

## Chapter I



### Introduction

#### Background

In June 1981, Gottlieb and co-workers reported Pneumocystiscarinii pneumonia in five homosexual men in Los Angeles. It was known that these five men had been healthy and had no history of having received depressive immune drug. Similar cases, and also cases of an aggressive Kaposi sarcoma were soon reported from both New York city and San Francisco in adult homosexual men. Normally this disease occurs in the elderly. The Centers for Disease Control (CDC) set up a case-definition for a new syndrome, later called the Acquired Immunodeficiency Syndrome (AIDS) (Khabbaz, Darrow, Hartley et al., 1990).

Although this was first recognized in the United States in 1981, it was now known that AIDS started to appear in epidemic form in several areas of the world by the late 1970s ("The Three AIDS Epidemics," 1987). The first epidemic of infection with the human immunodeficiency virus (HIV) was silently getting under way in the 1970s

unknown to anyone and has been occurring in epidemic form in Central Africa (Clumeck, 1984). Many HIV infected persons were asymptomatic and were unaware that they were infected. Therefore, without an antibody test, it was difficult to identify infected persons, most of whom will still be apparently in good health (asymptomatic carriers) ("AIDS and HIV Infection in The General Sexual Transmitted Disease Setting," 1988).

The increase in number of AIDS cases accelerated and initially the total number doubled every six to eight months. Cases were reported from increasingly more areas around the world (Khabbaz et al., 1990). As of 11 August 1987, a total of 56,395 AIDS cases had been officially reported to World Health Organization (WHO) from 122 countries throughout the world; the actual number of cases is likely to be at least double the reported figures. Since AIDS occurs years after HIV infection, today's cases reflect the level of HIV infection that occurred 3-5 years ago, or even earlier. AIDS cases are merely the tip of the iceberg, each case representing 50-100 persons who may be infected with HIV. The imminent prospect is a precipitous increase in the number of AIDS cases all over the world: at present, there are no protection that can be offered to HIV infected people against developing AIDS and thus no way of averting new cases ("The Three AIDS Epidemics," 1987).

The CDC estimated in 1988 that 1.0 to 1.5 million persons are currently infected with the HIV virus (CDC, 1988). By the beginning of 1989, the WHO has estimated that 350,000 - 400,000 people have acquired AIDS. More than 50% of these have already died from the disease and the number of reported cases is continuously increasing. The number of people already HIV infected and expected to present themselves with AIDS in the future has been estimated at more than 5-10 millions. The disease is now spreading worldwide, also affecting previously spared countries e.g. in Asia, the greatest number coming from the United States and Africa (Australian National Council on AIDS (ANCA), 1989). These figures tell us who was infected 5-7 years ago. Whether the same people are still being infected now or whether the virus has started to spread into the general community is unknown due to a lack of adequate information.

As the AIDS case-count rises steeply over the next few years, the economic, social, political and cultural reactions and responses to AIDS and HIV will be felt dramatically. In industrialized countries, the direct medical care cost for a single patient is estimated at between US\$ 50,000 and US\$ 150,000. In the developing world, the additional burden of AIDS cases on already strained health resources is enormous, especially in countries where the annual per capita health budget is

less than one dollar. AIDS strikes mainly at the population aged 20-49 years: by robbing societies of people in their most productive years, it creates a serious threat to social and economic development and even to political stability ("The Three AIDS Epidemics," 1987).

The AIDS has become a health problem worldwide. Its epidemiology and clinical features vary in different countries, depending on cultural differences, endemic disease and other identified risk factors (Thomas, Jonathan, James and et al., 1986). The epidemiology of AIDS in Africa differ from that of AIDS in the United States. Whereas homosexual activity and parenteral transmission account for the majority of AIDS cases in the United States, transmission through heterosexual activity appears to predominate in Africa (Pilot, Quinn, Taelman and et al., 1984). The occurrence of AIDS in Zaire and Rwanda is well documented, but the boundaries of the epidemic in Africa have not yet been determined. Because of the high prevalence of AIDS virus infection in Central African prostitutes, we hypothesized that the virus might be spread to other African countries by travelers who frequent prostitutes (Van, Rouvroy, Lepage and et al., 1984). At August 1988, 943 cases of AIDS have been reported in Australia. Of these, the great majority occurred in: sexually active homosexual and bisexual men (87.9%), intravenous drug users (60.0%) (ANCA,1989).



In Thailand, the first AIDS case was founded in September 1984. Until now, the AIDS cases and HIV infected persons are reported as shown in table 1, 2 and 3. The AIDS situation in Thailand reported by Division of Epidemiology of Ministry Public Health shows that the total AIDS cases and ARC cases on July 31, 1991 are 545 cases; 468 males, 77 females and the ratio of male per female is 6.1:1. Comparison with the updated AIDS situation in Thailand on reported by the same institution shows that the total AIDS cases and ARC cases on March 15, 1992 are 1,034 cases; male 892 cases, female 142 cases and the ratio male per female is 6.3:1. Many cases of AIDS and HIV infected increase very rapidly in a short time. Since then, Sample survey data have established that HIV infection among Thailand's most active prostitutes is widespread in every region of the country but it is mostly critical in the North, followed by the Central, Northeast and South regions. HIV infection is currently being spread by highly mobile groups of male clients such as labourers, fishermen and truck drivers. Another factor in this spread is the attempted repatriation of HIV infected prostitutes to their home provinces, which may simply result in shifting the source of infection.

Table 1: Distribution of AIDS, ARC, and HIV infection people by sex and risk behaviour (data as of July 31, 1991)

Risk behavior: /Sex	AIDS		ARC		HIV	
	No.	%	No.	%	No.	%
Sex related	111	75.0	264	66.5	12,583	38.2
-Homosexual						
Male	21	14.2	20	5.0	83	0.3
-Bisexual						
Male	11	7.4	10	2.5	102	0.3
-Heterosexual						
Male	70	47.3	182	45.8	5,072	15.4
Female	9	6.9	52	13.1	7,326	22.3
IVUD	25	16.9	111	28.0	17,124	52.0
-Male	25	16.9	107	27.0	16,444	50.0
-Female	0	0.0	4	1.0	680	2.1
Blood Trans- mission	3	2.0	4	1.0	38	0.1
-Male	2	1.4	2	0.5	24	0.1
-Female	1	0.7	2	0.5	14	0.1
Vertical Transmission	9	6.1	4	1.0	5	0.0
-Male	4	2.7	2	0.5	0	0.0
-Female	5	3.4	2	0.5	5	0.0
Unidentified	0	0.0	14	3.5	3,160	9.6
-Male	0	0.0	12	3.0	2,877	8.7
-Female	0	0.0	2	0.5	283	0.9
<b>TOTAL</b>	<b>148</b>	<b>100</b>	<b>397</b>	<b>100</b>	<b>32,910</b>	<b>100</b>
Alive in Country	61	41.2	357	89.9	32,569	99.0

Source: Division of Epidemiology. Ministry of Public Health of Thailand.

Table 2: Distribution of AIDS, ARC cases by sex and risk behaviour (data as of March 15, 1992)

Risk behavior: /Sex	AIDS		ARC	
	No.	%	No.	%
Sex related	332	82.4	446	70.7
-Homosexual				
Male	25	6.2	23	3.6
-Bisexual				
Male	13	3.2	10	1.6
-Heterosexual				
Male	266	66.0	326	51.7
-Heterosexual				
Female	28	6.1	87	13.8
IVUD	45	11.2	144	22.8
-Male	44	10.9	138	21.9
-Female	1	0.2	6	1.0
Blood Trans- mission	5	1.2	4	0.6
-Male	4	1.0	2	0.3
-Female	1	0.2	2	0.3
Vertical Transmission	18	4.5	11	1.7
-Male	10	2.5	7	1.1
-Female	8	2.0	4	0.6
Unidentified	3	0.7	26	4.1
-Male	3	0.7	21	3.3
-Female	0	0.0	5	0.8
TOTAL	403	100	631	100
Alive in Country	235	58.3	560	88.7

Source: Division of Epidemiology. Ministry of Public Health of Thailand.

Table 3: Distribution of AIDS, ARC cases by age and sex (data as of March 15, 1992).

AGE	AIDS		ARC		TOTAL	
	M	F	M	F	M	F
0 - 4	10	9	6	5	16	14
5 - 9	1	0	0	0	1	0
10 - 14	0	0	0	0	0	0
15 - 19	10	7	33	26	43	33
20 - 24	50	6	138	40	188	46
25 - 29	81	4	119	17	200	21
30 - 34	79	5	110	8	189	13
35 - 39	63	4	39	5	102	9
40 - 44	20	1	27	1	47	2
45 - 49	17	0	15	0	32	0
50 - 54	13	1	11	0	24	1
55 - 59	10	0	3	0	13	0
60 and over	10	0	4	0	14	0
Unknown	1	1	22	2	23	3
TOTAL	365	38	527	104	892	142

Source: Division of Epidemiology. Ministry of Public Health of Thailand.

It is now certain that heterosexual spread of HIV has become the one of dominant mode of transmission and will remain so for many years to come (Program for Appropriate Technology in Health (PATH), 1990).

As of January 31, 1989, nationwide, 84,985 cases of AIDS had been reported and 48,582 deaths due to AIDS had occurred in United States. Of reported cases, 21% have been in the 20-29 year old age group (CDC, quoted in Ralph, Lee, Beth, 1990). Given that the latency period is 1 to 4



years or greater, and adolescents' drug use and sexual behavior, that group is at high risk for exposure to HIV infection. Teenagers account for more than one fourth of the reported sexually transmitted disease cases annually (Ralph, Lee, Beth, 1990).

One fifth of reported AIDS cases in the United States had been in the 20-29 year age group. Given the incubation period, many of those persons were infected during their high school years or shortly thereafter (CDC, 1988). The wave of AIDS epidemic will be among adolescents because of their risk-taking behaviors, like to try new challenging things. Certain adolescents, because of predisposing biological, increasing sexual hormones psychological and environmental factors, are at especially high risk (Castro, 1990). They are often beginning sexual activity and experimenting with illicit drugs. In the United States, nonmarital sexual activity is common in many societies. Among metropolitan area teenagers over the past decade, the proportion of the U.S. women aged 15 to 19 having had premarital intercourse rose from 30% in 1971 to 50% in 1979. For 19 year olds, 69% of never-married women were sexually experienced in 1979. Similarly, 70% of men aged 17 to 21 in 1979 reported premarital sexual intercourse. In Denmark, since 1986, the national health authorities have given high priority to educational campaigns for prevention of HIV infection in the general

population with young people as an important target group (Allan and Marianne, 1990).

In Thailand, nowadays the adolescent is one of the most important group of people. There is an increasing incidence of adolescents problems particularly sexual problems. The Western culture had expanded and had a lot of influences on this group. The spreading of pornographic mass medias, magazines, videos, discotheques lead adolescents to inappropriate performance. Most of their parents, guardians work hard and the time for family, for discussion with their children is reduced. So the adolescents have many chances to behave inappropriately. Many problems such as unwanted pregnancy, abortion, sexual transmitted diseases, etc. have occurred in this group.

In Thai culture, sex education is not widely acceptable. The adolescent group has expressed that the information is inadequately taught in schools, colleges and universities. Some information, however, has been inserted and integrated in some subjects (Somchai Tungphisan, Werapon Chandeying, Soonti Suthichamruen, et al., 1989). The situation is similar to the report about AIDS education in Sri Lanka by John (1991), which demonstrated that a more fundamental problem is the taboo on discussing sex at all. The Ministry of Education explained that there is no sex education in the school system because

of the tradition that people learn about sex from their families.

Tumnoon Warnnissorn had reported his epidemiological study on AIDS in Thailand, based on retrospective finding of situations for the first six years of epidemics from September 1984 to September 1990. As of 15 September 1990, cumulative number of 22,075 cases of HIV infection was reported: 21,837 HIV positive persons, 185 AIDS related complex (ARC) and 53 with AIDS. From this study, it was shown that the adolescents aged 15-24 had AIDS 8 cases, ARC 66 cases and HIV positive 7,989 cases (36.19 % from all age group of 22,075 cases of AIDS, ARC and HIV infection). The ratio in male per female was 1.6:1. The AIDS cases and HIV infected adolescents stratified by occupation showed that AIDS affected students as well as shown below (this data was summarized up to September, 1990).

	AIDS	ARC	HIV Positive	Total
Students	3	8	226	237

The adolescent academic institutions have a lot of sex related problems, particularly the vocational schools both in the government and the private sectors (Chuanchom Sagontawat, Manop Kanato, Chusri Kuchisit, et al., 1990). Because of the environment and society in those schools, curiosity can lead the students closely in contact with the opposite gender, and have sexual contact.

The vocational schools scatter throughout the country. Samutprakan province also has 4 vocational schools, one in the government and 3 in the private sectors. This province has a highest frequency of prevalence of HIV infected cases in Thailand: ie 115.29 cases per 100,000 of population (data as of September 15,1990 by Tumnoon Warnnissorn, 1990). The Community Control Disease Department of Samutprakan Public Health Office reported that there were 86 registered prostitutes' work places such as hotels, brothels, coffee shops, inns, restaurants, night clubs, massage parlours. From a recent survey, 763 prostitutes were available in August, 1990. The recent report of total ARC cases and AIDS cases in this province from the survey of AIDS and Sexually Transmitted Disease Control Department of Samutprakan Public Health Office was 12 cases as shown in table 4 (data as, March, 1992).

Samutprakan is located at the Gulf of Thailand. Hence, a lot of fishermen and labourers come to visit prostitutes. This could spread HIV virus widely and rapidly and is the main reason for increasing HIV infection cases. This is a terrible problem. Most of male Thai vocational students has a fashion called "Kuan Kru" (every male students is forced by their seniors to visit prostitutes once to be accepted socially). When they visit female prostitutes, they may be infected with the HIV virus and

the virus can spread to their girl friends and their wives (when they get married). The problem is very serious, because these adolescents are the most important manpower of the country.

Table 4: Distribution of AIDS cases and ARC cases by sex (data as of March, 1992).

Sex	No. of AIDS	No. of ARC	Total
Male	4	5	9
Female	1	2	3
Total	5	7	12
<u>Alive</u>	2	5	7

Source : AIDS and Sexually Transmitted Disease Control department of Samutprakan Public Health Office.

### Rational

In the early stages of the AIDS pandemic, a great deal of attention was focused on the possible preventive role of education. The prospect of the discovery of a new drug or vaccine in the near future is still bleak, and this has served to reinforce further the role of education (Morgan,1990).

Education is very important for the prevention of HIV infection. The world summit of Ministers of Health on Programs for AIDS Prevention, meeting in London in January 1988, declared that:

The single most important component of national AIDS programs is information and education because HIV transmission can be prevented through informed and responsible behaviour ... (such programs) should take full account of social and cultural patterns, different life styles, and human and spiritual values (Leon, 1991).

The rationale for AIDS education is that with better knowledge and awareness of the dynamics of HIV transmission it is possible to encourage and motivate people to refrain from such behaviours as may result in acquiring or transmitting the virus.

So, the Ministry of Public Health and the Ministry of Education cooperate to create for distribution "The Guideline about AIDS for Teacher". The guideline has been used in seminars given to the high schools and vocational schools.

This guideline has a clear mission and objectives. The content covers all the main topic of HIV infection and its control. The details in the guideline may not be adequate. The teachers should adapt this guideline for their students. But the ability of the teachers to adapt this guideline is not equal. Some teachers use the original guideline for teaching their students. This may result in inadequate motivation to promote favorable AIDS control behaviour among the students, particularly when there is no compulsory participant discussions. In addition, the section on appropriate sex practice including the appropriate use of condom may not be explicit enough.

So, the researcher feels that it is essential to adapt from the original guideline an education programme for vocational students. The validity, adequacy and suitability of the education material will be assessed, modified and approved by credible national experts. This study plans to survey and compare: i) the knowledge, attitude about AIDS and behaviour about AIDS prevention in male vocational students exposed to the adapted education programme with those of the students in the control group (routine education programme); ii) the change in knowledge, attitude about AIDS and behaviour about AIDS prevention in the students after receiving the adapted education programme and iii) the sustainability of knowledge, attitude about AIDS and practice about AIDS prevention 2 months after cessation of the adapted education programme.

#### Research Questions

1. Primary Question Does the adaptation of the Ministry of Public Health AIDS education programme to the second year male craftsman certificate level students result in a 50% decrease in the rate of the risky sexual behaviour of HIV infection compared to the control group?

## 2. secondary Question

2.1. Does the knowledge, attitude about AIDS and behaviour about AIDS prevention in the experimental group differ from the control group after receiving AIDS education programme?

2.2. Can knowledge, attitude about AIDS and behaviour about AIDS prevention in the experimental group be sustained after discontinuing the AIDS education programme?

### Objective of the Study

1. To determine the percentage decrease in the rate of the risky sexual behaviour of the students in the experimental group compared to the control group.

2. To study the correlation between knowledge, attitude about AIDS and behaviour about AIDS prevention in each group after receiving AIDS education programme.

3. To measure the sustainability of knowledge, attitude about AIDS and behaviour about AIDS prevention in the experimental group after discontinuation of AIDS education programme.

4. To compare knowledge, attitude about AIDS and behaviour about AIDS prevention between the experimental and the control group after receiving AIDS education programme.



### Expected Benefits of the Study

1. To study the effectiveness of AIDS education programme.
2. To give a recommendation on key issues needed to plan appropriate AIDS education programme in the vocational schools at Samutprakan province.
3. To reduce misunderstanding of vocational student about AIDS.
4. To increase self-support of using condom in vocational students.

### The Frame for the Study

1. This study was done with the second year male craftsman certificate level only. Because of concern about their knowledge and behaviour of condom use.

2. The second year male craftsman certificate level was selected because :

2.1. They have more chance for sexual contact with another gender than the first year students because of older age and more freedom.

2.2. This second year level is the last level that has the health education.

2.3. This second year level does not need to go to field work for a long time like the third year.

#### Scope of the Study

This study was confined to the government technical college at Samutprakan province. The programme was implemented during October 1991 to March 1992. The activities included giving the experimental group an intervention and measuring desired outcomes using questionnaires both in experimental and in the control group at pretest and post-test.

#### Operation Definition

Acquired Immune Deficiency Syndrome (AIDS): a severe manifestation of infection with human immunodeficiency virus (HIV) (Institute of Medicine [U.S.], 1986).

Rate of Risky Sexual Behaviour of HIV Infection: The number of students who did not always used condoms (ie. sometime used condoms or did not use condoms) when having sexual contact with female divided by the number of sampled students.

Vocational Schools or Technical Colleges: the college that teach professional curriculum. This college has 9 sections as this following;

1. Production technology
2. Metal fabrication technology
3. Automechanics technology
4. Industrial technology
5. Electrical power technology
6. Electronics technology
7. Building construction technology
8. Home economics technology
9. Business administration.

This school has 2 levels;

1. Craftsman certificate level: there is the craftsman training, admit three years course from the junior high school.

2. Diploma level:

- 2.1. There is the technician training, admit two years course from the senior high school.

- 2.2. There is the technician training, admit two years course from the craftsman certificate level.

Vocational Students: the students who continue their professional training at the vocational school.

Morning Shift Students: students who enrolled at Samutprakan technical college, whose classes started from 7.50 am. to 15.25 pm. on work day.

Afternoon Shift Students: students who enrolled at the same college, whose classes started from 15.40 pm. to 20.00 pm. on work day and 7.50 am. to 12.00 am. on Saturday.

Knowledge about AIDS: this refers to what the students understand about the specific facts, terms about the meaning of AIDS, modes of HIV transmission, how to prevent HIV infection, the kinds of risk activities conducive to the spread of the virus, places for checking blood and counselling about AIDS, including the correct use of condom and how to suggest their friends infected with HIV.

Attitude about AIDS: refers to the concept, feeling, idea, response to self-support about AIDS prevention, condom use, the counselling and mass media about AIDS provision of the Public Health Office and college.

Behaviour about AIDS Prevention: refers to the actual methods for condom use and sexual style when students have sexual contact.