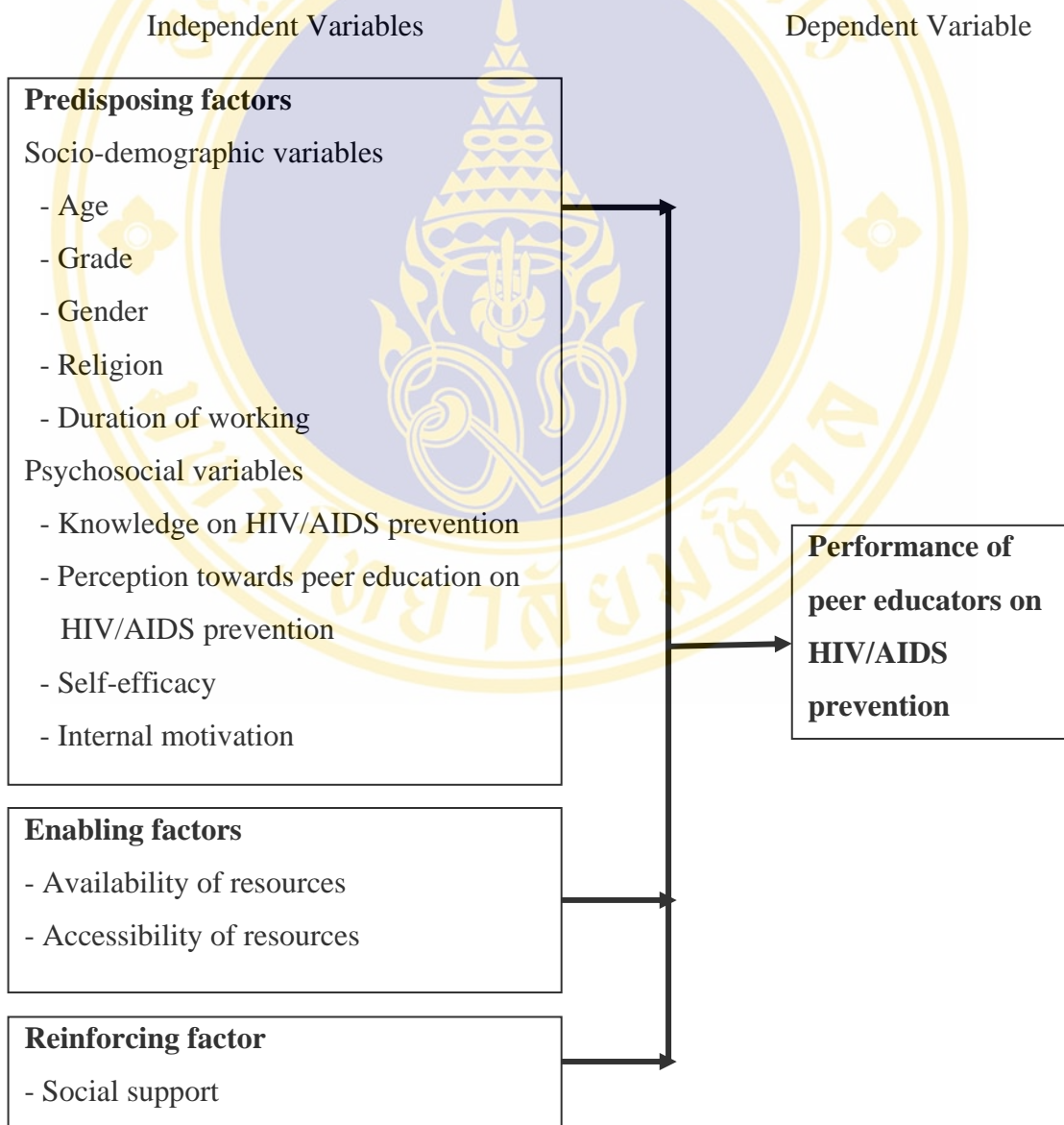


Figure 1 Conceptual framework

1.5 Operational definition

1.5.1 Dependent variable

Performance of peer educators : Performance of peer educators refers to peer educators' performed roles related to HIV/AIDS prevention within their schools. Their roles are mainly intended to help the students define their concerns, seek solutions, and change their behaviors regarding HIV/AIDS prevention. To achieve this aim, their roles are defined :

- 1) To share information with the students
- 2) To increase awareness of HIV/AIDS prevention;
- 3) To facilitate the students to think about their ideas and attitudes;
- 4) To assist the students to access condoms, life building skills, and STI and VCT services;
- 5) To serve as positive role models for HIV/AIDS prevention;
- 6) To introduce the students to others who can answer questions unable to be answered by peer educators.

1.5.2 Independents variables

1.5.2.1 Predisposing factors : Socio-demographic variables

Age : refers to the peer educators in this research aged from 15 to 18 years old

Grade : refers to the peer educators in this research from 10th to 12th grade

Religion : refers to the peer educators in this research belonging to the religions, namely: Buddhism, Christianity, Islam and other religions.

Duration of working : refers to length of time during which the peer educators have worked as peer educators.

1.5.2.2 Predisposing factors ; psychosocial variables

Knowledge on HIV/AIDS prevention : refers to the peer educators' knowledge and understanding about HIV/AIDS prevention, including the nature of HIV, transmission and risk of HIV, prevention of HIV infection and nature of AIDS.

Perception towards peer education : refers to the peer educators' beliefs or opinions about performing peer education in terms of benefits of and barriers to peer education.

Self-efficacy : refers to confidence of the peer educators in their ability to perform peer education as peer educators.

Internal motivation : refers to a peer educator's desire or willingness to work as a peer educator, and is divided into three parts as follows :

- **belongingness/affection need** refers to needs such as a need to express that one cares for others, or a need to feel appreciated or liked;
- **self-esteem need** refers to needs such as a need to feel worthy, or a desire to be popular;
- **self-actualization need** refers to needs such as a need to realize one's self and potential as a person, or a need to have a sense of fulfillment.

1.5.2.3 Enabling factors

Availability of resources : refers to adequacy and readiness of resources available to the peer educators to conduct peer education, consisting of working place, working time and training experience.

- **working place** refers to a place where the peer educators can have a meeting and do their work;

- **working time** refers to a period allocated by a school, during which the peer educators do their work;

- **training experience** refers to the amount of training which the peer educators have received for their work.

Accessibility of resources : refers to the ease with which the peer educators can get and utilize materials

1.5.2.4 Reinforcing factor

Social support : refers to assistance and encouragement to the peer educators to do their work. It includes support from teacher and/or school, health personnel in health center, NGOs, other peer educators, and family. It is characterized into three groups as follows :

- **informational support** refers to helping people by providing advice, suggestions and information that they can use to address their problems;
- **instrumental support** refers to helping people by giving money, materials or assistance that directly assist them in need;
- **emotional support** refers to helping people through providing of empathy, love, trust and caring.

1.6 Limitation of the research

The independent variables related to performance of peer educators might not be complete due to the lack of previous research about performance of peer educators.

CHAPTER II

LITERATURE REVIEW

The discussion in this chapter is divided into eight parts corresponding to the objectives of this research.

- 2.1 Prevalence and impact of HIV/AIDS
- 2.2 Adolescent sexual behavior
- 2.3 Traditional sex education in Thailand
- 2.4 Peer education
- 2.5 Peer education projects
- 2.6 Peer educator and performance of peer educator
- 2.7 Theoretical models
- 2.8 Related research.

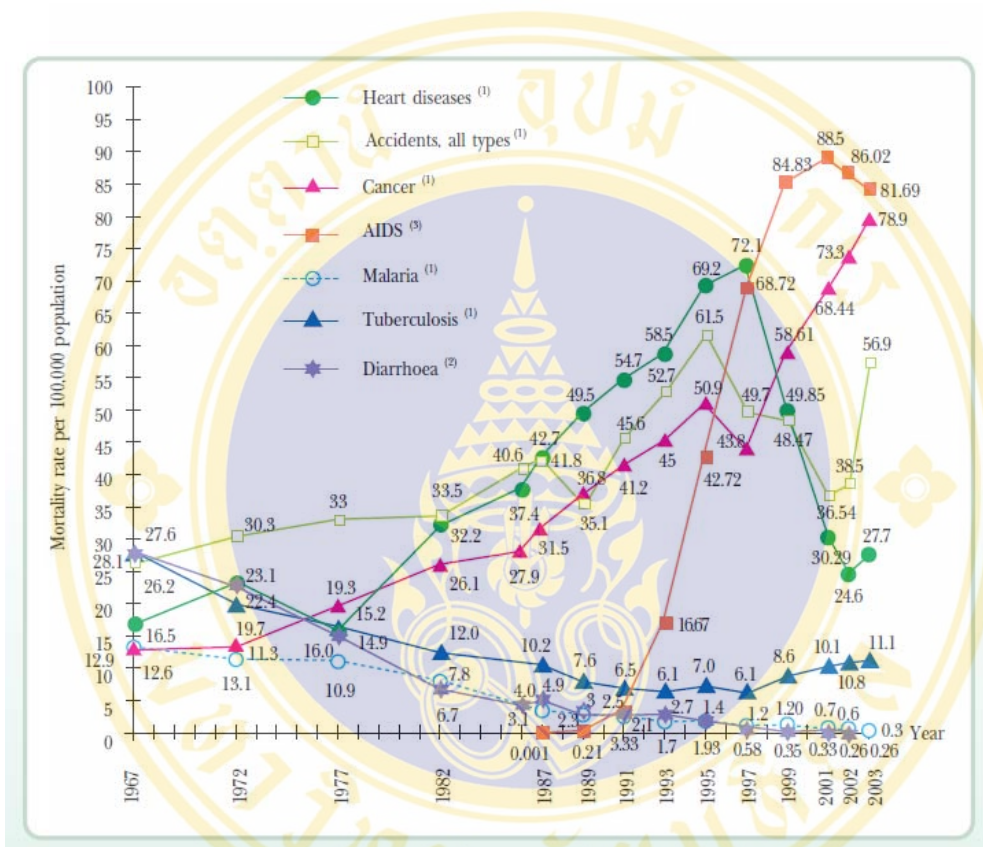
2.1 Prevalence and impact of HIV/AIDS

South-East Asia with an estimated 7.2 million HIV infections has the second largest burden of HIV/AIDS in the world, following sub-Saharan Africa with 24.6 million HIV infections. The first HIV infections in this region were reported among homosexual men in Thailand in 1984. Since then, the HIV/AIDS epidemic in this region has grown massively and is still evolving (1).

HIV/AIDS epidemic trends in South-East Asia have been varied. HIV prevalence is increasing in Vietnam and Indonesia but declining in Myanmar, Thailand, and most profoundly in Cambodia (11).

In Thailand, the number of new annual HIV infections continues to decrease. In 2006, fewer than 16,000 new HIV infections were estimated to have occurred, compared to approximately 140,000 per year at the peak of the Thailand's

HIV epidemic in the early 1990s (12). Thailand, therefore, is one of a handful of countries to have reversed the HIV/AIDS epidemic. However, as Figure 2 shows, HIV/AIDS is still a serious health problem and a major cause of death in Thailand with the highest mortality from 1967 to 2003 (6).



Source: Thailand health profile 2001-2004

Figure 2 Mortality rates due to major causes of death, Thailand, 1967-2003

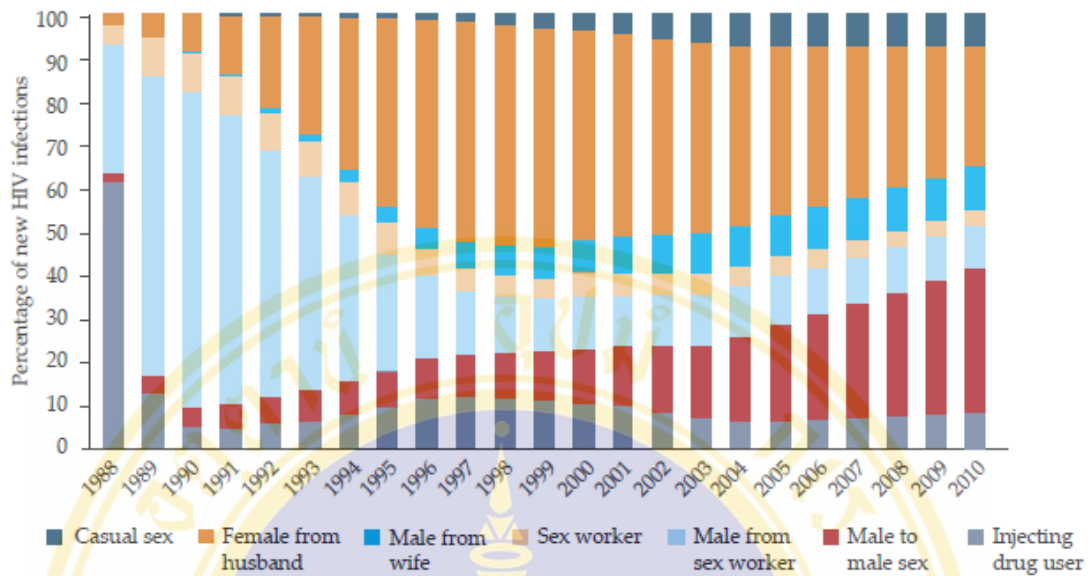
Looking at Disability-Adjusted Life Years (DALY) as a health status indicator, HIV/AIDS is the paramount cause of DALY lost for males and the second leading cause of DALY lost for females, as Table 1 shows. Thus, HIV/AIDS must clearly have a serious impact on the nation’s health and lifestyle (13).

Table 1 Major diseases attributable to DALY of Thai people by sex, 2004

No.	Male			Female		
	Disease	DALYs	Percent	Disease	DALYs	Percent
1	HIV/AIDS	645,426	12.1	Cerebrovascular disease	307,131	7.9
2	Road traffic injuries	600,004	11.3	HIV/AIDS	290,711	7.5
3	Alcohol abuse	329,068	6.2	Diabetes	267,549	6.9
4	Cerebrovascular disease	305,105	5.7	Depression	191,490	4.9
5	Liver cancer	294,868	5.5	Liver cancer	140,480	3.6

Source: Thailand health profile 2005-2007

In Thailand, HIV transmission patterns have changed over time, as Figure 3 shows. In the early phase of the HIV/AIDS epidemic, injecting drug use and commercial sex work contributed the largest proportion of new HIV infections. However, the low risk heterosexual population accounted for 43 percent of all new HIV infections in 2005, though the incidence rate in the heterosexual population was estimated to be low at 0.03 per 100 population per year. The majority probably acquired HIV from their husbands or partners who had been infected either during unsafe paid sex or through injecting drug use. The MSM group also accounted for a large proportion, 21 percent. CSWs and their clients, as well as partners of their clients, accounted for 18 percent. IDUs and their partners accounted for 7 percent but the incidence rate among IDUs was estimated to be high at 2.6 per 100 population per year (1). In this way, HIV transmission continues to spread among diverse population groups, making it difficult to detect and prevent new infections.



Source: HIV/AIDS in the South-East Asia region : 2007, Regional office for South-East Asia, WHO

Figure 3 Percentage of new HIV infections by mode of transmission, Thailand, 1988-2010

Considering HIV infections from the view of HIV prevalence in each population group, HIV prevalence decreased in CSW, pregnant women, and military recruit groups. However, it has remained high in the IDU group and increased in the MSM group. Having spread beyond these vulnerable groups to the general population, the HIV/AIDS epidemic especially threatens young people (1).

2.2 Adolescent sexual behavior

In Thai society, people have been taught to keep a distance from sexuality. Gender biases toward sexuality also exist as premarital sex in men is accepted but women are expected to keep their virginity until marriage. However, some studies have found that male and female adolescents have increasingly accepted premarital sex with their peer groups as normal practice. This attitude change towards sex is due largely to changes in their life-styles. Many now spend much longer time in school

than previous generations; many also live independently away from home and have more freedom to do whatever they want (4).

Almost all male adolescents in the past had their first sexual intercourse with CSWs, whereas this practice is now becoming less common and more male adolescents now have first sexual intercourse with their girl friends. That is, there has been a shift in sexual partners in male adolescents from CSWs to their girl friends or lovers (4). The reason for this shift might be greater acceptance by female adolescents of premarital sex.

Some studies have also shown an increasing proportion of adolescents who have experienced sexual intercourse and a decreasing age at sexual debut (4). The percentage of young males and females aged 15 to 24 who have had sexual intercourse before the age of 15 was 6.39 in 2004, 12.10 in 2006, and 13.40 in 2008 (5).

2.3 Traditional sex education in Thailand

In Thailand, peer education at school is not universalized yet. However, sex education at school is taught as part of a subject called 'Family Life Education'. This subject is compulsory and has been taught to primary and secondary school students for more than 20 years. Some schools have introduced sex education as part of an extra curricula activity. In addition, the MOE in collaboration with the MOPH has implemented life skills education as part of the regular curriculum, intended to strengthen students' decision making and problem solving abilities, and also to reduce and prevent HIV/AIDS (4).

However, such efforts to implement sex education at school have not been particularly effective. IRIN reported that many young Thais do not prepare themselves appropriately when they're in a sexual relationship because sex education in Thailand focuses more on anatomy rather than real-life (7).

Vuttanont U et al. investigated knowledge, attitudes, norms and values of teenagers, parents, teachers and policymakers with regard to sex and sex education in Chiang Mai, Thailand. This study found Chiang Mai teenagers had a reasonable knowledge of biological issues from sex education but got confused and uncertain about how to obtain or use contraception; avoiding pregnancy and transmission of STIs; negotiating personal and intimate relationships; and finding sources of support and advice. It identified that the existing didactic and biological sex education curriculum failed to meet their need for more applied knowledge, life skills and confidence training. It also found that many parents lacked the knowledge, confidence and contemporary values to be able to give meaningful support to their children. Teachers admitted feeling uncomfortable delivering sex education. Curricula were widely modified, and sometimes overtly censored by teachers in charge of delivering them. Such decisions were strongly affected by their personal values about the immorality of sex, especially beliefs that sex education leads to sex; their knowledge of sexual health; and their past experience, especially memories of their own sex education (8).

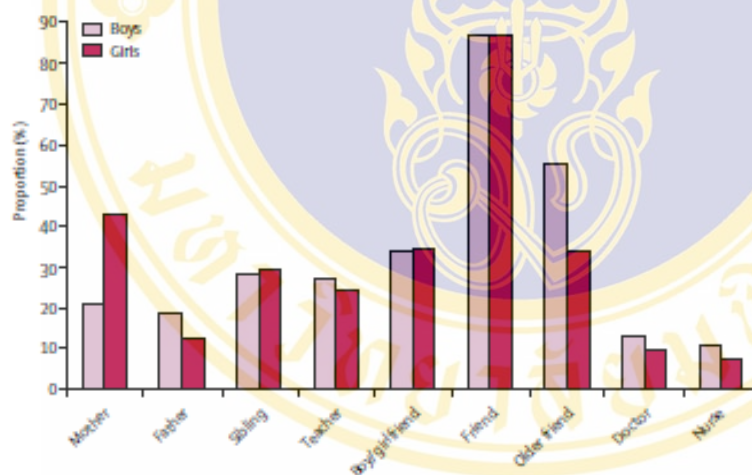
According to IRIN, which is part of UNOCHA, many young Thais are still having unsafe sex even though they have knowledge about HIV/AIDS. A survey found that young Thais consistently demonstrated extremely high level of knowledge about HIV/AIDS in surveys whereas only about 25 percent of young Thai men reported using condoms when engaging in casual or risky sexual intercourse. The problem is not a lack of knowledge about HIV/AIDS; rather, it is a lack of interest among Thai adolescents in acting on what they know (7).

Even though Thai adolescents have enough knowledge about HIV/AIDS, the more sexually active they are, the greater their risk of HIV/AIDS infection. It seems that their behavior needs to change in order to prevent HIV/AIDS and this might be achieved by more effective and relevant education which focuses on real life.

2.4 Peer education

The beginning of adolescence is a formative period in a young person's social development. As adolescents develop, peer groups slowly supersede their families as their primary social outlet. Peer groups help young individuals in gaining a sense of their own identity by providing a social identity, usually for the first time in their lives. Belonging to peer groups in which the adolescents associate with others leads to the development and practice of social life skills which they retain throughout their lives (9).

Vuttanont U et al. found that peers were the preferred source of information about sex for both genders of Thai teenagers (8).



Source: Vuttanont U, Greenhalgh T, Griffin M, Boynton P.

Figure 4 To whom do Thai teenagers in Chiang Mai talk about sex?

Therefore, peer education was designed to utilize the positive aspects of adolescent peer groups by helping them learn from each other in order to effect change among them.

In practice, peer education involves the use of members of a given peer group as peer educators to effect change in other members of the same group. Peer

education is often used to effect change at the individual level by attempting to modify a person's knowledge, attitudes, beliefs, or behaviors, as well as change at the group or societal level by modifying norms and stimulating collective action resulting in individual change (14).

The most common application of peer education has occurred in connection with STD/HIV/AIDS prevention over the last twenty years, focusing on overall adolescent reproductive health, contraception and family planning, drug use prevention, and the practice of safe sex including the proper use of condoms, abstinence and single partner relationships (9).

Many advantages of peer education have been identified based on its use all over the world :

- 1) Culturally appropriate - peer education provides a means of delivering culturally sensitive messages from within;
- 2) Community-based - peer education is community-level intervention which supports and supplements other programs. It is a link to other community-based strategy;
- 3) Accepted by target population - many peers report that they are more comfortable relating to a peer about their personal concerns such as sexuality;
- 4) Economical - peer educators provide a large service at a small cost and they provide the service very effectively. In other words, peer education is a cost effective approach (15).

Mellanby AR et al. conducted a comparative study of peer-led and adult-led school sex education in UK. It showed that peer leaders appeared to be more effective in establishing conservative norms and attitudes related to sexual behavior than adults, and less effective than adults in imparting factual information and getting students involved in classroom activities. Young people as peer leaders cannot be expected to become experts to deliver all aspects of sex education. It raised the further challenge to determine how peer-led sex education could be integrated into mainstream education, and which areas were best dealt with by whom. It concluded

that peer-led education may be a more effective method of assisting teenagers to develop skills and set their own standards of behavior than instruction from adults (16).

Another study in Uganda showed increased sexual abstinence among in-school adolescents as a result of school health education that applied a child-to-child approach and participatory learning methods. The percentage of students who stated that they had been sexually active fell from 43 percent to 11 percent in the intervention group, while no significant change was recorded in the control group (17).

An instructive intervention of CSW peer education was conducted in Chiang Mai, Thailand. As a result of this intervention, the percentage of CSWs refusing sex with clients who did not want to use a condom increased from 42 percent before the intervention to 78 percent one year afterwards (9). This intervention shows how effective peer education leads to behavioral change.

However, not all the peer education programs are effective. Dang VK et al. conducted the first assessment of the national peer education program for HIV prevention in Vietnam in 2000. It revealed that the services provided by peer educators were primarily distributional and involved merely delivering information through word of mouth, pamphlets, or brochures; providing condoms; and sometimes providing clean syringes and needles. On the other hand, skills building or goal setting interventions aimed at HIV risk reduction were rarely provided. It suggested the existing programs which mainly provided distributing information or services may have been ineffective in reducing the HIV risk, and showed unsatisfactory outcomes (18).

As discussed above, not all peer education programs have been proved to be effective to change the behavior of targets and prevent HIV/AIDS infection. Their success depends on the strategy of individual peer education programs. However, many advantages and the effectiveness peer education have been identified based on its extensive use.

2.5 Peer education projects

The sex education program conducted by the Family Planning Association of India in Lucknow offers an early example of a successful peer education project. The program was called the Sex Education, Counseling, Research, Training and Therapy. Even though the first target population was married couples, it subsequently expanded to include young people. It identified and trained potential peer educators. They organized many special activities such as exhibitions, posters, role-play, debate competitions, stage dramas and musical productions to get their message across to their target audiences. Later on, it included HIV/AIDS as a topic (9).

In Thailand, there are many organizations involved in peer education project. For example, the MOPH has given training to teachers or directors of schools and provided funds to conduct projects in each school. The MOE has conducted some programs intended to train key students and has also arranged education campaigns, particularly about HIV/AIDS and safe sex (20).

PATH, an international non-profit organization which aims to improve global health and well-being, has been conducting programs related to HIV/AIDS prevention and adolescent health in Thailand (21). For example, since 2003, the Teenpath project, a sex education project including HIV/AIDS prevention as a topic, has been conducted by PATH through collaboration with the MOE and the MOPH, with financial support from the Global Fund to Fight AIDS, Tuberculosis and Malaria. It has many partner organizations such as the Office of Basic Education Commission, the Office of Education Service Area, the Office of Vocational Education Commission, the Lampang Rajabhat Institute, Prince of Songkla University, AIDS Access Foundation, Juvenile Centers, the Department of Juvenile Observation and Protection, and the Ministry of Justice. It mainly focuses on developing sex education curricula and training teachers in charge of sex education in schools, not on peer education. However, it did provide training to selected students under a sub-project and support them to undertake some activities in their schools as well as outside the schools. The V-teen club is a club formed by peer educators in 17 high schools and supported by

PATH. They perform their work as peer educators not only in their schools but also outside their schools as a V-teen club. Representatives from each school meet together monthly.

2.6 Peer educator and performance of peer educator

Peer education has to target specific audiences, namely : the peer group and the peer educators. Some studies have indicated that the overall impact of peer education programs is strongest on peer educators themselves in terms of increasing knowledge and changing behavior. In turn, peer educators who have increased knowledge and changed behavior are better able to deliver messages and conduct many activities with their peers. Therefore, selection of peer educators who will be able to teach and lead by example is very crucial for successful peer education programs (9).

With regard to peer educators, frequent turnover is a major problem for peer education programs. The first assessment of the national peer education program for HIV prevention conducted in Vietnam indicated low retention with less than half of the peer educators working over two years for the program, and a 21% dropout rate for peer educators for the year preceding the survey (18).

The reasons for high rate of turnover are various. They include ending schooling, changing their interests, adjusting their priorities, migrating to larger towns for education or employment opportunities, and marriage (19).

Lack of compensation may lead to high turnover as disenchanted youth may leave programs, or are pressured by family members to seek paid employment. If peer educators are paid, they are further differentiated from their peer group, possibly changing the dynamics of their relationships (19). Therefore, the compensation issue is very sensitive.

The YouthNet program led by Family Health International, a large international non-profit organization active in international public health with a mission to improve lives worldwide through research, education and services in family health, recommended five strategies to improve retention rates. One is to provide close supervision of peer educators. Second is to develop creative compensation approach. Third is to avoid confusion of peer educators' personal values and beliefs by exposure to sensitive issues such as condom use, gender norms, and interaction with people living with HIV/AIDS. Fourth is to promote full participation of peer educators in programs with successful youth-adult partnerships. Fifth is to foster career development opportunities by gaining experience (19).

UNAIDS and the Horizons Project implemented by the Population Council, an international NGO, conducted the project aimed to be a participatory and comprehensive analysis of HIV/AIDS peer education programs. In its international consultation, peer educators highlighted the fact that compensation was not the only factor that affected retention and quality of their work. They cited the importance of involving peer educators in decision-making and giving them broader responsibilities related to program design, implementation and evaluation. They also called for support mechanisms to address stress and burnout, as well as opportunities for personal and professional growth (10).

From the literature reviewed above, some important factors related to the effectiveness of peer educators emerge : close supervision as technical support; stress and burnout care and avoiding confusion as mental support; adequate compensation; full participation; career development opportunities; and personal and professional growth as benefits or incentives.

2.7 Theoretical models

2.7.1 PRECEDE-PROCEED model

The PRECEDE-PROCEED model was designed by Lawrence Green and Marshall Kreuter to provide a comprehensive structure for assessing health and quality of life needs, and designing, implementing, and evaluating health education and health promotion programs. PRECEDE stands for *P*redisposing, *R*einforcing, and *E*nabling *C*onstructs in *E*ducational *D*iagnosis and *E*valuation, which is meant to outline a diagnostic planning process. PROCEED stands for *P*olicy, *R*egulatory, and *O*rganizational *C*onstructs in *E*ducational and *E*nvironmental *D*evelopment, which is meant to guide the implementation and evaluation of programs planned according to the PRECEDE process. Therefore, PRECEDE and PROCEED function in a continuous cycle (22).

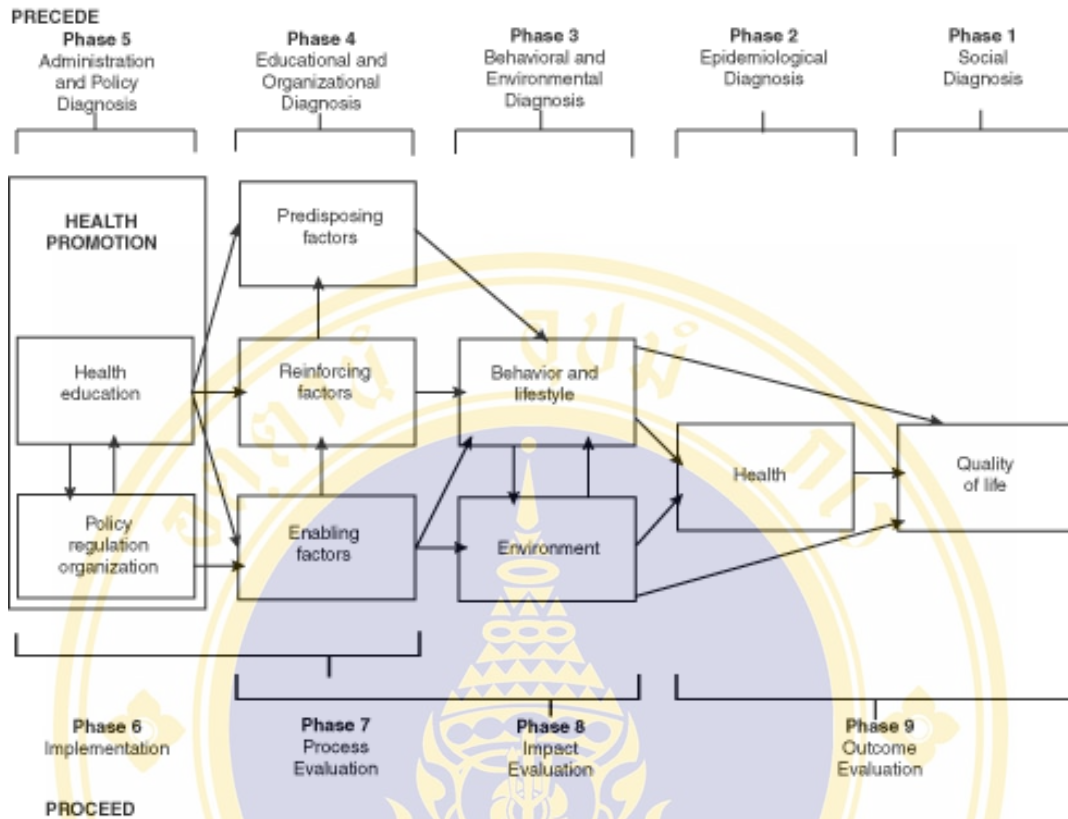
PRECEDE has five phases which are diagnostic.

- 1) Social diagnosis ; to determine people's perceptions of their own needs and quality of life in order to understand the target community by conducting multiple data collecting activities.
- 2) Epidemiological diagnosis ; to determine which health problems are most important for the target group by conducting secondary data analysis.
- 3) Behavioral and environmental diagnosis ; to assess factors that contribute to the health problem under consideration, including behavioral factors related to behaviors or lifestyles of the individuals at risk, and environment factors which are external to the individuals often beyond their control.
- 4) Educational and organizational diagnosis ; to identify the antecedent and reinforcing factors that must be in place to initiate and sustain the behavioral and environmental change process.
- 5) Administrative and policy diagnosis ; to identify policies, resources, and circumstances prevailing in the organizational context that could facilitate or hinder the program implementation.

PROCEED has four phases including implementation and evaluation.

- 6) Implementation ; to implement the health promoting program
- 7) Process evaluation ; to determine the extent to which the program was implemented according to protocol.
- 8) Impact evaluation ; to assess change in predisposing, reinforcing and enabling factors, as well as in the behavioral and environmental factors.
- 9) Outcome evaluation ; to determine the effect of the program on health and quality-of-life indicators.

Figure 5 shows the overall process of the PRECEDE and PROCEED model. From the view of PROCEED, phase six implementation shows a health promotion program. Phase seven process evaluation shows predisposing, reinforcing and enabling factors which influence behavior and lifestyle shown in phase eight impact evaluation. This behavior and lifestyle, as well as environment, lead to health, and all contributes to quality of life in phase nine outcome evaluation. Performance of peer educators would be regarded the same as behavior and lifestyle. Therefore, to determine the factors related to performance of peer educators, the PRECEDE-PROCEED model was used in this research.



Source: Encyclopedia of Public Health. Precede-Proceed Model

Figure 5 The process of PRECEDE and PROCEED

Predisposing factors ; antecedents to the particular behavior by providing rationale or motivation for people to undertake the behavior, including knowledge, attitude, beliefs, personal preference, existing skills and self-efficacy beliefs.

Enabling factors ; antecedents to the behavior making it possible for a motivation to be realized, that is, affecting behavior directly or indirectly through an environmental factor, including available resources, supportive policies, assistance and services.

Reinforcing factors ; following the behavior, providing continuing rewards or incentives for repetition or persistence of the behavior, including social support, praise, reassurance, symptom relief, peer influence and vicarious reinforcement.

2.7.2 Health Belief Model

The Health Belief Model was developed by the social psychologists in the U.S. Public Health Service in the 1950s to explain the widespread failure of people to participate in programs to prevent and detect disease. This model tried to explain and predict a given health behavior from certain patterns of belief about the recommended health behavior and the health problems that the behavior was intended to prevent or control (23-24).

The Health Belief Model assumes the following four conditions to explain and predict a health behavior:

- 1) A person believes that his or her health is at risk.
- 2) The person perceives the “potential seriousness” of the condition in terms of pain, discomfort, time lost from work, economic difficulties or other negative outcomes.
- 3) The person believes that benefits stemming from the recommended behavior outweigh the costs and inconvenience, and that they are indeed possible and within his or her grasp.
- 4) The person receives a “cue to action” or a precipitating force that makes the person feel the need to take action.

Health Belief Model has six components as follows;

- 1) Perceived susceptibility ; defined as one’s subjective belief of the risk of contracting a health condition. It is applied to define population at risk or risk levels, to personalize risk based on a person’s characteristics or behavior, or to make perceived susceptibility more consistent with an individual’s actual risk.
- 2) Perceived severity ; refers to one’s subjective belief of the seriousness of contracting an illness or of leaving it untreated, including evaluations of both medical and clinical consequences and possible social consequences. It is applied to specify consequences of the risk and the conditions.
- 3) Perceived benefits ; defined as one’s subjective belief of the effectiveness of the various available and advised actions for reducing the risk or seriousness of disease impact. It is applied to define action to take in how, where, and

when, and to clarify the positive effects to be expected.

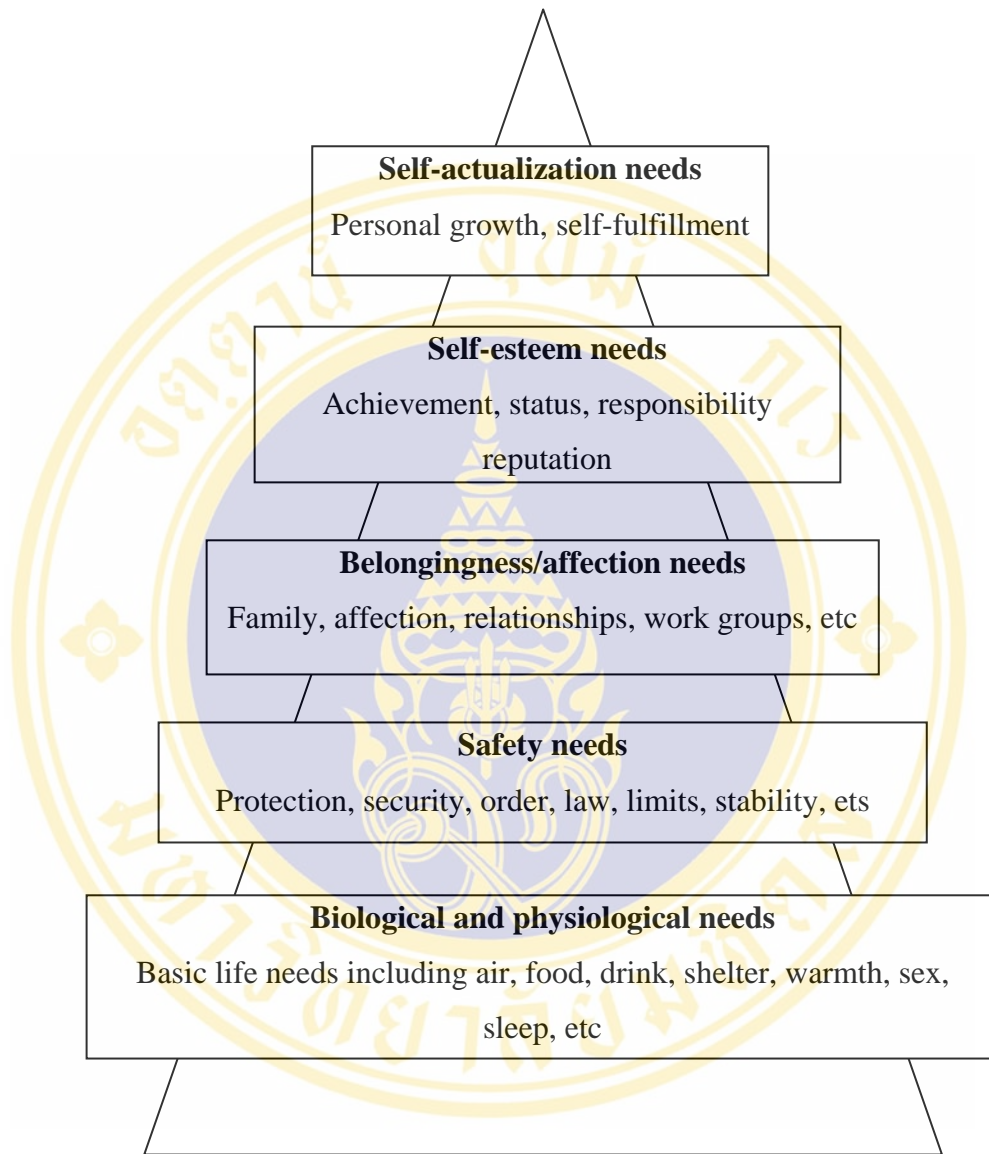
4) Perceived barriers ; refers to one's subjective belief of potential negative aspects of the advised action. It is applied to identify and reduce perceived barriers through reassurance, correction of misinformation, incentives and assistance.

5) Cue to action ; defined as the events to activate one's advised actions. It is applied to provide how-to information, to promote awareness, and to employ reminder systems.

6) Self-efficacy ; defined as the conviction that one can successfully execute the behavior required to produce the outcomes. It is applied to provide training and guidance in performing the advised action, to use progressive goal setting, to give verbal reinforcement, to demonstrate desired behaviors and to reduce anxiety. It is a separate construct added to original Health Belief Model.

2.7.3 Hierarchy of Needs Theory

Abraham Maslow's Hierarchy of Needs Theory is motivation related theory. This theory remains valid for understanding human motivation, management training and personal development. His theory was that everyone is motivated by needs and explains how these needs motivate people. His original theory involved five stages, namely : self-actualization, self-esteem needs, belongingness and love needs, safety needs, and biological and physiological needs. Subsequently his theory was expanded to seven-stage and eight-stage hierarchy of needs models. He theorised that people must satisfy each need in turn, starting with the first. Only when the needs at a lower stage are satisfied are we concerned with the needs at the next and higher level. Conversely, if the things that satisfy needs at lower level are swept away, people are no longer concerned about the maintenance of needs at the next and higher levels (25).



Source: Maslow's hierarchy of needs, Businessballs

Figure 6 Five-stage hierarchy of needs diagram based on Maslow's theory

2.7.4 Social Support Theory

Early research indicated that social support has a direct positive effect on health status as well as an indirect effect through moderating the impact of stress on mental and physical health (24).

According to House, social support is the functional content of social relationships that can be categorized into the four types of supportive behaviors or acts, namely : emotional support, instrumental support, informational support, and appraisal support.

- Emotional support means the support provided by expressions of empathy, love, closeness, reliability, trust, respect, praise and care.
- Instrumental support means helps by providing tangible aid and services that directly assist people in need.
- Informational support includes giving information, suggestions and advice which would help people to understand how a thing happens, or to address problems.
- Appraisal support means the provision of information which is useful for self evaluation such as constructive feedback, affirmation and social comparison (23).

In conclusion, the conceptual framework is constructed based on PRECEDE Model. In its framework, some independent variables are also considered based on several theoretical models. With regard to perception, a part of Health Belief Model is applied. Perceived benefits, perceived barriers and self-efficacy are included into predisposing factors. Hierarchy of Needs Theory is used to explain the internal motivation of people to perform something. This study applies self-actualization, self-esteem and belongingness/affection components for internal motivation in predisposing factors. For social support in reinforcing factors, Social Support Theory is applied to differentiate the components of social supports. Based on it, emotional support, instrumental support and information support are used to cover comprehensive social support.

2.8 Related research

2.8.1 Performance of peer educators

Performance of peer educators means peer educators' performed roles. The main role of peer educators is to help the group members define their concerns, seek solutions, and change their behavior. The peer educator is the best person to disseminate new information and knowledge to them and can become a role model for them by practicing what he or she says. He or she can empathize and understand their emotions, thoughts, feelings and language, and therefore relate better to them. He or she also is better able to inspire and encourage them to adopt health seeking behavior, especially HIV/AIDS preventive behavior, because he or she can share common weaknesses, strengths and experiences (26).

According to FHI, the success of staff including peer educators in peer education programs depends on the following factors ;

- clear job expectations
- clear and immediate performance feedback
- adequate environment, including proper resources, supplies and workplace
- motivation and incentives to perform as expected
- skills and knowledge required for the job
- organizational support (27)

In other words, these factors would contribute to the high performance of peer educators.

2.8.2 Predisposing factors

2.8.2.1 Socio-demographic factors

Age

The studies of Tiewsuwan B (28), Kongsap S (29), Nguyen TH (30), and Piedad Publio V (31) showed the significant associations between age group and performance of VHVs (P-value=0.043, P-value=0.020, P-value=0.025, and P-

value=0.032 respectively). The study of Yenn R (32) also found that age group was significantly related to participation of VHVs (P-value=0.045).

The studies of Ketsophaphong B (33) and Jinpeng X (34) showed no significant relationship between age group and performance of VHVs.

Gender

The studies of Tiewsuwan B (28), Kongsap S (29), Nguyen TH (30), Piedad Publico V (31), Ketsophaphong B (33) and Jinpeng X (34) showed no significant associations between gender and performance of VHVs. The studies of Yenn R (32) and Ratoran S (35) also found no significant association between gender and participation of VHVs.

Duration of working

The studies of Tiewsuwan B (28), Kongsap S (29) and Jinpeng X (34) showed significant associations between duration of working as a VHV and performance of VHVs (P-value=0.003, P-value=0.005 and P-value=0.001 respectively). The studies of Yenn R (32) and Ratoran S (35) also found that working experience and duration of being volunteers which meant the same as duration of working was significantly related with participation of VHVs (P-value=0.020 and P-value=0.035 respectively).

By contrast, the studies of Ketsophaphong B (33) and Nguyen TH (30) showed no significant relationship between duration of working and performance of VHVs.

2.8.2.2 Psychosocial variables

Knowledge

Hasmi E (36) conducted a pilot intervention to assess the empowerment of peer educators as well as peer counselors (who were selected from among peer educators and given additional training on counseling) in Indonesia in 2001. This study showed that peer educators and peer counselors clearly increased

their knowledge on ARH. It found that assistance by the research team and availability of reading material were the two main factors which contributed to increasing their knowledge. It also found that their skills in providing ARH guidance and promotion as well as capacity in communication with their peers were sufficient.

The studies of Ketsophaphong B (33), Kongsap S (29) and Nguyen TH (30) showed that knowledge of the people sector health system, Dengue Haemorrhagic Fever prevention and control, and nutrition respectively were significantly associated with performance of VHVs. (P-value=0.035, P-value<0.001 at significant level 0.05, P-value<0.001 at significant level 0.01 respectively)

On the other hand, the study of Tiewsuwan B (28) revealed that there was no significant relationship between knowledge of the PHC and CPHCC concept, and performance effectiveness of VHVs. Yenn R (32) studied the participation of VHVs in nutritional activities programs and found that knowledge of nutritional surveillance activities and nutritional education was not significantly associated with participation of VHVs.

Perception towards peer education

There is no research investigating particularly about perception of peer education. However, some researches investigated about perceptions of health programs as which peer education is also regarded. Thus, Tiewsuwan B (28) investigated perception towards PSHS, which was divided into four factors, that is, perception on benefit of PSHS concept and policy, perception on barrier of PSHS concept and policy, perception on benefit of practice under PSHS, and perception on barrier of practice under PSHS. The overall perception towards PSHS was found to be significantly associated with performance VHVs (P-value=0.036). However, looking at each factors, only perception on benefit of PSHS concept and policy was found to be significantly associated with performance of VHVs (P-value<0.001) while the other factors were proven to be not significantly associated with performance of VHVs.

The study of Kongsap S (29) showed that perceptions of Dengue Haemorrhagic Fever prevention and control were significantly associated with performance of VHVs. (P-value<0.001)

Self-efficacy

Lane J and et al (37) studied self-efficacy and academic performance of postgraduate students. Their research finding was generally consistent with the notion that high self-efficacy is associated with successful performance.

Jinpeng X (34) compared the confidence of VHVs who had demonstrated good performance with that of VHVs who had demonstrated only moderate or poor performance. This research revealed that most VHVs had confidence in themselves and they thought they could perform better with some support than without support. However, no significant associations were found between performance, and performing better with more support and performing better without support (P-value=0.091 and P-value=0.241 respectively).

Internal motivation

High quality peer education programs also require a focus on keeping peer educators motivated and working for as long as possible (19).

Gomes FW. (38) investigated the association between motivation and performance of VHVs in Khong-Khlung district, Kamphaengpet province, Thailand. He divided the motivation variables into four categories, that is, self-actualization needs, self-esteem needs, belongingness/affection needs and safety needs. His study revealed that performance of volunteer health workers was significantly associated with self actualization motivation. There was no significant relationship found between self-esteem needs, belongingness/affection needs and safety needs, and performance of VHVs.

Jinpeng X' research (34) showed most of the outstanding VHVs (90.1%) as well as the other VHVs were motivated to be VHVs by the desire to

do something good for others. The majority of VHVs in both VHV groups agreed that VHVs should work without government remuneration. Since these opinions were showed equally by both VHVs groups, there was no significant difference. In addition to that, regarding pride as VHVs, more outstanding VHVs got accepted of their suggestions by their community people and praised from their community. VHVs felt proud and satisfied when they found their suggestion accepted and themselves praised when they made some achievement. These affection needs, self-esteem needs, and actualization needs could be satisfied through VHV work. There were significant associations between performance and people's acceptance of their suggestions and getting praise by others (P-value<0.001 and P-value=0.006 respectively). This research concluded that feeling of satisfactions could encourage VHVs to perform more actively.

Piedad Publico V (31) studied the relationship between the sense of volunteerism to be VHVs and performance of VHVs. In his research, the sense of volunteerism included 6 elements : village love, community appreciation, health center success, ability development, cooperative attitude and volunteering attitude. It was found that there was no significant association between the sense of volunteerism and performance of VHVs.

2.8.3 Enabling factors

2.8.3.1 Availability of resources

Working place

The study of Ketsophaphone B (33) showed that place for working in the village was significantly associated with high performance compared with no places. (P-value=0.003)

Working time

The research on workplace HIV/AIDS peer educators in South African companies was conducted by Wits Business School, University of the Witwatersrand, in Johannesburg, Republic of South Africa. It found that the provision of working time of peer education clearly increased activity in the workplace (39).

Rationran S (35) indicated working hours was significantly associated with the participation of VHVs in the universal coverage health insurance (P-value=0.013).

Material

Piedad Publico V (31) found no significant association between food supplements available and performance of VHVs in the promotion of nutrition programs.

Training experience

Training is a critical component in the initial mobilization of peer educators as well as facilitating their ongoing activities. A study investigated about workplace HIV/AIDS peer educators in South African companies. It indicated that the perceptions of the value of their training were extremely encouraging such that the vast majority agreed that training was of value to them in terms of information, communication and presentation, and confidence (39).

Table 2 Peer educators' perceptions of training in South African companies

	Strongly agree	Agree	Neutral	Dis-agree	Strongly disagree
Training gave me information I need as a peer educator	54.8	34.7	7.4	1.3	1.8
Training gave me communication and presentation skills I need	47.3	37.6	9.6	3.6	1.9
Training gave me confidence I need	53.9	31.4	9.8	2.9	2.1

Source: Workplace HIV/AIDS peer educators in South African Companies

Training for peer educators needs to be an on-going process. Thus, it is important to conduct not only training at the beginning, but also to provide

refresher training periodically. At the same time, more advanced training should be offered in order to sustain the interest of long-time serving peer educators. This can become an important incentive for young people to become peer educators in the first place, and for their continued participation (4).

The study of Tiewsuwan B (28) showed that there was a significant association overall training experience and performance of VHVs.(P-value=0.004) However, when breaking down overall training into each factors, only monthly meeting was significantly associated with performance of VHVs (P-value=0.003) while refresher training and study tour were not significantly associated with performance of VHVs.

The study of Yenn R (32) showed that participation of VHVs was significantly associated with attending training course/refresher raining on nutrition (P-value=0.025), number pf training coursed attended (P-value=0.008) as well as time of the last training (P-value=0.011).

The study of Nguyen TH (30), Piedad Publio V (31) and Jinpeng X (34) also showed that VHVs' performance was significantly associated with the number of trainings in Nutrition (P-value<0.001 at significant level 0.01, P-value=0.0066 and P=0.003 at significant level 0.05).

2.8.3.2 Accessibility of resources

The study of Tiewsuwan B (28) investigated the relationship between accessibility of materials and performance of VHVs. It turned out that performance of VHVs was not significantly associated with ease of using materials.

2.8.4 Reinforcing factor

Social support

A peer education program conducted in Denmark called “Peer Educators for Youth People” demonstrated that it was essential to have a central person who was in charge, to inform the groups of new things, and to undertake activities such as

preparation courses, study visits, etc.(4).

All too often peer educators are trained once and then deployed to schools or communities with only limited support from program staff or mentors. They need supervision to ensure that they perform according to program goals (19).

The study of Tiewsuwan B (28) found social support as a whole was significantly associated with satisfactory performance. (P-value=0.001)

The study of Kongsap S (29) showed that performance of VHVs was significantly associated with financial support from TAO, emotional support from TAO financial support from health center, labor support from villagers, emotional support from family (all P-value<0.001) and emotional support from health center (P-value=0.033). In the contrary, there were no significant association found between performance of VHVs and instrumental support from TAO, instrumental support from health center, emotional support from health center and emotional support from VHVs' club.

Yenn R (32) showed in his study that material support was significantly associated with participation of VHVs (P-value=0.000).

Ketsophaphone B (33) showed in his study that performance of VHVs was significantly associated with overall social support as well as each mental, instrumental and information support. (P-value=0.001)

Piedad Publio V (31) showed no significant association between supervision by health center personnel and performance of VHVs. With regard to instrumental support, it was found that there was a significant association between supply of materials and performance of VHVs whereas no significant association between nutritional fund and performance of VHVs.

The study of Nguyen TH (30) found a significant difference in terms of proportion between poor and good performance among those respondents who had no

motivational support from family and those who had it, which meant that the VHVs who were supported by their family tended to have good performance. It was also found that the VHVs who had good performance were more supported from health staff in terms of IEC material provision and supervision. It indicated a slightly significant association between support from local leaders and performance (P-value=0.012). When breaking down each component of motivational support from local leaders, there were significant associations between performance and help to solve the problems, facilitate the working conditions, discuss about monthly plan of nutrition program, check in the field, interview local people, and IEC material provided. (P-value=0.027, P-value=0.008, P-value=0.005, P-value=0.003, P-value=0.006, and P-value=0.006 respectively)

Rattoran S (35) investigated the association between participation of VHVs and sources of support including emotional, instrumental and informational supports. It was found that emotional support by health personnel was significantly associated with participation of VHVs (P-value=0.005) where as there were no significant associations between participation of VHVs and other emotional support by relative, neighbour, committee in the village and religious priest, all instrumental supports and all informational support.

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research methodology used in the research. The contents includes ;

- 3.1 Research design
- 3.2 Research population
- 3.3 Sample size estimation
- 3.4 Sampling technique
- 3.5 Research instruments for data collection
- 3.6 Pre-testing of the questionnaire
- 3.7 Data collection procedure
- 3.8 Data analysis procedure and statistics used

3.1 Research design

The research design was a cross-sectional descriptive study.

3.2 Research population

The target population was peer educators aged 15 to 18 years old, currently working in 17 high schools in Bangkok which joined with the V-teen club.

3.3 Sample size estimation

Based on the following formula developed by Cochran (40), the sample size was calculated as follows ;

$$n = \frac{Z_{\alpha/2}^2 pq}{d^2}$$

$$n = \frac{(1.96)^2 (0.50) (0.50)}{(0.08)^2} = 151$$

Where : n = sample size

Z = standard normal score set at 1.96, corresponding 95% confidence interval ($\alpha= 0.05$)

p = as there are no data presently available from the previous studies, it was assumed at 0.50 (50%)

q = 1 – p = 0.50 (50%)

d = degree of accuracy desired, setting at 0.08 (8%)

To prevent information loss from incomplete data or withdrawal of participants from this study, the sample size was increased by 10%. Therefore, the sample size in this study was 167.

3.4 Sampling technique

A total of 17 high schools joined with the V-teen club. Simple random sampling was used to select 10 target schools. All peer educators in 10 target schools were targeted to collect data.

3.5 Research instruments for data collection

A self-administered questionnaire was used for data collection. The questionnaire was constructed from the literature review. It was translated from English to Thai to enable Thai peer educators to answer the questions by themselves,

and was divided into five parts, namely: socio-demographic variables and psychosocial variables as parts of predisposing factors, enabling factors, reinforcing factors as the independent variables, and performance of peer educators as the dependent variable.

Part 1 Predisposing factors : socio-demographic variables

This part consisted of 5 questions about age, grade, gender, religion and duration of working as a peer educator.

Part 2 Predisposing factors : psychosocial variables

This part contained the questions about knowledge on HIV/AIDS prevention, perception towards peer education on HIV/AIDS prevention, self-efficacy and internal motivation. The details were as follows :

2-1. Knowledge on HIV/AIDS prevention

This part consisted of 9 questions about nature of HIV, transmission and risk of HIV, prevention of HIV infection, and nature of AIDS. A correct answer was given a score of 1, and a wrong answer was given 0. The maximum total score was 9 and the minimum total score was 0. By applying Benjamin Bloom's criteria, the total score for knowledge of HIV/AIDS prevention was classified into three levels as follows :

- Good knowledge > 80% of total score
- Moderate knowledge 60% - 80% of total score
- Poor knowledge < 60% of total score

2-2. Perception towards peer education on HIV/AIDS prevention

This part consisted of 10 questions, including 5 questions about the benefits of peer education for HIV/AIDS prevention, and 5 questions about barriers of peer education on HIV/AIDS prevention. Using an applied likert scale, scores were given as follows :

For the positive statements

- Agree = 3 scores
- Neutral = 2 scores
- Disagree = 1 score

For the negative statements

- Agree = 1 score
- Neutral = 2 scores
- Disagree = 3 scores

The maximum total score was 30 and the minimum total score was 10. Based on Best's Rating Criteria, the total score of perception towards peer education was classified into two levels as follows :

- High perception 21 - 30 scores
- Low perception 10 - 20 scores

Breaking down perception towards peer education, the total scores of benefit of peer education and barrier to peer education were classified into two levels in the same way.

2-3. Self-efficacy

This part consisted of 5 questions about confidence in conducting peer education. Using an applied likert scale, scores were given as follows :

For positive questions

- Agree = 3 scores
- Neutral = 2 scores
- Disagree = 1 score

For negative questions

- Agree = 1 score
- Neutral = 2 scores
- Disagree = 3 scores

The maximum total score was 15 and the minimum total score was 5. Based on Best's Rating Criteria, the total score for confidence as a peer educator was classified into two levels as follows :

- High confidence 11 - 15 scores
- Low confidence 5 - 10 scores

2-4. Internal motivation

This part consisted of 6 questions, 2 questions each about belongingness/affection, self-esteem and self-actualization. Using an applied likert scale, scores were given as follows :

- Agree = 3 scores
- Neutral = 2 scores
- Disagree = 1 score

The maximum total score was 18 and the minimum total score was 6. Based on Best's Rating Criteria, the total score for motivation as a peer educator was classified into two levels as follows :

- High motivation 13 - 18 scores
- Low motivation 6 - 12 scores

Breaking down internal motivation, the total scores of belongingness/affection, self-esteem and self-actualization were classified into two levels in the same way.

Part 3 : Enabling factors

This part contained questions about availability of resources and accessibility of resources. The details were as follows :

3-1. Availability of resources

This part consisted of 7 questions about availability of working place, time, participants, materials, budget and training.

3-2. Accessibility of resources

This part consisted of 6 questions about accessibility of working place, time, participants, materials, budget and training.

Part 4 : Reinforcing factor

This part consisted of 18 questions about social support, including 9 questions about informational support, 4 questions about instrumental support and 5 questions about emotional support. Applying a four-items index, score were given as follows :

- A lot = 3 scores
- Moderate = 2 scores
- A few = 1 score
- Never = 0 score

The maximum total score was 54 and the minimum total score was 0. By applying Best's Rating criteria, the total score of social support was classified into three levels as follows ;

- Good support 37 to 54 scores
- Moderate support 19 to 36 scores
- Poor support 0 to 18 scores

Breaking down social support, the total scores of informational support, instrumental support and mental support were classified into three levels as well as the total scores of social supports from each source, namely: teacher/school, health personnel in health center, NGOs, other peer educators and family were divided into three levels in the same way.

Part 5 : Performance of peer educators

This part consisted of 15 questions about performance of peer educators. Applying a four-items index, scores were given as follows ;

- Always = 3 scores
- Sometimes = 2 scores
- Few = 1 score
- Never = 0 score

The total score for performance of peer educators was divided into two levels by using mean/median as follows :

- High performance \geq mean
- Low performance $<$ mean

3.6 Pre-testing of the questionnaire

Regarding the validity of the questionnaire, it was corrected based on suggestions made by the researcher's major academic advisor and co-advisor, and translated from English into Thai.

With regard to the reliability of the questionnaire, a pre-test was conducted with high school students in 2 high schools randomly selected from the 10 schools previously randomly selected. The knowledge part was analyzed using KR20 and the perception part was analyzed using Cronbach's Alpha. KR20 and Cronbach's Alpha were calculated by using the Minitab software program, and they were 0.675 and 0.640 respectively. Based on the result of pre-testing, two questions were deleted ; one from knowledge part and the other from perception part.

3.7 Data collection procedure

After obtaining permission from the Mahidol University Ethics Committee, the data collection was commenced with the following steps :

1) Formal letters from the AIHD were sent to the directors of the target high schools seeking permission to collect data in their respective schools, requesting that they each nominate a school coordinator.

2) After getting permission to collect data from the school directors, the major academic advisor acting as principal coordinator contacted each school coordinator, and explained the purposes and process of this research, the description of peer educators, and the protection of human rights . The principal coordinator ascertained the exact number of peer educators in each school.

3) Each school coordinator was asked to contact peer educators in his or her school, and to set a time which would not affect study time for a meeting between the researcher, the principal coordinator and the peer educators within the school. Subsequently, the researcher and the principal coordinator went to each school to meet the peer educators at the agreed appointment times. The number of peer educators depended on the proportion of peer educators in each school and the actual number of peer educators who will come to meet the researcher and the principal coordinator. The principal coordinator explained the purposes and process of this study, and the protection of human rights to all peer educators.

4) If the peer educators were willing to participate in the study, the coordinator distributed a participation information sheet, an informed consent form and a questionnaire to each of them. Peer educators were asked to give the participation information sheets and informed consent forms to their guardians for permission to participate in this research. The guardians of each peer educator were asked to sign these two forms if they were willing to permit their children to be participants in this research.

5) After obtaining permission from their guardians, each peer educator signed his or her name on the informed consent form and then completed and answered the questionnaire. The questionnaire took about 15 - 20 minutes to complete. Three boxes were provided by researcher, and placed in front of the nurse's room in each school. The respondent peer educators were asked to return the participation information sheets, informed consent forms and completed questionnaires to the researcher using these boxes.

3.8 Data analysis procedure and statistics used

After screening data collected by the self-administered questionnaire, data was coded and entered into the Epidata program, and then analyzed by using the Minitab program. The presentations of the statistical results of this research were divided into the following parts :

- **Univariate analysis** : Descriptive statistics including frequency, mean, standard deviation and percentage was used to describe the distribution of all the variables.
- **Bivariate analysis** : Inferential statistics was used to describe the associations between the independent and dependent variables at significant level 0.05, by Chi-square test and Fisher's exact test.

CHAPTER IV

RESULTS

This research was conducted to evaluate performance of peer educators on HIV/AIDS prevention among high school students in Bangkok, Thailand. The target population comprised peer educators aged 15 to 18 years old, currently working in 17 high schools in Bangkok joining with the V-teen club. From 17 high schools, 8 high schools were selected as target schools by simple random sampling. Data was collected through self-administered questionnaire from 198 peer educators. Since 41 data were not completed, the total number of complete data was 157. The aims of this research were to describe predisposing factors, enabling factors, reinforcing factors and performance of peer educators, and to identify the associations between the independent variables and performance of peer educators.

The results of the data analysis were presented in two parts: the first part comprising descriptive statistics was shown in the tables of frequency and percentage distribution of all variables. The second using Chi-square test and Fisher's exact test showed the associations between the various independent variables and performance of peer educators.

4.1 Frequency and percentage distribution of independent and dependent variables

4.1.1 Performance of peer educators

Table 3 showed the frequency and percentage distribution of the respondents by performance of peer educators. The total score of 15 questions was cut-off by mean as high or low.

Accordingly, 50.96 percent of the respondents had high performance scores for peer education and 49.04 percent had low performance scores.

Table 3 Frequency and percentage of level of performance of peer educators

Level of performance of peer educators	Frequency (n=157)	%
High performance	80	50.96
Low performance	77	49.04
Mean=23.24, SD=11.05, Min=1, Max=45		

Score: Low : < mean, High : \geq mean

The percentage distribution of the respondents by each question about performance of peer educators was presented in Table 4.

With regard to the activities of peer educators, slightly over a quarter of the respondents (28.03%) always conducted HIV/AIDS related event on special day, and nearly a quarter of them (23.57%) always introduced friends to other peer educators, the less planning HIV/AIDS related event on special day (22.93%), sharing experience with friends (21.66%), and facilitating group discussion (21.02%) respectively.

Combining the percentages in always, sometimes and few, the most common activities (85.99%) were disseminating pamphlet and facilitating group discussion. They were very closely followed by counseling students (85.98%). In terms of the six suggested roles of peer educators, facilitating group discussion and counseling students were activities of one of their roles, which was to facilitate the students to think about their ideas and attitudes. This role was the most met by peer educators' performance with 85.99 percent on average. The second role was to increase awareness of HIV/AIDS prevention (82.17%), followed by to introduce the

students to others who can answer questions (79.62%), to share information with the students (76.65%), to assist students to access condom, life building skills, and STI and VCT services (74.95%), and to serve as positive role models (72.62%). More than 70 percents of the respondents performed all kinds of their roles for HIV/AIDS prevention.

On the other hand, nearly 40 percent of the respondents never conducted spot radio broadcasting (38.22%) nor performed role play (37.58%). They were followed by never conducting condom demonstration (36.94%), introducing friends to health personnel (26.11%), nor introducing friends to STI and VCT services (19.75%).

Table 4 Percentage of each activity of peer educators by a four-items index analysis

Questions about performance of peer educators (n=157)	Always (%)	Sometimes (%)	Few (%)	Never (%)
Sharing information with the students				
1. Have disseminated pamphlet	19.75	50.32	15.92	14.01
2. Have displayed a poster	17.20	42.68	22.29	17.83
3. Have conducted spot radio broadcasting	14.01	24.20	23.57	38.22
Increasing awareness of HIV/AIDS prevention				
4. Have planned HIV/AIDS related event on special day	22.93	39.49	19.75	17.83
5. Have conducted HIV/AIDS related event on special day	28.03	38.85	15.29	17.83
Facilitating the students to think about their ideas and attitudes				
6. Have facilitated group discussion	21.02	36.94	28.03	14.01
7. Have counselled students	20.38	43.31	22.29	14.01

Table 4 Percentage of each activity of peer educators by a four-items index analysis (cont.)

Questions about performance of peer educators (n=157)	Always (%)	Sometimes (%)	Few (%)	Never (%)
Assisting the students to access condoms, life building skills, and STI and VCT services				
8. Have conducted condom demonstration	15.29	33.12	14.65	36.94
9. Have taught how to negotiate safe sex	20.38	36.94	24.20	18.47
10. Have introduced friends where STI and VCT services are available	17.83	38.85	23.57	19.75
Serving as positive role models				
11. Have performed role play	17.20	29.30	15.92	37.58
12. Have shared experience with friends	21.66	42.68	18.47	17.20
Introducing the students to others who can answer questions unable to be answered by peer educators				
13. Have introduced friends to teachers when you can't answer a question	19.75	34.39	28.66	17.20
14. Have introduced friends to health personnel when you can't answer a question	14.01	34.39	25.48	26.11
15. Have introduced friends to other peer educators when you can't answer a question	23.57	36.94	21.66	17.83

4.1.2 Predisposing factors : socio-demographic variables

The frequency and the percentage distribution of socio-demographic variables were shown in Table 5.

With regard to age, the mean was 16.74 years old. Nearly one-half of the respondents (45.22%) were 17 years old. Minimum and maximum ages were 15 and 18 years old respectively.

Regarding grade, nearly one-half of the respondents (45.22%) were in the 11th grade and the others were almost equally distributed between the 10th and 12th grades (26.11% and 28.66% respectively).

Nearly two-thirds of the respondents (66.88%) were female.

With respect to religion, a great majority of the respondents (93.63%) were Buddhist, 4.46 percent were Muslim, 1.27 percent were Christian, and 0.64 percent were Sikh respectively.

In relation to duration of working as a peer educator, the mean was 1 year and 9 months. Nearly one-half of the respondents (44.44%) had worked for less than one year. Minimum and maximum of duration were 3 months and 5 years respectively.

Table 5 Frequency and percentage by socio-demographic characteristics

Socio-demographic variables	Frequency (n=157)	%
Age (Years)		
15	9	5.73
16	50	31.85
17	71	45.22
18	27	17.20
Mean=16.74, SD=0.81, Min=15, Max=18		
Grade		
10 th grade	41	26.11
11 th grade	71	45.22
12 th grade	45	28.66
Gender		
Male	52	33.12
Female	105	66.88
Religion		
Buddhism	147	93.63
Christianity	2	1.27
Islam	7	4.46
Sikh	1	0.64

Table 5 Frequency and percentage by socio-demographic characteristics (cont.)

Socio-demographic variables	Frequency (n=63)	%
Duration of working as a peer educator		
≤ 12 months	28	44.44
13 – 35 months	18	28.57
≥ 36 months	17	26.98
Mean=21, SD=12.66, Min=3, Max=60		

4.1.3 Predisposing factors : knowledge on HIV/AIDS prevention

Table 6 displayed the frequency and percentage distribution of the respondents by level of knowledge about HIV/AIDS prevention. Data was elicited by 9 questions and knowledge levels were classified by using Benjamin Bloom's criteria as good, moderate or poor.

Nearly two-thirds of the respondents (66.88%) had moderate knowledge and 24.40 percent had good knowledge. Only 8.92 percent had poor knowledge. The mean total knowledge score was 6.83 and standard deviation was 1.05. Minimum and maximum scores were 4 and 9 respectively.

Table 6 Frequency and percentage by level of knowledge about HIV/AIDS prevention

Level of knowledge about HIV/AIDS prevention	Frequency (n=157)	%
Good	38	24.20
Moderate	105	66.88
Poor	14	8.92
Mean=6.83, SD=1.05, Min=4, Max=9		

Score: Poor : <60%, Moderate : 60% to 80%, Good : >80%

The frequency and the percentage distribution of the respondents of correct answer by each question of knowledge were displayed in Table 7. Knowledge questions were divided into four categories, namely: nature of HIV, transmission and risk of HIV, prevention of HIV infection, and nature of AIDS.

Most of the respondents answered correctly transmission and risk of HIV with 95.54 percent at the highest and nature of HIV with 90.13 percent. Prevention of HIV infection was answered correctly with a little lower 72.62 percent, and nature of AIDS was answered correctly with much lower 35.34 percent.

Especially all the questions about transmission and risk of HIV were answered correctly by more than 90 percent of the respondents ; the way of HIV transmission (97.45%), the high risk group for contracting HIV (94.27%) and the highest risk behavior for HIV infection (94.90%). They were the top three of highest percentage of correct answers among all the knowledge questions. Peer educators understood best about transmission and risk of HIV.

By contrast, nature of AIDS had the lowest percentage of correct answer (35.34%). In detail, the longest time to become full-blown AIDS patient was 26.75

percent and the symptom suspected as a case of AIDS was 43.95 percent. They were the top two of lowest percentage of correct answers among all the knowledge questions.

Table 7 Frequency and percentage by correct answer of questions about knowledge on HIV/AIDS prevention

Knowledge about HIV/AIDS prevention (n=157)	Frequency of correct answer	%
Nature of HIV		
1. The casual agent of HIV/AIDS	147	93.63
2. The test to detect HIV	136	86.62
Transmission and risk of HIV		
3. The way of HIV transmission	153	97.45
4. The high risk group for contracting HIV	148	94.27
5. The highest risk behavior for HIV infection	149	94.90
Prevention of HIV infection		
6. The way to prevent HIV infection	139	88.54
7. The safe sex practice	89	56.69
Nature of AIDS		
8. The longest time to become full-blown AIDS patient from time firstly infected with HIV	42	26.75
9. The symptom suspected as a case of AIDS	69	43.95

4.1.4 Predisposing factors : perception towards peer education for HIV/AIDS prevention

Table 8 showed the frequency and percentage distribution of the respondents by level of perception of peer education for HIV/AIDS prevention. The total score of all 10 questions was rated by Best' Rating Criteria as high or low.

Nearly two-thirds of the respondents (63.06%) had high perceptions of peer education for HIV/AIDS prevention. Mean total perception score was 21.54 and the standard deviation was 2.451. Minimum and maximum scores were 15 and 28 respectively.

Table 8 Frequency and percentage by level of perception towards peer education

Level of perception towards peer education	Frequency (n=157)	%
High	99	63.06
Low	58	36.94
Mean=21.54, SD=2.45, Min=15, Max=28		

Score: Low = 10 to 20, High = 21 to 30

Table 9 showed the frequency and the percentage of level of perception of peer education on HIV/AIDS prevention in terms of benefit and barrier. Each perception based on five questions was rated as high or low by Best' Rating Criteria.

85.35% of the respondents had a high perception of benefit of peer education and felt peer education had substantial benefits. The mean total score was 12.68 and standard deviation was 1.74. Minimum and maximum scores were 9 and 15 respectively.

On the other hand, in respect of barrier to peer education, almost the same proportion of the respondents (84.08%) had low perception of barrier to peer education. The mean total score was 8.86 and standard deviation was 1.836. Minimum and maximum scores were 5 and 15 respectively.

Table 9 Frequency and percentage of level of perception towards peer education and performance of peer educators by category

Level of perception towards peer education	Frequency (n=157)	%
Benefit		
High	134	85.35
Low	23	14.65
Mean=12.68, SD=1.74, Min=9, Max=15		
Barrier		
High	25	15.92
Low	132	84.08
Mean=8.86, SD=1.83, Min=5, Max=15		

Score: Low= 5 to 10, High = 11 to 15

The percentage distribution of the respondents by each statement was presented in Table 10.

Among the statements about benefit of peer education, the respondents had high level of perception in every statements based on the mean. 80.25 percent of them agreed that peer education provided opportunity to talk about their sexual problems openly at the highest percentage with the highest mean (2.55), and only 2.55 percent disagreed it as well as 17.20 percent were not sure about it at the lowest percentages. The statement that peer education could improve knowledge more effectively was

agreed at the second highest percentage (57.96%). Comparing changing attitude and changing behavior with improving knowledge, they agreed changing attitude and changing behavior at lower percentage than improving knowledge (50.32%, 43.31%, 57.96% respectively) as the mean also indicated (2.43, 2.39, and 2.55 respectively). In reverse to the percentage of agreement, more respondents answered not sure to the statement with lower percentage of agreement and less respondents answered not sure to the statement with higher percentage of agreement (42.67%, 52.23%, and 38.85% respectively).

On the other hand, among the statements about barrier to peer education, the respondents had low level of perception in only one statement about difficulty of understanding materials based on the mean. Almost 60 percent of them agreed that some adults do not like students to talk about sexual issues as the highest percentage (59.87%). 40.13 percent of them agreed about no fixed place for meeting as the second highest percentage, and a little lower percentage of them (36.94%) agreed that peer educators do not have money to conduct their activities at the third highest percentage of agreement. However, more respondents did not have clear perception of barrier than perception of benefit because more respondents answered not sure to statements about barrier. Approximately one-half proportion of them answered was not sure in four statements about perception of barrier.

Table 10 Percentage of each statement about perceptions towards peer education by a three-items index analysis

Statement about perceptions towards peer education (n=157)	Agree (%)	Not sure (%)	Dis-agree (%)	Mean	SD	Comment
Benefits of peer education						
1. Peer education can improve participants' knowledge more effectively than teacher-led education.	57.96	38.85	3.18	2.55	0.56	High
2. Peer education can change attitude of participants more effectively than teacher-led education.	50.32	42.68	7.01	2.43	0.62	High
3. Peer education can change behavior of participants more effectively than teacher-led education.	43.31	52.23	4.46	2.39	0.57	High
4. Peer education provides opportunity for participants to talk about their sexual problems openly.	80.25	17.20	2.55	2.78	0.48	High
5. Peer education can contribute to reducing the risk of HIV infection in adolescents.	57.32	38.22	4.46	2.53	0.58	High

Table 10 Percentage of each statement about perceptions towards peer education by a three-items index analysis (cont.)

Statement about perceptions towards peer education (n=157)	Agree (%)	Not sure (%)	Dis-agree (%)	Mean	SD	Comment
Barriers to peer education						
6. There is no fixed place for peer educators to have a meeting.	40.13	49.04	10.83	2.33	0.65	High
7. Peer educators don't have enough time to participate in peer education activities.	31.85	46.50	21.66	2.11	0.73	High
8. Some adults don't like students to talk about sexual issues.	59.87	30.57	9.55	2.56	0.67	High
9. Materials to conduct peer education are difficult to understand.	20.38	54.14	25.48	1.94	0.68	Low
10. Peer educators don't have money to conduct their activities.	36.94	55.41	7.64	2.33	0.60	High

Score: Low = 1 to 2.00, High = 2.01 to 3

4.1.5 Predisposing factors : self-efficacy

Table 11 displayed the frequency and the percentage distribution of the respondents by level of self-efficacy. The total score of five questions was rated by Best' Rating Criteria as high or low.

Nearly three-quarters of the respondents (77.71%) had high levels of self-efficacy. The mean total self-efficacy score was 11.91 and standard deviation was 1.87. Minimum and maximum scores were 5 and 15 respectively.

Table 11 Frequency and percentage by level of self-efficacy

Level of self-efficacy	Frequency (n=157)	%
High	122	77.71
Low	35	22.29

Mean=11.91, SD=1.87, Min=5, Max=15

Score: Low = 5 to 10, High = 11 to 15

Table 12 indicated the percentage distribution of the respondents by each statement of self-efficacy. Of five statements, they had high level of confidence in three positive statements and low level of confidence in two negative statements based on the mean.

Of the positive statements, nearly three-quarters of the respondents (73.89%) agreed the statement that I'm good at working with others at the highest percentage, which was disagreed by 1.91 percent of them. The second highest percentage of them (64.97%) agreed the statement that I'm good at conducting activities, which was disagreed by 1.27 percent of them. Only one-half of them (49.04%) agreed the statement that I'm good at talking about HIV/AIDS, which was disagreed by 7.01 percent of them.

Concerning negative statements, most respondents answered not sure about no confidence in planning activities (59.87%) and no confidence in counseling friends (46.50%) among three choices of answers.

Table 12 Percentage of each statement about self-efficacy by a three-items index analysis

Statements about self-efficacy (n=157)	Agree (%)	Not sure (%)	Dis-agree (%)	Mean	SD	Comment
1. I'm good at talking about HIV/AIDS.	49.04	43.95	7.01	2.42	0.62	High
2. I don't have confidence in counseling friends.	24.84	46.50	28.66	1.96	0.73	Low
3. I'm good at working with others.	73.89	24.20	1.91	2.72	0.49	High
4. I don't have confidence in planning activities.	15.29	59.87	24.84	1.90	0.63	Low
5. I'm good at conducting activities.	64.97	33.76	1.27	2.64	0.51	High

Score: Low = 1 to 2.00, High = 2.01 to 3

4.1.6 Predisposing factors : internal motivation

The frequency and the percentage distribution of the respondents by level of internal motivation were shown in Table 13. The total score of six questions was rated by Best' Rating Criteria as high or low.

80.89 percent of the respondents had high levels of internal motivation to be a peer educator. The mean total internal motivation score was 14.62 and standard deviation was 2.08. Minimum and maximum scores were 9 and 18 respectively.

Table 13 Frequency and percentage by level of internal motivation

Levels of internal motivation	Frequency (n=157)	%
High	127	80.89
Low	30	19.11
Mean=14.62, SD= 2.08, Min=9, Max=18		

Score: Low = 6 to 12, High = 13 to 18

Table 14 indicated the frequency and the percentage distribution of level of internal motivation by categories, namely: belongingness/affection, self-esteem and self-actualization. The result showed that most of the respondents had high levels of belongingness/affection (67.50%) and high self-actualization (77.07%). For self-esteem, nearly one-half of them had high level (48.41%) or low level (51.59%).

Table 14 Frequency and percentage of levels of internal motivation by categories of internal motivation

Levels of internal motivation	Frequency (n=157)	%
Belongingness/affection		
High	106	67.52
Low	51	32.48
Mean=4.80, SD= 0.81, Min=2, Max=6		

Table 14 Frequency and percentage of levels of internal motivation by categories of internal motivation (cont.)

Levels of internal motivation	Frequency (n=157)	%
Self-esteem		
High	76	48.41
Low	81	51.59
Mean=4.54, SD=1.11, Min=2, Max=6		
Self-actualization		
High	121	77.07
Low	36	22.93
Mean=5.29, SD=0.83, Min=3, Max=6		
Score: Low = 2 to 4, High = 5 to 6		

The percentage distribution of the respondents by each statement was shown in Table 15. They had high level of internal motivation in every statements based on the mean.

Most of the respondents (73.25%) agreed the statement that I still want to learn more and use the knowledge to improve further health conditions of other people at the highest proportion, which was one of the self-actualization statements. Nearly two-thirds of them agreed the statement that I care about my friends' needs and problems (66.24%) at the second highest, which was one of the belongingness/affection statements, and the statement that I believe I'm fulfilling my responsibilities of a good Buddhist (58.60%) at the third highest, which was the other of the self-actualization statements.

More than two-thirds of the respondents (71.97%) answered not sure about that I feel that the students like me more, which was one of the belongingness/affection statements. A bit lower percentage of them (63.06%) answered not sure about the statement about being a peer educator makes me more respected, which was one of the self-esteem statements.

Among three categories of internal motivation, self-actualization was the most likely to be reasons for the respondents to be peer educators, judging from the average mean of 2.65, followed by belongingness/affection (2.4) and self-esteem (2.27).

Table 15 Percentage of each statement about internal motivation by a three-items index analysis

Statements about internal motivation (n=157)	Agree (%)	Not sure (%)	Dis-agree (%)	Mean	SD	Comment
Belongingness/affection						
1. I care about my friends' needs and problems with regard to HIV/AIDS prevention.	66.24	31.85	1.91	2.64	0.52	High
2. I feel that the students in my school like me more when I'm a peer educator.	21.66	71.97	6.37	2.15	0.51	High

Table 15 Percentage of each statement about internal motivation by a three-items index analysis (cont.)

Statements about internal motivation (n=157)	Agree (%)	Not sure (%)	Dis- agree (%)	Mean	SD	Comment
Self-esteem						
3. Being a peer educator makes me more popular in school.	46.50	45.22	8.28	2.38	0.64	High
4. Being a peer educator makes me more respected in school.	26.11	63.06	10.83	2.15	0.59	High
Self-actualization						
5. I believe I'm fulfilling my responsibilities as a good Buddhist (or Christian, Muslim, others) by being a peer educator.	58.60	38.85	2.55	2.56	0.55	High
6. I still want to learn more about HIV/AIDS prevention and use the knowledge to improve further the health conditions of other people.	73.25	26.75	0	2.73	0.44	High

Score: Low = 1 to 2.00, High = 2.01 to 3

4.1.7 Enabling factors : availability of resources

Table 16 presented the frequency and percentage distribution of availability of six resources. Attending training course and fixed place were available for nearly two-thirds of the respondents at the higher percentage (68.79% and 64.33% respectively). Among those who had attended training course, nearly 70 percent had a chance to attend the training course two times or more. The result also showed that nearly 60 percent of them did not have budget (58.60%), enough time (56.05%), participation of many students (52.57%) or materials (52.23%).

Table 16 Frequency and percentage by availability of resources

Availability of resources	Frequency (n=157)	%
A fixed place		
Yes	101	64.33
No	56	35.67
Time		
Enough	69	43.95
Not enough	88	56.05
Participation of many students		
Yes	74	47.13
No	83	52.87
Materials		
Enough	75	47.77
Not enough	82	52.23

Table 16 Frequency and percentage by availability of resources (cont.)

Availability of resources	Frequency (n=157)	%
Budget		
Enough	65	41.40
Not enough	92	58.60
Have attended training course		
Yes	108	68.79
No	49	31.21
The number of training course attended (n=67)		
1 time	21	31.34
2 times	21	31.34
≥ 3 times	25	37.31
Mean=2.63, SD=2.81, Min=1, Max=20		

4.1.8 Enabling factors : accessibility of resources

Table 17 showed the frequency and percentage distribution of accessibility of six resources. About 60 percent of the respondents could easily get opportunity to attend training course (61.78%) and use places (61.15%) at the higher percentage. With respect to budget, nearly three-quarters (74.52%) did not feel easiness to use budget at the highest percentage for no accessibility. Accessibility of training, place and budget were corresponding to availability of each of them. As for materials, a little bit higher percentage of the respondents felt easiness to find materials than availability of materials. However, concerning time and participation of students, more respondents felt easiness to prepare or conduct activity within allocated time and to motivate students to participate, while more of them felt not enough time and having no participation of many students in opposite way.

Table 17 Frequency and percentage by accessibility of resources

Accessibility of resources	Frequency (n=157)	%
Easy to use places		
Yes	96	61.15
No	61	38.85
Easy to prepare or conduct activity within allocated time		
Yes	86	54.78
No	71	45.22
Difficult to motivate students to participate		
Yes	60	38.22
No	97	61.78
Easy to find materials		
Yes	89	56.69
No	68	43.31
Easy to use budget		
Yes	40	25.48
No	117	74.52
Easy to get opportunity to attend training		
Yes	97	61.78
No	60	38.22

4.1.9 Reinforcing factor

Table 18 indicated the frequency and the percentage distribution of the respondents by level of social support. The total score of 18 questions was rated by Best' Rating Criteria as good, moderate or poor.

Slightly over one-half of the respondents got moderate social support and the less 36.31 percent got good social support. Only 9.55 percent got poor social support. The mean total social support score was 32.29 and standard deviation was 9.91. Minimum and maximum scores were 6 and 54 respectively.

Table 18 Frequency and percentage by level of social support

Levels of social support	Frequency (n=157)	%
Good	57	36.31
Moderate	85	54.14
Poor	15	9.55
Mean=32.30, SD=9.91, Min=6 , Max=54		

Score: Poor = 0 to 18, Moderate = 19 to 36, Good = 37 to 54

Table 19 showed the frequency and the percentage distribution of level of social support by categories of social support, namely: informational support, instrumental support and emotional support. Informational support had the highest proportion of good level among three categories of social support. However, percentages of good and moderate were not different (46.50% and 45.22%). Instrumental support and emotional support had the highest proportion of moderate (41.40% and 49.68% respectively). However, instrumental support had high percentage of poor (36.94%) while emotional support had high percentage of good (30.57%). In sum, informational support was relatively good support for the

respondents whereas instrumental support and emotional support was relatively moderate support for them.

Table 19 Frequency and percentage of levels of social support by categories of social support

Level of social support	Frequency (n=157)	%
Informational support		
Good (19 – 27)	73	46.50
Moderate (10 – 18)	71	45.22
Poor (0 – 9)	13	8.28
Mean=17.75, SD=5.16, Min=3 , Max=27		
Instrumental support		
Good (9 – 12)	34	21.66
Moderate (5 – 8)	65	41.40
Poor (0 – 4)	58	36.94
Mean=5.93, SD=3.28, Min=0 , Max=12		
Emotional support		
Good (11 – 15)	48	30.57
Moderate (6 – 10)	78	49.68
Poor (0 – 5)	31	19.75
Mean=8.61, SD=3.35, Min=0 , Max=15		

Table 20 indicated the frequency and the percentage distribution of level of social support by categories of source, namely: teacher/school, health personnel, NGOs, other peer educators, and family.

Nearly one-half of the respondents got moderate support from teacher/school, health personnel and NGOs (50.32%, 52.87%, and 49.94% respectively). The support from these three sources showed the same trend that highest proportion was moderate, followed by good and poor. As for support from family, though highest proportion was moderate (46.50%), the second highest was poor, and the proportions of poor and good were not so different (28.66% and 24.84% respectively). Support from other peer educators had the different trend that the highest proportion was good (42.68%), followed by moderate (36.94%) and poor (20.38%). In conclusion, the respondents got the support from other peer educators relatively more while they got the support from family relatively less.

Table 20 Frequency and percentage of levels of social support by categories of source

Levels of social support	Frequency (n=157)	%
Teacher / school		
Good (9 – 12)	62	39.49
Moderate (5 – 8)	79	50.32
Poor (0 – 4)	16	10.19
Mean=7.76, SD=2.35, Min=2 , Max=12		
Health personnel in health center		
Good (9 – 12)	46	29.30
Moderate (5 – 8)	83	52.87
Poor (0 – 4)	28	17.83
Mean=6.88, SD=2.63 Min=0, Max=12		

Table 20 Frequency and percentage of levels of social support by categories of source (cont.)

Levels of social support	Frequency (n=157)	%
NGOs		
Good (9 – 12)	48	30.57
Moderate (5 – 8)	77	49.04
Poor (0 – 4)	32	20.38
Mean=6.96, SD=3.05, Min=0, Max=12		
Other peer educators		
Good (7 – 9)	67	42.68
Moderate (4 – 6)	58	36.94
Poor (0 – 3)	32	20.38
Mean=5.82, SD=2.28, Min=0 , Max=9		
Family		
Good (7 – 9)	39	24.84
Moderate (4 – 6)	73	46.50
Poor (0 – 3)	45	28.66
Mean=4.88, SD=2.13, Min=0, Max=9		

The percentage distribution of the respondents by each question about social support was presented in Table 21.

The respondents got a lot of social supports such as information from teacher (48.41%) at the highest percentage, followed by information from other peer

educators as well as suggestion or advice from other peer educators (36.94%), information from health personnel (34.39%), and information from NGOs (33.76%). Combining percentages in a lot, moderate and a few as existence of social support provided, the order of the highest percentage of support they got was a bit changed as follows ; information from teacher (100.00%), information from health personnel (96.81%), information from NGOs (95.54%), suggestion or advice from other peer educators (94.27%), and information from other peer educators as well as appreciation or mental support from family (70.70%). Appreciation or mental support from family emerged into top five.

In terms of each category of social support, among all informational supports, the respondents got a lot of information from teacher (48.41%) at the highest percentage, followed by information from other peer educators as well as suggestion or advice from other peer educators (36.94%). Among all instrumental supports, they got a lot of materials or budget from NGOs (22.94%) at the highest, followed by those from teacher/school (19.11%). Among all emotional supports, they got a lot of appreciation or mental advice from family (28.66%) at the highest, followed by those from teacher (24.36%) and those from other peer educators (23.57%).

On the other hand, the respondents never got materials or budget from family (26.11%) at the highest, followed by materials or budget from NGOs (19.75%), appreciation or mental advice from health personnel (19.11%), and materials or budget from teacher/school as well as appreciation or mental advice from NGOs (17.83%).

In terms of each category of social support, among all informational supports, the respondents never got suggestion or advice from NGOs (15.29%) at the highest, followed by information from family (10.19%) and suggestion or advice from health personnel (9.55%). Among all instrumental supports, they never got materials or budget from family (26.11%) at the highest, followed by those from NGOs (19.75%). Among all emotional supports, they never got appreciation or mental advice from health personnel (19.11%) at the highest, followed by those from NGOs (17.83%).

Table 21 Percentage of social support by a four-items index analysis

Questions about social support (n=157)	A lot (%)	Moderate (%)	A few (%)	Never (%)
Informational support				
1. Information from teachers	48.41	39.49	12.10	0
2. Information from health personnel	34.39	43.31	19.11	3.18
3. Information from NGOs	33.76	45.86	15.92	4.46
4. Information from other peer educators	36.94	33.76	22.29	7.01
5. Information from family	23.57	29.30	36.94	10.19
6. Suggestion or advice from teachers	33.12	37.58	21.66	7.64
7. Suggestion or advice from health personnel	26.75	36.94	26.75	9.55
8. Suggestion or advice from NGOs	15.92	33.76	35.03	15.29
9. Suggestion or advice from other peer educators	36.94	31.85	25.48	5.73

Table 21 Percentage of social support by a four-items index analysis (cont.)

Questions about social support (n=157)	A lot (%)	Moderate (%)	A few (%)	Never (%)
Instrumental support				
10. Materials or budget from teachers/schools	19.11	33.12	29.94	17.83
11. Materials or budget from health personnel	15.92	33.76	35.03	15.29
12. Materials or budget from NGOs	22.94	31.21	26.11	19.75
13. Materials or budget from family	13.38	31.21	29.30	26.11
Emotional support				
14. Appreciation or mental advice from teachers (n=156)	24.36	50.64	17.31	7.69
15. Appreciation or mental advice from health personnel	13.38	40.13	27.39	19.11
16. Appreciation or mental advice from NGOs	17.20	35.67	29.30	17.83
17. Appreciation or mental advice from other peer educators	23.57	43.04	26.11	8.28
18. Appreciation or mental advice from family	28.66	39.49	24.84	7.01

4.2 Association between the independent variables and the dependent variable

4.2.1 Association between predisposing factors : socio-demographic factors and performance of peer educators

Table 22 showed the results of Chi-square analysis between socio-demographic factors and performance of peer educators. It revealed that there was only significant association identified between duration of working and performance of peer educators (p-value=0.006). The longer experience of working had the higher proportion of high performance.

Table 22 Association between socio-demographic variables and performance of peer educators

Socio demographic variables	High performance		Low performance		χ^2	p-value
	N	%	N	%		
	(n=80)		(n=77)			
Age (Years)					3.488	0.175
15 – 16	26	44.07	33	55.93		
17	42	59.12	29	40.85		
18	12	44.44	15	55.56		
Grade					0.537	0.765
10 th grade	20	48.78	21	51.22		
11 th grade	35	49.30	36	50.70		
12 th grade	25	55.56	20	44.44		

Table 22 Association between socio-demographic variables and performance of peer educators (cont.)

Socio demographic variables	High performance		Low performance		χ^2	p-value
	N	%	N	%		
	(n=80)		(n=77)			
Gender					0.721	0.396
Male	29	55.77	23	44.23		
Female	51	48.57	54	51.43		
Religion					0.004	1.000
Buddhism	75	51.02	72	48.98		
Others	5	50.00	5	50.00		
Duration of working as a peer educator	(n=40)		(n=23)		10.225	0.006*
≤ 12 months	12	42.86	16	57.14		
13 – 35 months	13	72.22	5	27.78		
≥ 36 months	15	88.24	2	11.76		

*Significant association (p<0.01)

4.2.2 Association between predisposing factors : knowledge on HIV/AIDS prevention and performance of peer educators

The association between knowledge about HIV/AIDS prevention and performance of peer educators was presented in Table 23. The result showed no statistically significant association between knowledge about HIV/AIDS prevention and performance of peer educators (p-value=0.170). It could be elucidated that no matter what level of knowledge were, it had no impact on performance of peer educators.

Table 23 Association between level of knowledge on HIV/AIDS prevention and performance of peer educators

Level of knowledge on HIV/AIDS prevention	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
	Knowledge					
Good	23	60.53	15	39.47		
Moderate	48	45.71	57	54.29		
Poor	9	64.29	5	35.71		

4.2.3 Association between predisposing factors : perception towards peer education on HIV/AIDS and performance of peer educators

The result in Table 24 displayed that 61.62 percent of high level of perception group had high performance and the relatively lower 32.76 percent of low level of perception group had high performance. There was a statistically significant association between perception of peer education about HIV/AIDS and performance of peer educators (p-value<0.001).

Table 24 Association between level of perception towards peer education and performance of peer educators

Level of perception towards peer education	High		Low		χ^2	p-value
	performance		performance			
	(n=80)	%	(n=77)	%		
Perception					12.187	<0.001*
High	61	61.62	38	38.38		
Low	19	32.76	39	67.24		

*Significant association (p<0.01)

Table 25 presented the association between level of perception of peer education about HIV/AIDS and performance of peer educators by categories, these are, benefit and barrier. There was no significant association identified between benefit of peer education and performance of peer educators, or barrier to peer education and performance of peer educators.

Table 25 Association between levels of perception towards peer education and performance of peer educators by category of perception

Level of perception towards peer education	High		Low		χ^2	p-value
	performance		performance			
	(n=80)	%	(n=77)	%		
Perception						
Benefit					2.820	0.093
High	72	53.73	62	46.27		
Low	8	34.78	15	65.22		

Table 25 Association between levels of perception towards peer education and performance of peer educators by category of perception (cont.)

Level of perception towards peer education	High		Low		χ^2	p-value
	performance		performance			
	(n=80)	%	(n=77)	%		
Perception						
Barrier					0.104	0.747
High	12	48.00	13	52.00		
Low	68	51.52	64	48.48		

4.2.4 Association between predisposing factors : self-efficacy and performance of peer educators

Table 26 displayed the association between self-efficacy and performance of peer educators. No statistically significant association between self-efficacy and performance of peer educators was found (p-value=0.064).

Table 26 Association between level of self-efficacy and performance of peer educators

Levels of self-efficacy	High		Low		χ^2	p-value
	performance		performance			
	(n=80)	%	(n=77)	%		
Self-efficacy					3.439	0.064
High	67	54.92	55	45.08		
Low	13	37.14	22	62.86		

4.2.5 Association between predisposing factors : internal motivation and performance of peer educators

A statistically significant association was identified between internal motivation and performance of peer educators (p -value=0.011). Internal motivation had an impact on performance of peer educators as shown in Table 27.

Table 27 Association between level of internal motivation and performance of peer educators

Levels of internal motivation	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
	Internal motivation					
High	71	55.19	56	44.09		
Low	9	30.00	21	70.00		

*Significant association ($p < 0.05$)

Table 28 showed the association between performance of peer educators, and each category of internal motivation, namely: belongingness/affection, self-esteem, and self-actualization. The data indicated that there was a significant association between belongingness/affection and performance of peer educators (p -value<0.001). Moreover, a significant association between self-esteem and performance of peer educators was also found (p -value<0.001). That is, those who had high level of belongingness/affection or self-esteem had higher performance than those who had low level.

Concerning self-actualization, there was no statistically significant association between self-actualization as a particular category of internal motivation and performance of peer educators (p -value=0.803). This was, in fact, very little effective in level of self-actualization between high performing and low performing respondents.

Table 28 Association between levels of internal motivation and performance of peer educators by categories of internal motivation

Levels of internal motivation	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
Internal motivation						
Belongingness/affection					14.029	<0.001*
High	65	61.32	41	38.68		
Low	15	29.41	36	70.59		
Self-esteem					17.981	<0.001*
High	52	68.42	24	31.58		
Low	28	34.57	53	65.43		
Self-actualization					0.062	0.803
High	61	50.41	60	49.59		
Low	19	52.78	17	47.22		

*Significant association (p<0.01)

4.2.6 Association between enabling factors : availability of resources and performance of peer educators

Table 29 showed the association between availability of resources and performance of peer educators. A fixed place, time, attending training course, and the number of training course attended were found to have a significant association with performance of peer educators.

As for a fixed place, 57.43 percent of the respondents answered there is a fixed place had high performance and the lower 39.29 percent of those who answered no fixed place had high performance (p-value=0.029).

Regarding time, enough time was likely to have more high performance than who did not have enough time (p-value=0.028).

With regard to training courses, 61.11 percent of those who had attended training courses had high performance and the lower 28.57 percent of those who didn't attend training courses had high performance. A statistically significant association was identified between availability of training course and performance of peer educators (p-value<0.001).

Among those who had attended training course, more training courses respondents had attended, more likely they had high performance (p-value<0.001).

Table 29 also indicated that there were no significant associations between participation of many students, materials, or budget, and the performance of peer educators.

Table 29 Association between availability of resources and performance of peer educators

Availability of resources	High performance		Low performance		χ^2	p-value
	N	%	N	%		
	(n=80)		(n=77)			
A fixed place					4.744	0.029*
Yes	58	57.43	43	42.57		
No	22	39.29	34	60.71		
Time					4.842	0.028*
Enough	42	60.87	27	49.04		
Not enough	38	43.18	50	56.82		

Table 29 Association between availability of resources and performance of peer educators (cont.)

Availability of resources	High performance		Low performance		χ^2	P-value
	N	%	N	%		
	(n=80)		(n=77)			
Participation of many students					1.885	0.170
Yes	42	56.76	32	43.24		
No	38	45.78	45	54.22		
Materials					0.791	0.374
Enough	41	54.67	34	45.33		
Not enough	39	47.56	43	52.44		
Budget					1.784	0.182
Enough	29	44.62	36	55.38		
Not enough	51	55.43	41	44.57		
Have attended training course					14.281	<0.001**
Yes	66	61.11	42	38.89		
No	14	28.57	35	71.43		
Number of training courses attended	(n=43)		(n=24)		15.217	<0.001**
1	8	38.10	13	61.90		
2	15	60.00	10	40.00		
≥ 3	20	95.24	1	4.76		

*Significant association (p<0.05)

**Significant association (p<0.01)

4.2.7 Association between enabling factors : accessibility of resources and performance of peer educators

Table 30 presented the association between accessibility of resources and performance of peer educators. A significant association was found between the performance of peer educators, and accessibility of place, materials, budget, and training.

With regard to easiness to use places, 61.46 percent of those who answered they could easily use places had high performance, and relatively lower 34.43 percent of those who answered they could not easily use places place had high performance (p-value=0.001).

Concerning easiness to find materials, 58.43 percent of those who could easily find materials had high performance and relatively lower 41.18 percent of those who could not easily find materials had high performance (p-value=0.032).

In terms of easiness to use budget, 67.50 percent of those who could easily use budget had high performance and relatively lower 41.18 percent of those who could not easily use budget had high performance (p-value=0.015).

Regarding easiness to get opportunity to attend training, 59.79 percent of those who could easily get opportunity had high performance, while only 36.67 percent of those who could not easily get opportunity had high performance (p-value=0.005).

Concerning easiness to prepare or conduct activity within allocated time, and difficulty of mobilization of students, no statistically significant associations were found with performance of peer educators.

Table 30 Association between accessibility of resources and performance of peer educators

Accessibility of resources	High performance		Low performance		χ^2	p-value
	N	%	N	%		
	(n=80)		(n=77)			
Easy to use places					10.906	0.001**
Yes	59	61.46	37	38.54		
No	21	34.43	40	65.57		
Easy to prepare or conduct activity within allocated time					1.796	0.180
Yes	48	55.81	38	44.19		
No	32	45.07	39	54.93		
Difficult to motivate the students to participate					0.267	0.605
Yes	29	48.33	31	51.67		
No	51	52.58	46	47.42		
Easy to find materials					4.590	0.032*
Yes	52	58.43	37	41.57		
No	28	41.18	40	58.82		

Table 30 Association between accessibility of resources and performance of peer educators (cont.)

Accessibility of resources	High performance		Low performance		χ^2	p-value
	N	%	N	%		
	(n=80)		(n=77)			
Easy to use budget					5.879	0.015*
Yes	27	67.50	13	32.50		
No	53	45.30	64	54.70		
Easy to get opportunity to attend training					7.934	0.005**
Yes	58	59.79	39	40.21		
No	22	36.67	38	63.33		

*Significant association (p<0.05)

**Significant association (p<0.01)

4.2.8 Association between reinforcing factor and performance of peer educators

The result of Table 31 displayed that 92.98 percent of good level of social support group had high performance, lower 30.59 percent of moderate level group had high performance, and much lower 6.67 percent of poor level group had high performance. A statistically significant association was found between social support and performance of peer educators (p-value<0.001).

Table 31 Association between level of social support and performance of peer educators

Level of social support	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
	Social support					
Good	53	92.98	4	7.02		
Moderate	26	30.59	59	69.41		
Poor	1	6.67	14	93.33		

*Significant association (p<0.01)

Table 32 showed the association between performance of peer educators, and each category of social support, namely: informational support, instrumental support and emotional support. All categories of social support had statistically significant associations with performance of peer educators. All of them showed the same trend that higher level of social support respondents got, more likely respondents had high performance.

Table 32 Association between levels of social support and performance of peer educators by categories of social support

Level of social support	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
Social support						
Informational support					29.306	<0.001*
Good	54	73.97	19	26.03		
Moderate	23	32.39	48	67.61		
Poor	3	23.08	10	76.92		
Instrumental support					47.225	<0.001*
Good	31	91.18	3	8.82		
Moderate	38	58.46	27	41.54		
Poor	11	18.97	47	81.03		
Emotional support					29.308	<0.001*
Good	39	81.25	9	18.75		
Moderate	34	43.59	44	56.41		
Poor	7	22.58	24	77.42		

*Significant association (p<0.01)

Table 33 indicated association between performance of peer educators, and each source of social support, namely, teacher/school, health personnel, NGOs, other peer educators and family. All sources were identified statistically significant association with performance of peer educators. All of them had the same trend that higher level of support respondents got, the higher proportion of them had high performance.

Table 33 Association between levels of social support and performance of peer educators by categories of source

Level of social support	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
Social support						
Teacher / school					34.509	<0.001*
Good	48	77.42	14	22.58		
Moderate	31	39.24	48	60.76		
Poor	1	6.25	15	93.75		
Health personnel					38.695	<0.001*
Good	40	86.96	6	13.04		
Moderate	35	42.17	48	57.83		
Poor	5	17.86	23	82.14		
NGOs					49.616	<0.001*
Good	43	89.58	5	10.42		
Moderate	33	42.86	44	57.14		
Poor	4	12.50	28	87.50		
Other peer educators					34.830	<0.001*
Good	50	74.63	17	25.37		
Moderate	26	44.83	32	55.17		
Poor	4	12.50	28	87.50		

Table 33 Association between levels of social support and performance of peer educators by categories of source (cont.)

Level of social support	High performance		Low performance		χ^2	p-value
	(n=80)	%	(n=77)	%		
Social support						
Family					21.634	<0.001*
Good	29	74.36	10	25.64		
Moderate	40	54.79	33	45.21		
Poor	11	24.44	34	75.56		

*Significant association (p<0.01)

CHAPTER V

DISCUSSION

Main findings from this research about performance of peer educators on HIV/AIDS prevention among high school students in Bangkok were discussed as follows.

5.1 Performance of peer educators

The result found that 50.96 percent of the respondents had high performance in peer education and 49.04 percent of them had low performance in peer education.

Combining the percentages in always, sometimes and few, the most common activities (85.99%) were disseminating pamphlet and facilitating group discussion. They were very closely followed by counseling students (85.98%), sharing experience with friends (82.81%), introducing friends to teacher (82.80%), displaying a poster, planning event on special day, conducting event on special day and introducing friends to other educators (82.17%). These activities were more performed by peer educators. The reason might be that they were easy to do such as disseminating pamphlet or displaying a poster, and less expensive to conduct such as facilitating group discussion, counselling students, sharing experience with friends, or introducing friends to teacher or other peer educators, or attractive activity such as event on special day.

On the other hand, nearly 40 percent of the respondents never conducted spot radio broadcasting (38.22%) nor performed role play (37.58%). They were followed by never conducting condom demonstration (36.94%), introducing friends to health personnel (26.11%), nor introducing friends to STI and VCT services (19.75%).

The reasons might be that conducting spot radio broadcasting would require more facility, performing novel acting would require many practices, even peer educators might feel shy in conducting condom demonstration, they might be less likely to be related with health personnel, and STI and VCT services would rather be related to after infection than prevention.

In addition, considering the roles of peer educators, the role which the peer educators performed the most (85.99%) was to facilitate the students to think about their ideas and attitudes, followed by to increase awareness of HIV/AIDS prevention (81.17%), to introduce the students to others who can answer questions (79.62%), to share information with the students (76.65%), to assist the students to access condom, life building skills, and STI and VCT services (74.65%), and to serve as positive role models (72.62%). This result indicated more than 70 percent of the respondents performed all kinds of their roles for HIV/AIDS prevention. However, approximately 30 percent of them did not perform their roles. It might be that some of them had low experience as peer educators, so that they might not have chance to conduct some activities to perform their roles.

However, there was no previous study focusing on performance of peer educators, so that the result of this research could not be compared.

5.2 Predisposing factors : socio-demographic factors

5.2.1 Age

This research targeted on high school students, so that the range of age was only from 15 to 18 years old. There was no significant association found between age and performance of peer educators.

The reason why there was no significant association between age and performance in this research might be that there was very narrow range of age among the respondents, namely, four years.

However, as different from this result, many of previous studies about performance or participation of VHVs identified significant association between age, and performance or participation, conducted by such as Tiewsuwan B (28), Kongsap S (29), Nguyen TH (30), Piedad Publio V (31), and Yenn R (32). On the other hand, there were some previous studies about performance of VHVs found significant association between age and performance, conducted by such as Ketsophaphong B (33) and Jinpeng X (34).

5.2.2 Grade

Grade was almost corresponding to age. As no significant association was found between age and performance of peer educators, there was also no significant association identified between grade and performance of peer educators. No previous studies focused on the grade.

5.2.3 Gender

This research identified that one-third of the respondents were male and two-thirds of them were female, and 55.77 percent of the male respondents had high performance and a little bit lower 48.57 percent of the female respondents had high performance. However, no significant association between gender and performance of peer educators was found.

As similar to the result of this research, most of previous studies about performance or participation of VHVs did not identify significant association between gender, performance or participation of VHVs, conducted by such as Tiewsuwan B (28), Kongsap S (29), Nguyen TH (30), Piedad Publio V (31), Ketsophaphong B (33), Jinpeng X (34), Yenn R (32) and Ratoran S (35). In conclusion, gender did not have impact on performance of peer educators.

5.2.4 Religion

93.63 percent of the respondents were Buddhist and only 6.37 percent belonged to other religions in this research. Similar proportions of both group had high performance (Buddhist: 51.02%, others: 50.00%). There was no significant

association found between religion and performance of peer educators. No previous studies were conducted to focus on the religion as important independent variable.

5.2.5 Duration of working

In this research, 42.86 percent of those who had worked for less than one year had high performance, more 72.22 percent of those who had worked for one to less than three years had high performance, and much more 88.24 percent of those who had worked for three or above years had high performance. A significant association was found between duration of working and performance of peer educators.

As similar to this result, many of previous studies about performance or participation of VHVs identified significant associations between duration of working as VHVs, and performance or participation of VHVs, conducted by such as Tiewsuwan B (28), Kongsap S (29), Jinpeng X (34), Yenn R (32) and Ratoran S (35). However, some of previous studies conducted by Ketsophaphong B (33) and Nguyen TH (30) did not reveal significant association between duration of working and performance of VHVs.

From the findings of this research, it is likely that longer peer educators have worked, they have higher performance.

5.3 Predisposing factors : psychosocial factors

5.3.1 Knowledge on HIV/AIDS prevention

Slightly over two-thirds of the respondents (66.88%) had moderate knowledge about HIV/AIDS prevention, nearly one-fourth of them (24.20%) had good knowledge, and only 8.92% of them had poor knowledge. Nearly 60 percent of the respondents who had good knowledge or poor knowledge had high performance (60.53% and 64.29% respectively) while lower 45.71 percent of those who had moderate knowledge had high performance. No significant association was identified

between knowledge about HIV/AIDS prevention and performance of peer educators in this research.

The result was similar to the finding from some previous studies about performance or participation of VHVs conducted by Tiewsuwan B (28) and Yenn R (32), that there was no significant association between knowledge about the PHC and CPHCC concept or nutrition program, and the performance or participation of VHVs.

However, there were some previous studied about performance of VHVs conducted by Ketsophaphong B (33), Kongsap S (29) and Nguyen TH (30) which found significant association between knowledge and performance of VHVs.

Among four categories of knowledge question, more than 90 percent of the respondents answered correctly questions about transmission and risk of HIV (95.54%) and nature of HIV (90.13%). As for prevention of HIV infection, the percentage of correct answer was a little bit lower than those two categories, 72.62 percent. Especially the question regarding the safe sex practice was low, 56.69%. Its reason might be that the choices for it were not so simple to answer such as “having sexual intercourse without condom, with a healthy looking partner”, “being faithful to a single partner”, and “cleaning sex organ immediately after sexual intercourse without condom”, including the choice of all of the above which 37.58 percent of the respondents answered. The questions about nature of AIDS got only 35.34 percent of correct answers on average. It might be because AIDS took long time to come out, so that high school students hardly felt AIDS close to themselves though they were at risk of getting infected with HIV and developing AIDS.

5.3.2 Perception towards peer education

From the result, it was found that 63.06 percent of the respondents had high level of perception of peer education while lower 36.94 percent of them had low level of perception. Among those who had high level, 61.62 percent had high performance, and lower 32.76 percent of those who had low level had high performance. There was a significant association identified between perception of

peer education and performance of peer educators.

However, dividing perception by benefit of peer education and barrier to peer education, almost similar percentage of the respondents had high level of perception of benefit (85.35%) or low level of perception of barrier (84.08%). 53.73 percent of those who had high level of perception of benefit had high performance whereas only 34.78 percent of those who had low level of perception of benefit had high perception. With regard to perception to barrier, 48.00 percent of those who had high level had high performance and similar 51.52 percent of those who had low level had high performance. No significant associations were found between performance of peer educators, and perception of benefit of peer education nor perception of barrier to peer education

Tiewsuwan B (28) investigated perception towards PSHS by benefit and barrier and found that the overall perception towards PSHS was significantly associated with performance VHV. However, breaking down each category, only perception on benefit of PSHS concept and policy was found to be significantly associated with performance of VHV while the other factors were proven to be not significantly associated with performance of VHV. The tendency of his research was found to be quite similar with this research.

As similar to the result of this research, the study of Kongsap S (29) about performance of VHV showed the significant association between perceptions of Dengue Haemorrhagic Fever and Prevention, and performance of VHV.

With regard to benefit of peer education, the respondents had had high level of perception in all statements, especially they perceived at the highest that peer education provided opportunity to talk about their sexual problem openly. This might because talking was the most visible outcome and close to themselves. Comparing improving knowledge, changing attitude and changing behavior, the most of them agreed improving knowledge, followed by changing attitude, and changing behavior, and the order of percentage that they were not sure about was just opposite to it. That

means improving knowledge was the easiest and changing behavior was the most difficult through peer education according to peer educators' perception. The ultimate goal of peer education about HIV/AIDS prevention is reducing the risk of HIV infection. However, nearly 40 percent of all respondents answered not sure about it (38.22%) and 4.66 percent of them disagreed it. That might be because reducing the risk of HIV infection was invisible outcome.

In respect of barrier to peer education, the reason why the statement about the difficulty of understanding materials had low level might be that most of peer educators had opportunity to get trained, and they might be able to understand in materials. Almost 60 percent of the respondents agreed that some adults don't like students to talk about sexual issue. Even though students get opportunity to talk about sexual problems openly through peer education, their surrounding environment still does not seem to accept talking about sexual issue according to their perception. Its reason might be that Thai society was not open in sexual issue and peer education did not target on adult surrounding adolescents. For the other three statements about place, time, and money, the reason why they had high level of perception might be corresponding social support to them and indicating social support was not enough. Four statements except statement about dislike of talking sexual issues for some adults had nearly half percents of answering not sure. Comparing benefit with barrier, more peer educators were less likely to perceive barrier clearly than benefit.

5.3.3 Self-efficacy

Nearly three-fourths of the respondents (77.71%) were in high level of self-efficacy. 54.92 percent of those who were in high level had high performance while lower 37.14 percent of those who were in low level had high performance. Since p-value was 0.064, no significant association was identified between self-efficacy and performance of peer educators. The reasons might be that many of them still were not sure about confidence to do all activities well.

The result of this research was similar to the result of study conducted by Jinpeng X (34) with no significant association between self-efficacy and performance of VHVs.

Concerning each statement, the respondents had high level of self-efficacy in three statements from five statements. They had confidence in working with others, conducting activities and talking about HIV/AIDS with the mean of greater than 2.50 (2.72, 2.64 and 2.42 respectively). On the other hand, they had low level of confidence in counseling friends and planning activities (1.96 and 1.90 respectively). In respect of counseling friends, this was not corresponding to the result in the part of performance of peer educators that the frequency of counseling friends, including always, sometimes and few, got the third highest among 15 activities. Its reason might be that counseling with friends was more difficult, and required higher level of ability and more experience. With regard to conducting activities and planning activities, as far as event on special day was concerned, which was asked in the part of performance of peer educators, conducting event and planning event got the same frequency as 82.17 percent. However, comparing the percentage of always, conducting event had higher percentage (28.03%) than planning event (22.93%). This might reflect the difference in confidence between them.

5.3.4 Internal motivation

Majority of the respondents (80.89%) had high level of internal motivation. 55.19 percent of those who had high level of internal motivation had high performance and lower 30.00 percent of those who had low level of internal motivation had high performance. A significant association was found between internal motivation and performance of peer educators.

When breaking down into each category, namely: belongingness/affection, self-esteem and self-actualization, self-actualization had the highest proportion of high level (77.07%), but almost similar proportion of those with high level and with low level had high performance (50.41% and 52.78% respectively). No significant association was identified between self-actualization and performance of peer

educators. With regard to belongingness/affection, respondents were also in the higher proportion of high level (67.52%) in belongingness/affection, and 61.32 percent of those with high level had high performance while only 29.41 percent of those with low level had high performance. In respect of self-esteem, they were in nearly the same proportion of high and low (48.41% and 51.59% respectively) in self-esteem, and 68.42 percent of those who had high level had high performance whereas lower 34.57 percent of those who had low level had high performance. There were significant associations found between performance of peer educators, and belongingness/affection or self-esteem.

Among the statements, the respondents had high level of internal motivation in all statements. The statements with the mean of greater than 2.50 were both statements of self-actualization about fulfilling responsibility of their religion and desire to learn more for others, and one statement of belongingness about caring about their friends (2.73, 2.56 and 2.64 respectively). On the other hand, the statements with relatively lower mean were one statement of belongingness/affection about feeling more liked by students and one statement of self-esteem about feeling more respected (both 2.15). Its reason might be that the characteristic of peer educators was friends of their peers in equal relationship and liked by their peers, so that it might be difficult to improve the feeling of being liked and respected.

Jinpeng X' research found that there were significant associations between performance and people's acceptance of their suggestions and getting praise by others, and proved that belongingness/affection needs and self-esteem needs could be satisfied through VHV work. His research result supported the result of this research.

On the other hand, the result of this research was totally opposite to the result of the study about the association between motivation and performance of VHV workers by Gomes FW (38). He found that the performance of VHV workers was significantly associated only with self-actualization motivation, and not associated with belongingness/affection and self-esteem.

The reason why there was the opposite difference might be that due to the characteristic of peer educators described before, it was difficult for them to feel more liked or respected by just being a peer educator or by conducting peer education infrequently, and they were high school students on the way of learning, so that they might have stronger desire to learn and improve themselves more.

5.4 Enabling factors

5.4.1 Availability of resources

Among six resources, significant associations were found between performance of peer educators, and availability of place, time, training, and the number of training attended. This might be that peer educators needed a fixed place and allocated time to get together and do their works because they were from different grades and classes, and attending training course could give peer educators to develop their skills to conduct activities. On the other hand, availability of participation of many students, materials and budget were proven to be no significantly associated with performance of peer educators. It might be that some activities did not require many materials or budget, and peer education could be done with less participants.

This result was corresponding to some result of previous studies. For instance, as for place, the study of Ketsophaphone B (33) found that place for working in the village was significantly associated with high performance compared with no places. In relation to time, Rationran S (35) indicated working hours was significantly associated with the participation of VHVs in the universal coverage health insurance. Concerning training, the results of studies conducted by Tiewsuwan B (28), Nguyen TH (30), Piedad Publio V (31), Jinpeng X (34) and Yenn R (32) identified a significant association between training attended, and performance or participation of VHVs.

5.4.2 Accessibility of resources

Among six resources, significant associations were found between performance of peer educators, and accessibility of place, materials, budget, and

training. The reasons might be that peer educators were from different grades and classes even in one school, therefore they could do their work whenever they wanted with accessibility of place. With accessibility of materials and budget, they would have more easiness to conduct their activities with less limitation. With accessibility of training, they could improve their knowledge and skills to perform their roles better when they felt they needed to do it. Accessibility of time and participation of students were identified to be no significantly associated with performance of peer educators. The reasons might be that before peer educators started to conduct their activities, they might have plan or manual to do their activities, so that they could perform their activities within allocated time, or without many participation of students.

With respect of materials, this result was different from the result of Tiewsuwan B's study (28) about the relationship between accessibility of materials and performance of VHV's. It turned out that performance of VHV's was not significantly associated with ease of using materials

Thinking together with availability of each resource, the resources which were found significant associations for both availability and accessibility were place and training. In the contrary, the resource without significant associations for both availability and accessibility was participation of students. The resource with significant association for availability and not for accessibility was time, and the resources with significant association for accessibility and not for availability were materials and budget.

5.5 Reinforcing factor

The result showed slightly over one-half of the respondents (54.14%) got moderate level of social support and a few of them (9.55%) got poor level of social support. 92.98 percent of those who got good social support had high performance, lower 30.50 percent of those who got moderate social support had high performance, and much lower 6.67 percent of those who got poor social support had high

performance. A significant association was identified between social support and performance of peer educators.

Looking at each category of social support, namely: informational support, instrumental support and emotional support, the respondents got moderate level of support in all of them. All of them had significant associations with performance of peer educators. Comparing among them by the percentages of good, moderate and poor, informational support was relatively good support for the respondents while instrumental support and emotional support were relatively moderate support. These reasons might be that informational support was less expensive compared to instrument support, and visible compared to emotional support.

In each category, the respondents got a lot of information from teacher (48.41%) in informational support, materials or budget from NGOs (22.94%) in instrumental support, and appreciation or mental advice from family (28.66%) in emotional support. In other words, teacher/school would be in technically close relationship with peer educators, NGOs could support them in a tangible way, and family would be emotionally related with them.

Dividing social support into each source, namely: teacher/school, health personnel, NGOs, other peer educators and family, the respondents also got moderate level of social support except from other peer educators. However, all of them had significant associations with performance of peer educators. The support from other peer educators was relatively good for the respondents whereas the support from family was relatively poor. These reasons might be that peer educators were very close, and easy to help each other, while family was less likely to involve in activity in school.

The result of this research was quite similar to the study of Ketsophaphone B (33) which showed that performance of VHVs was significantly associated with overall social support as well as each mental, instrumental and information support. In addition to that, the results of other previous studies also

supported the result of this research. For example, the study of Tiewsuwan B (28) found social support as a whole was significantly associated with satisfactory performance of VHVs. Yenn R (32) indicated that material support was significantly associated with participation of VHVs



CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The objective of this research was to study performance of peer educators on HIV/AIDS prevention and its related factors among high school students in Bangkok, Thailand. The research was to describe the performance of peer educators with regard to HIV/AIDS prevention, to describe the independent variables including predisposing factors, enabling factors and reinforcing factors, and to identify the associations between the independent variables and performance of peer educators.

The research was conducted from January to February 2009 at 8 high schools in Bangkok, which were drawn by simple random sampling from 17 high schools joining with the V-teen club. Data was collected through self-administered questionnaire from 198 peer educators. Since 41 data were not completed, the total number of complete data was 157. Those data were analyzed by the Minitab program. Descriptive was used to describe the distribution of all the variables. In addition, Chi-square test and Fisher's exact test were used to describe the associations between the independent and dependent variables at significant level 0.05.

The results of this research were presented based on the dependent variable and the independent variables as follows.

6.1.1 Performance of peer educators

The result found that 50.96 percent of the respondents had high performance for peer education on HIV/AIDS prevention and similar percentage of them (49.04%) had low performance.

Considering the roles of peer educators, the role which peer educators performed the most (85.99%) was to facilitate the students to think about their ideas and attitudes and the least (72.62%) was to serve as positive role models. More than 70 percent of the respondents were proved to perform all kinds of their roles for HIV/AIDS prevention.

6.1.2 Predisposing factors : socio-demographic factors

Among socio-demographic factors, only duration of working as a peer educator was proved to be significantly associated with performance of peer educators. The longer peer educators had worked in their schools, the more likely they had done higher performance. Nearly one-half of them (45.22%) was 17 years old and in 11th grade. Slightly over two-thirds of them (66.88%) were female and majority of them (93.63%) were Buddhist.

6.1.3 Predisposing factors : psychosocial factors

Slightly over two-thirds of the respondents (66.88%) had moderate knowledge about HIV/AIDS prevention and only 8.92% of them had poor knowledge. There was no significant association between knowledge about HIV/AIDS prevention and performance of peer educators. Among four categories of knowledge question, more than 90 percent of the respondents answered correctly questions about transmission and risk of HIV (95.54%) and nature of HIV (90.13%). On the contrary, they got relatively lower percentage of correct answer about prevention of HIV infection (72.62%) and much lower percentage of correct answer about nature of AIDS (35.34%).

With regard to perception of peer education, it was found that 63.06 percent of the respondents had high level of perception of peer education while lower 36.94 percent of them had low level of perception. A significant association was found with performance of peer educators. However, from the viewpoint of benefit of peer education and barrier to peer education, no significant associations were found between performance of peer educators, and perception of benefit of peer education nor perception of barrier to peer education. Comparing benefit with barrier, since

barrier had higher percentage of not sure, more peer educators were less likely to perceive barrier clearly than benefit.

In respect of self-efficacy, nearly three-fourths of the respondents (77.71%) were in high level of self-efficacy. There was no significant association between self-efficacy and performance of peer educators. However, from the results, it might be considered that they were likely to get confidence in performing activity more frequently.

Concerning internal motivation, majority of the respondents (80.89%) had high level of internal motivation. A significant association was found between internal motivation and performance of peer educators. With regard to each category of internal motivation, namely: belongingness/affection, self-esteem and self-actualization, the respondents were in the highest proportion of high level of self-actualization (77.07%). Significant associations were identified between performance of peer educators, and belongingness or self-esteem. From the result, it was considered that the characteristic of peer educators was friends of their peers in equal relationship and liked by their peers, so that it might be difficult to improve the feeling of being liked and respected.

6.1.4 Enabling factors

Among six resources, significant associations were found between performance of peer educators, and availability of place, time, training, and the number of training attended. Whereas availability of participation of many students, materials and budget were not significantly associated with performance of peer educators.

On the other hand, in relation to accessibility of resources, among the same six resources, significant associations were found between performance of peer educators, and accessibility of place, materials, budget, and training, whereas accessibility of time and participation of students were not significantly associated with performance of peer educators.

6.1.5 Reinforcing factor

The result showed nearly one-half of the respondents (54.14%) got moderate level of social support and only a few of them (9.55%) got poor level of social support. A significant association was identified between social support and performance of peer educators.

Looking at each category of social support, namely: informational support, instrumental support and emotional support, all of them were significantly associated with performance of peer educators. Comparing among them, informational support was relatively good support for respondents while instrumental support and emotional support were relatively moderate support.

In the same way, from the viewpoint of sources of social support, namely: teacher/school, health personnel, NGOs, other peer educators and family, supports from all the resources were found significant associations with performance of peer educators. Among all the sources, the support from other peer educators was relatively good for respondents whereas the support from family was relatively poor.

6.2 Recommendation

6.2.1 Recommendation for implementation

6.2.1.1 Recommendation for school directors and teachers

Firstly, based on the findings described above, the duration of working as a peer educator had effect on performance of peer educators. In Thailand, many schools have secondary school level and high school level in the same school. Therefore, selecting and training peer educators should be recommended to strategically start from secondary school level. Peer educators could work for longer time before they graduate from high school and they could perform their job better.

Secondly, since the research result identified that perception towards peer education had impact on performance of peer educators, it would be

recommended that implementers to instruct them more clearly about peer education in order to help them form their beliefs or opinions about peer education.

Thirdly, as this research indicated a significant association between internal motivation and performance of peer educators, it would be recommended to apply the criteria of internal motivation to work as a peer educator, especially belongingness/affection need and self-esteem need for selection of peer educators.

Fourthly, though availability of time was found to be significantly associated with performance of peer educators, the percentage of those who had enough time to conduct activities was not so high. Therefore, school needs to allocate more time for peer educators to conduct their activities.

Fifthly, the result of this research showed the low or not so high percentages of those who could easily use budget or find materials though accessibility of budget and materials were significantly associated with performance of peer educators. There would be high possibility to improve performance of peer educators by increasing accessibility of budget and materials. Therefore, it would be recommended to improve the condition for peer educators to access to use budget and find materials to conduct their activities by providing them opportunity to join in decision making to use budget and find materials. In addition, accessibility of training was also found a significant association with performance of peer educators. It would also be recommended to provide opportunity to go to attend training outside to many peer educators equally or to conduct training in schools to enable more peer educators to attend training.

Finally, all categories of social support and all sources of social support were found significant associations with performance of peer educators, and many respondents got moderate support in most of categories. Therefore, social support could be strengthened more for peer educators to conduct their activities. Especially, from the result, instrumental support and emotional support would be paid

more attention. In respect of source of social support, the support from family would be focused by making family aware about peer education activities by making and distributing newsletters to them or inviting them to attend some activities.

6.2.1.2 Recommendation for NGOs

Firstly, since it was proven that the duration of working as a peer educator had effect on performance of peer educators, NGOs would be recommended to support peer education program consistently integrating secondary level with high school level in one school.

Secondly, availability of training, number of training and accessibility of training were identified to be significantly associated with performance of peer educators. Therefore, it would be recommended that NGOs play a role to provide a number of and various kinds of trainings based on the needs of peer educators. Training could be intended to improve the ability to apply their knowledge to more complicated questions which would reflect real life situation.

Finally, with regard to improving accessibility of budget and materials, and strengthening social support, NGOs would be recommended to strengthen collaboration with schools. Through the collaboration with schools, NGOs could provide budget or various materials more to peer educators to conduct their activities.

6.2.1.3 Recommendation for peer educators

The duration of working and the support from other peer educators were found significant associations with performance of peer educators. Therefore, it would be recommended to help peer educators with less experience as well as other peer educators especially in terms of informational support and emotional support.

6.2.2 Recommendation for further research

Firstly, this research was collected only quantitative data through self-administered questionnaire. To find out more detail information results about performance of peer educators, qualitative technique including interview and focus group discussion would be required.

Secondly, no previous study was found focused on performance of peer educators, so that the questionnaire in this research could not be modified from previous study and was developed from basic concept. Further study should develop the questionnaire with advanced questions based on this research.

Finally, this research was conducted from January to February. Around the end of January, high school students had examination. After examination, they had school holidays and some of them would join some activities outside Bangkok. During this period, it was very difficult to collect data from them. Therefore, further study should consider schedule of students to collect data easily. It would strongly be recommended to finish data collection by the middle of January.

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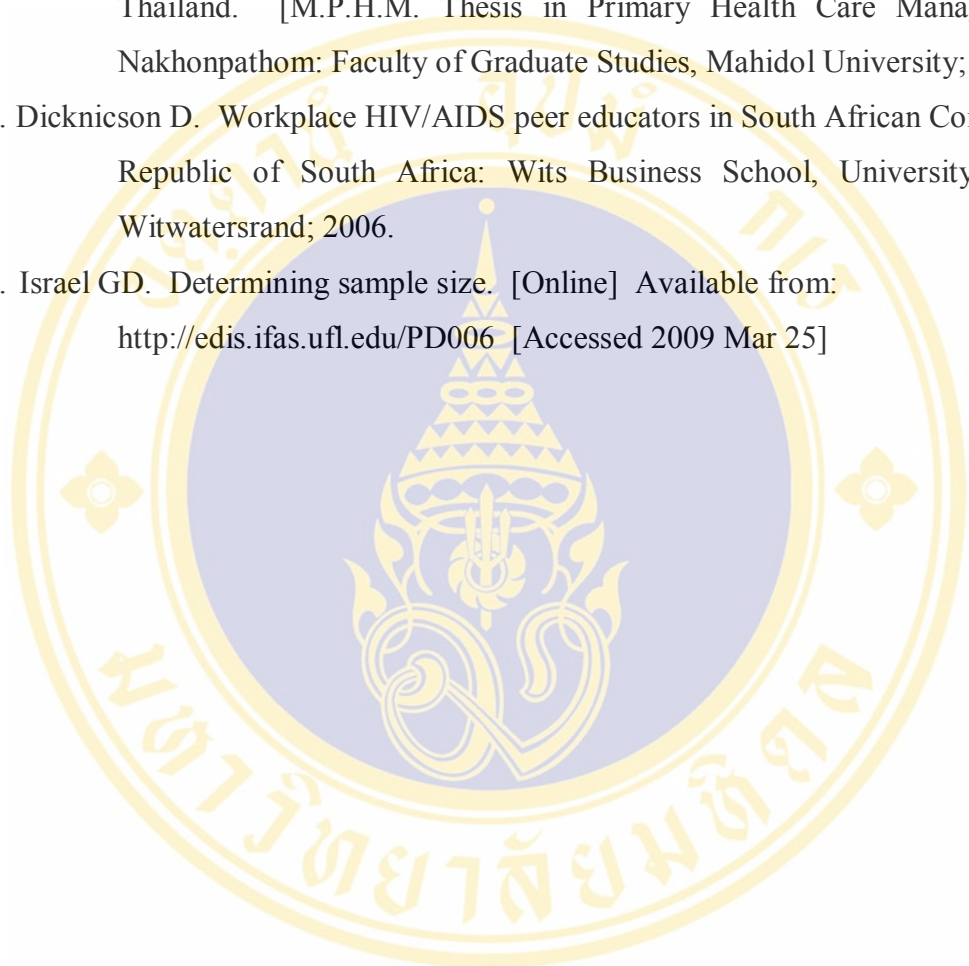
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APPENDIX

QUESTIONNAIRES

PERFORMANCE OF PEER EDUCATORS ON HIV/AIDS PREVENTION AMONG HIGH SCHOOL STUDENTS IN BANGKOK, THAILAND

Date of response : _____

Name of your school : _____

The objective of this study :

This study is aimed to know the performance of peer educators on HIV/AIDS prevention and its related factors among high school students in Bangkok Metropolitan, Thailand. Peer education on HIV/AIDS prevention in this study means a programme designed to train selected students to effect change among other member of students in school in order to provide information on HIV/AIDS prevention, change their attitude and behavior towards HIV/AIDS prevention. Peer educators in this study mean students who conduct peer education, that is, you.

Instruction for the responses :

Please give answer to the following questions. The information collected from this questionnaire is served for the research purpose only. Your information will be let confidential and will not let other people know. If you feel uneasiness or uncomfortable due to some questions, you have the right not to reply, or to withdraw from this study at any time without prior notice.

Thank you for your kind cooperation.

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Part 1 : Predisposing factors ; Socio-demographic variables

Please read the following question carefully and do not skip any of the questions. Please write an appropriate numbers for No.1/No.5 and put the mark in the appropriate box to answer the question for multiple choice

1. How old are you? _____ year old
2. What is your grade?
 10th grade 11th grade 12th grade
3. What is your gender?
 Male Female
4. What is your religion?
 Buddhism Christianity Islam
 others (please specify _____)
5. How long have you been working as a peer educator?
 _____ Years _____ Months

Part 2 : Predisposing factors ; Psychosocial variables

2-1 Knowledge on HIV/AIDS prevention

Please put the mark in the appropriate box to answer the question

6. What is the causal agent of HIV/AIDS?
 1. Bacteria 2. Virus 3. Fungus 4. Parasite
7. Which one is correct about the transmission of HIV?
 1. By hugging a person with a person infected with HIV
 2. By using drinking glasses and utensils used by a person infected with HIV
 3. By having sexual intercourse without condom with a person infected with HIV
 4. By being bitten by a mosquito after it has just bitten a person infected with HIV
8. Which kind of test is the best test that we can know whether people get infected with HIV or not?
 1. By taking X-ray examination to the whole body
 2. By taking urine test at any time
 3. By taking blood test after sexual intercourse
 4. By taking blood test at least 3 months after the risk behavior
9. Which one of the following is the best way to prevent HIV infection?
 1. By having sexual intercourse with virgin
 2. By using condom every time having sexual intercourse
 3. By taking birth control pills
 4. By reducing the number of sexual partners
10. Which one of the following groups is at high risk for contracting HIV?
 1. Commercial sex workers who consistently use condom
 2. MSM (Men who have sex with men) who consistently use condom
 3. People injecting drug who do not share needles and syringes
 4. Young people who do not use condoms with plural partners

11. Which one of the following is the highest risk behavior for HIV infection?
 - 1. Individual's behavior of going to karaoke bars and night club
 - 2. Individual's personal hygienic behaviour
 - 3. Individual's sexual behaviour
 - 4. Individual's drinking behavior
12. What does safe sex practice mean?
 - 1. Having sexual intercourse without condom, with a healthy looking partner
 - 2. Being faithful to a single partner
 - 3. Cleaning sex organ immediately after sexual intercourse without condom
 - 4. All of the above
13. What is the longest time that takes people to become full-brown AIDS patient from time firstly infected with HIV?
 - 1. 2 weeks 2. 3 weeks
 - 3. 6 months 4. 6 to 10 years
14. Which one of the following is the symptom suspected as a case of AIDS?
 - 1. By decreasing weight more than 10% of body weight without any reason
 - 2. By getting headache and fever for 2 weeks
 - 3. By having diarrhea for 3 days
 - 4. By yellow discoloration of the skin and sclera

2-2 Perception towards peer education on HIV/AIDS prevention

Please mark in the column you agree.

Statements	Agree	Neutral	Dis-agree
Benefit of peer education on HIV/AIDS prevention			
15. Peer education can improve knowledge of participants on what is HIV/AIDS, the way to transmit and the way to prevent infection more effectively than teacher-led education.			
16. Peer education can change attitude of participants on HIV/AIDS prevention more effectively than teacher-led education.			
17. Peer education can change behavior of participants on HIV/AIDS prevention more effectively than teacher-led education.			
18. Peer education provides opportunity for participants to talk about their sexual problems openly.			
19. Peer education can contribute to reducing the risk of HIV infection among adolescents.			

Statements	Agree	Neutral	Dis-agree
Barrier of peer education on HIV/AIDS prevention			
20. There is no fixed place for peer educators to have a meeting.			
21. Peer educators don't have enough time to participate in peer education activities.			
22. Some adults don't like students to talk about sexual issue.			
23. Materials to conduct peer education are difficult to understand.			
24. Peer educators don't have money to conduct their activities.			

2-3 Self-efficacy

Please mark in the column you agree.

Statements	Agree	Neutral	Dis-agree
25. I'm good at talking about HIV/AIDS.			
26. I don't have confidence in counseling with friends.			
27. I'm good at working with others.			
28. I don't have confidence in planning activities.			
29. I'm good at conducting activities.			

2-4 Internal motivation

Please mark in the column you agree.

Statements	Agree	Neutral	Dis-agree
Belongingness/affection			
30. I care about my friends' needs and problems with regard to HIV/AIDS prevention.			
31. I feel that the students in my school like me more when I'm a peer educator.			
Self-esteem			
32. Being a peer educator makes me more popular in school.			
33. Being a peer educator makes me more respected in school.			

Statements	Agree	Neutral	Dis-agree
Self-actualization			
34. I believe I'm fulfilling my responsibilities of a good Buddhist (or Christian, Muslim, others, according to your religion) by being a peer educator.			
35. I still want to learn more about HIV/AIDS prevention and use the knowledge to improve further the health conditions of other people.			

Part 3 : Enabling factors

Please write an appropriate numbers for No.39/No.43 and put the mark in the appropriate box to answer the question for multiple choice.

3-1 Availability of resources

- 36. Is there a fixed place to plan peer education activities and have a meeting among peer educators in your school?
 1. Yes 2. No
- 37. Is there enough time kept for your activities by school?
 1. Yes 2. No
- 38. Do many students participate in peer education activated conducted in your school?
 1. Yes 2. No
- 39. Are there enough materials available to distribute to the students in your school?
 1. Yes 2. No
- 40. Is there enough budget allocated to peer education activities in your school?
 1. Yes 2. No
- 41. Have you ever attended training course on HIV/AIDS?
 1. Yes 2. No (Skip to Q.43)
- 42. How many training courses have you ever attended? _____ courses

3-2 Accessibility of resources

- 43. Can you easily use places to conduct peer education activities in your school?
 1. Yes 2. No
- 44. Is it easy to prepare or conduct peer education activities in your school within allocated time?
 1. Yes 2. No
- 45. Is it difficult to mobilize the students to participate in peer education activities?
 1. Yes 2. No
- 46. Can you easily find materials which you need to conduct peer education activities in your school?
 1. Yes 2. No
- 47. Can you easily use budget to conduct peer education activities in your school?
 1. Yes 2. No

48. Can you easily get opportunity to attend training on peer education or HIV/AIDS prevention?

1. Yes 2. No

Part 4 : Reinforcing factors

Social support

Please mark in the column you agree.

Questions	A lot	Moderate	A few	Never
Informational support				
49. Have you ever gotten HIV/AIDS related information from teacher?				
50. Have you ever gotten HIV/AIDS related information from health personnel from health center, community hospital or so on?				
51. Have you ever gotten HIV/AIDS related information from NGOs?				
52. Have you ever gotten HIV/AIDS related information from other peer educators?				
53. Have you ever gotten HIV/AIDS related information from your family?				
54. Have you ever gotten any suggestion or advice with regard to peer education activities from teacher?				
55. Have you ever gotten any suggestion or advice with regard to peer education activities from health personnel from health center, community hospital or so on?				
56. Have you ever gotten any suggestion or advice with regard to peer education activities from NGOs?				
57. Have you ever gotten any suggestion or advice with regard to peer education activities from other peer educators?				
Instrumental support				
58. Have you ever gotten peer education supporting materials or budget from teacher/school?				
59. Have you ever gotten peer education supporting materials or budget from health personnel from health center, community hospital or so on?				

Questions	A lot	Moderate	A few	Never
60. Have you ever gotten peer education supporting materials or budget from NGOs?				
61. Have you ever gotten peer education supporting materials or money from your family?				
Emotional support				
62. Have you ever gotten any appreciation or mental advice from teacher?				
63. Have you ever gotten any appreciation or mental advice from health personnel from health center, community hospital or so on?				
64. Have you ever gotten any appreciation or mental advice from NGOs?				
65. Have you ever gotten any appreciation or mental advice from other peer educators?				
66. Have you ever gotten any appreciation or mental advice from your family?				

Part 5 : Performance of peer educators

Please mark in the column that you agree. You have 4 choices, always(regularly), sometimes, few, never. You can choose only one of them

Questions	Always	Sometimes	few	Never
67. Have you ever disseminated pamphlet on HIV/AIDS prevention?				
68. Have you ever displayed a poster on HIV/AIDS prevention in your school?				
69. Have you ever conducted spot radio broadcasting on HIV/AIDS prevention?				
70. Have you ever planned HIV/AIDS related event on special day such as world AIDS day or Valentine' day?				
71. Have you ever conducted HIV/AIDS related event on special day such as world AIDS day or Valentine' day?				
72. Have you ever facilitated group discussion on HIV/AIDS prevention?				
73. Have you ever counseled with students on HIV/AIDS prevention?				
74. Have you ever conducted condom demonstration in your school?				

Questions	Always	Some-times	few	Never
75. Have you ever taught how to negotiate safe sex?				
76. Have you ever introduced your friends where STI and VCT services are available?				
77. Have you ever performed novel acting on HIV/AIDS prevention?				
78. Have you ever shared your experience related to HIV/AIDS prevention with your friends?				
79. Have you ever introduced your friends to teacher when you can't answer the question correctly which they ask?				
80. Have you ever introduced your friends to health personnel when you can't answer the question correctly which they ask?				
81. Have you ever introduced your friends to other peer educators who can answer the question correctly when you can't answer it?				

Thank you for your kind cooperation!!

BIOGRAPHY



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