SAFE SEX BEHAVIOR TOWARDS HIV/AIDS AMONG MYANMAR REPRODUCTIVE AGED MIGRANTS IN MUANG DISTRICT, SAMUTSAKHON PROVINCE, THAILAND

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ABSTRACT

A cross-sectional descriptive study was done to assess the safe sex behaviors among Myanmar reproductive aged migrants in Muang district, Samut Sakhon Province, Thailand. The study assessed the socio-demographic characteristics, knowledge about HIV/AIDS, perception on HIV/AIDS, cue to action of Myanmar migrants and the relationship between these factors and their safe sex behaviors. The safe sex behaviors in this study are no sex with unknown partner, faithfulness to spouse or sexual partner, intention to use condom, and consistent condom use. A total of 260 respondents were interviewed with structured questionnaires during the month of January 2008.

The study results showed that over two-thirds (70%) of the respondents conduct fair or moderate safe sex behavior while 17.31% have good behavior and 12.69% use poor safe sex behavior. The prevalence of consistent condom use is 58.08%.

The analyzed results also showed that the variables age, gender, educational level, marital status, knowledge level, perception susceptibility on HIV, media of printed materials, influencing person and experience of seeing AIDS patients are associated with their safe sex behavior. The most influencing people for preventive safe sex behavior are health personnel.

An intensive health education program providing true knowledge and logical thinking about HIV/AIDS for Myanmar migrants should be encouraged. NGOs currently working in that area should be appreciated for their care and prevention programs on HIV/AIDS. Faithfulness to one's spouse as a cultural norm should be maintained in order to promote safe sex behavior. Further in depth qualitative study about safe sex behavior among these Myanmar migrants should be done.

KEY WORDS : SAFE SEX BEHAVIOR/ HIV/AIDS/ REPRODUCTIVE AGED/ MYANMAR MIGRANTS/ THAILAND

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LIST OF ABBREVIATION

AIDS	:	Aquired Immune Deficiency Syndrome
HIV	:	Human Immunodeficiency Virus
SARS	:	Severe Acute Respiratory Syndrome
WHO	:	World Health Organization
UNAIDS	:	United Nation for AIDS Program
STIs	:	Sexually Transmitted Infections
IDU	:	Intravenous Drug Users
CSWs	:	Commercial Sex Workers
MOPH	:	Ministry of Public Health
PLWHA	:	People Living With HIV/AIDS
NGOs	:	Non-Governmental Organization
CARE	:	Care Foundation
UNICEF	:	United Nation International Children Emergency Fund

CHAPTER 1
INTRODUCTION

1.1 Rationale and justification of the study

During the 21st century, our world is now facing so many threatening disease such as AIDS, Avian influenza, SARS and bio-weapon diseases. Among them, the closely fatal disease is AIDS. AIDS stands for **Acquired ImmunoDeficiency Syndrome**, a disease that makes it difficult for the body to fight off infectious diseases. The **human immuno deficiency virus** known as HIV causes AIDS by infecting and damaging part of the body's defenses against infection. Due to the report of UNAIDS in December 2007, an estimated 33.2 millions were living with HIV in the world in 2007 and 2.5 millions people became newly infected with the virus. Approximately, 2.1 millions people died of AIDS-related illness in 2007 (1), a reduction of 16% compared with the estimate published in 2006 (39.5 million [34.7-47.1 million] (2). Of the total difference in the estimate in 2006 and 2007, 70% are due to changes in six countries: **Angola**, **India**, **Kenya**, **Mozambique**, **Nigeria**, and **Zimbabwe**. In both **Kenya** and **Zimbabwe**, there is increasing evidence that a proportion of the decline is due to a reduction of the number of new infections which is in part due to a reduction in risky behaviors (1).

The first case of AIDS was reported in 1981, but the disease may have existed unrecognized for many years before that. HIV infection leading to AIDS has been a major cause of illness and death among children, teens, and young adults worldwide. AIDS was the fourth leading cause of death among African Americans aged 25–44 years in the United States in 2004 (Anderson, Mosher & Chandra, 2006; US Centers for Disease Control and Prevention, 2006) (1). The HIV/AIDS crisis in the world nowadays is one of the most serious health threats to the population, and also presents serious risks to neighbouring countries. This health threat leads to negative impact on social, economical, occupational, cultural and even political affairs around the world.

Almost two decades since the beginning of the HIV/AIDS epidemic and over a decade after the inception of the WHO (World Health Organization) Global AIDS strategy, a dual gap continues to grow – between the rapid spread of the HIV epidemic and the limited prevention efforts; and between the rising needs for care and support, and the insufficient response to these needs. HIV prevention and control programs tend to focus on responding to immediate needs for prevention, such as public education and condom distribution. The response to HIV epidemic has shied away from addressing the root causes of the epidemic in societies and communities. To control the HIV/AIDS epidemic, the response should be expanded and enhanced, with the target to individuals and populations that are at risk. It should also be combined with actions directed towards factors that lower people's vulnerability to HIV/AIDS.

Every day, over 6800 persons become infected with HIV and over 5700 persons die from AIDS, mostly because of inadequate access to HIV prevention and treatment services (1). The HIV pandemic remains the most serious of infectious disease challenges to public health. The global prevalence of HIV infection is remaining at the same level, although the global number of persons living with HIV is increasing because of ongoing accumulation of new infections with longer survival times, measured over a continuously growing general population; there are localized reductions in prevalence in specific countries; a reduction in HIV-associated deaths, partly attributable to the recent scaling up of treatment access; and reduction in the number of annual new HIV infections globally.

Examination of global and regional trends on HIV/AIDS suggests the pandemic has formed two broad patterns. The first one is generalized epidemics sustained in the general populations of many sub-Saharan African countries, and the second epidemics in the rest of the world that are primarily concentrated among the populations at risk, such as men who have sex with men, injecting drug users, sex workers and their sexual partners. The Sub-Saharan Africa remains the most seriously AIDS affected region and South-east Asia is the second region after it (1).

1.1.1 Regional HIV status in Asia and South-east Asia

In Asia, HIV prevalence is highest in South-East Asia, with wide variation in epidemic trends between different countries. While the epidemics in Cambodia, Myanmar and Thailand all show declines in HIV prevalence, those in Indonesia (especially in the Papua province) and Viet Nam are growing. Overall in Asia, an estimated 4.9 million [3.7 million–6.7 million] people were living with HIV in 2007, including the 440 000 [210 000–1.0 million] people who became newly infected in the past year (1).

Approximately 300,000 [250 000–470 000] died of AIDS-related illnesses in 2007. In South-east Asia, 4.0 millions of people are living with HIV in 2007 and some 340,000 people became newly infected. Approximately, 270,000 people died of AIDS-related illness in 2007 and is alarming the people living in Southeast Asia for more prevention and control methods (1).

In Asia Myanmar, Cambodia and Thailand are the countries hit hardest by HIV/AIDS epidemic in Asia. The greater Mekong sub region is an area that provides a telling example of the specific risks associated with the international sex trade. Although the overall HIV prevalence in this region is still under 1%, severe epidemics exist in the countries of Cambodia, Myanmar and Thailand. High infection rates are being discovered among sex trade workers across the region. In some extreme cases sero-prevalence rates among this population are estimated to range as high as 40-60% (3). The HIV/AIDS epidemic is further fuelled by population mobility, such as in border trade; migrant worker sites such as mines and logging camps, which have a high prevalence of drug use and sex workers; and by poverty.

The estimated number of people living with HIV in **Viet Nam** has more than doubled between 2000 and 2005 from 120 000 to 260000 (Ministry of Health Viet Nam, 2005). The main risk factors associated with HIV infection are the use of contaminated injecting equipment and unprotected sex with non-regular partners or sex workers (Tuang et al., 2007) (1). The HIV epidemic in **Indonesia** is among the fastest growing in Asia. The majority of HIV infections are estimated to occur

through the use of contaminated injecting equipment, unprotected paid sex and, to a lesser extent, unprotected sex between men.(Ministry of Health Indonesia & Statistics Indonesia, 2006).

In **Cambodia** there is evidence that well-focused and sustained prevention efforts can help reverse an HIV epidemic. Nationally, HIV prevalence has fallen to an estimated 0.9% among the adult (15–49 years) population in 2006, down from a peak of 2% in 1998 (National Center for HIV/AIDS, Dermatology and STIs, Combodia, 2007).

The epidemic in **Myanmar** is also showing signs of a decline, with HIV prevalence among pregnant women at antenatal clinics having dropped from 2.2% in 2000 to 1.5% in 2006 (National AIDS Programme Myanmar, 2006) (4).

The availability of AIDS treatment has more than tripled in Asia since 2004, and by the end of 2006 it's estimated that more than 280,000 people in the region were receiving antiretroviral drugs (ARVs). Although this rise is encouraging, access to treatment varies widely across the region. Overall it's estimated that 81% of people in need of ARVs in Asia still have no access to them (5). Despite the overall decline in prevalence in Southeast Asia, the elevated prevalence of HIV among key populations at higher risk is of concern. International tourism, internal travel and its interaction with the sex industry have been identified as important factors responsible for the rapid spread of HIV in this region. This is particularly evident in the cross border region of Ranong, on the Thai-Myanmar border. People here have a high vulnerability to HIV/AIDS due to the presence of large numbers of young single men and women and large commercial sex venues. Often young women join or are forced into the sex industry in order to send money back home to support their families. Nevertheless, responses to the epidemic are often extremely limited particularly in Cambodia, Laos, and Myanmar and there is a lack of focus on migration and HIV/AIDS. An exception to this is Thailand, a country which has introduced wide ranging and sophisticated strategies to deal with HIV/AIDS for the effective prevention and control programs all over the country.

Migration has been a constant feature of South-East Asian culture for thousands of years. Over the last 20 years, however, research has highlighted the risk of Acquired Immunodeficiency Syndrome/Human Immunodeficiency Virus (AIDS/ HIV) spreading with migration movements and the vulnerability of migrants to AIDS. The spread of HIV/AIDS has accompanied migratory streams. Migrant vulnerability to AIDS is an important public health care issue. After having listed some characteristics of the epidemic in Asia and their link with migration, these describe some of the disease's consequences on economic sectors that employ migrants and lists preventive measures to counter the spread.

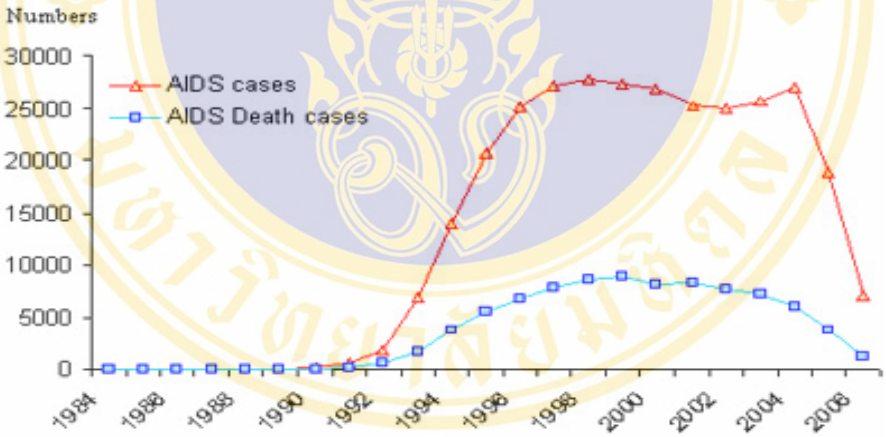
1.1.2 HIV/AIDS Situation in Thailand

Since the first case report of AIDS in the United States in the early 1980's, the HIV/AIDS epidemic has spread worldwide. Although the first 3 cases of HIV infection were contracted in Thailand during 1984-1985 (6), the actual epidemic transmission of HIV in Thailand started in 1988. The overall AIDS epidemic in Thailand can be divided into;

1. Epidemic among homosexual males in 1984-1985
2. Epidemic among intravenous drug users (IDUs) in 1988
3. Epidemic among female commercial sex workers (CSWs) in 1989
4. Epidemic among male clients of CSWs in 1990
5. Epidemic among family housewives and newborns in 1991

There are very few developing countries in the world where public policy has been effective in preventing the spread of HIV/AIDS on a national scale, but Thailand is an exception. A massive programme to control HIV has reduced visits to commercial sex workers by half, raised condom usage, decreased the prevalence of STIs dramatically, and achieved substantial reductions in new HIV infections. Thailand, though, is also a reminder that success can be relative. Its well funded, politically supported and comprehensive prevention programmes have saved millions of lives, reducing the number of new HIV infections from 143,000 in 1991 to 19,000 in 2003. Nevertheless, more than one-in-100 adults in this country of 65 million people is infected with HIV, and AIDS has become a leading cause of death (6).

Unless past efforts are sustained and new sources of infection are addressed, the striking achievements made in controlling the epidemic could now be put at risk. Factors such as an increase in risky sexual behaviour and a rising number of STI cases have led to concerns that Thailand could face a resurgence of HIV and AIDS in coming years (7). In Thailand, as reported by the Bureau of Epidemiology in figure (1), the cumulative number of AIDS patients is 307,114 cases and 85,459 AIDS deaths cases (December 31, 2006). Currently, the trends of AIDS morbidity and AIDS mortality show a decrease in compared with an estimated 580,000 adults and children were living with HIV at the end of 2005.The number of new annual HIV infections continued to drop –the estimated 18,000 new infection in 2005 were 10% less than in 2004 (8). However, a large percentage of new infections are occurring in people considered to be at low-risk of infection. Approximately one-third of new infections in 2005 were in married women who are probably infected by their spouses (2).



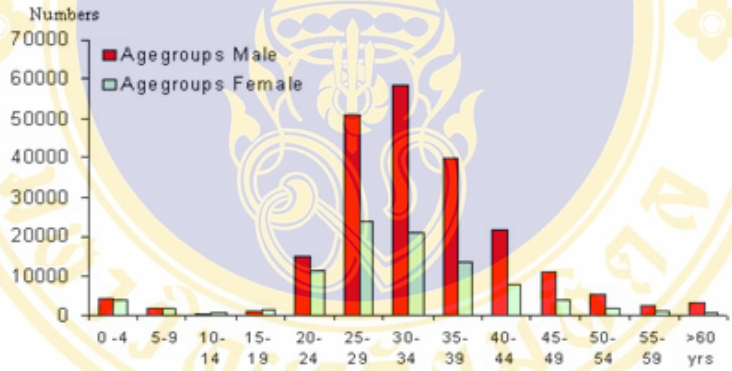
Sources: Bureau of Epidemiology, MOPH, Thailand , 2007

Figure 1 Distribution of reported AIDS cases and AIDS death cases by year of diagnosis in Thailand, September 1984-December 31, 2006

The first case of AIDS in Thailand occurred in 1984 (6). For the next few years, gay men, sex workers, injecting drug users and tourists were more commonly affected. The government took some basic measures to deal with the issue, but an epidemic was not yet apparent. Most of these measures were aimed at high-risk groups, as the government believed that there was not yet sufficient reason to carry out prevention campaigns among the general public (7). The majority of Thailand's

HIV infections (around 80%) occur through heterosexual sex affecting men than women (3:1) in Thailand.(9) The distribution of antiretroviral drugs has coincided with a dramatic drop in the number of officially reported AIDS-deaths from 5,020 in 2004 to 1,640 in 2005 (11).

Within the Thai population, the percentage of AIDS cases to be 25.84 % in 30-34 age groups followed by 24.26 % in 25-29, 17.31 % in 35-39, 9.42% in 40-44, 8.59 % in 20-24, and less than 4.18% in 0-14 age groups. In 15-19 age groups the rate of AIDS cases in young women was higher than that of men. Most of AIDS cases were reported among labor groups, whose occupations include 46.43% laborers (general employees, industry employees, track drivers and laborers) and 20.81% agricultural sectors (8).



Source: Bureau of Epidemiology, MOPH, Thailand, 2007

Figure 2 Distribution of reported AIDS cases by age group of diagnosis in Thailand, September 1984-December 31, 2006

Fortunately, the Thai response was already underway as the epidemic began this explosive growth. The 100% condom promotion program was pioneered in 1989 and many Thai NGOs had already begun HIV activities. An aggressive multisectoral effort was put into place under the Anand administration in 1991. Major mass media and workplace prevention efforts were underway in factories, construction sites, brothels, villages and other places where men and women with higher levels of risk behavior could be reached. By 1992, 100% condom promotion was fully implemented on a national scale (10).

However, mostly clients were at sexual risks behavior concerning a big problem. 83.87% of the total infections are from sexual routes and among them, 57.75% are heterosexual males, and 26.12% are females. Apart from sexual routes, by IDU means is 4.67%, by vertical transmission is 4.00%, by blood donation is 0.03%, and unknown and others 7.44% respectively (8). For the migrants group in Thailand, it is difficult to trace the exact level of HIV infection among migrant workers, and rates vary between areas and working provinces. Almost all of the illegal migrants are afraid of going to governmental hospital and health centre so that the prevalence of HIV infection cannot be assessed.

1.1.3 Situational analysis of HIV /AIDS in Samut Sakhon Province

SamutSakhon province is one of the costal province in south-west part of Bangkok and only 30 km from Bangkok and total area of 872 square kilometers . It is subdivided into 3 districts ; Muang Samutsakhon, Krathum Baen, and Banphaeo. Athough it is not the border area with Myanmar, over 200,000 Myanmar workers come and work as seafood processing workers and seafarers because this province is situated along the fishing ports and there are a lot of seafood processing factories. Total population of this province is 433,588 with 213,290 males and 222,298 females (2006). Some migrants were working as seafood factory workers, agricultural workers, construction workers and fishermen. The number of migrant workers in this area is increasing day by day and among them infectious diseases are becoming health problems.

Table 1 Current status of people living with HIV/AIDS in Samutsakhon Province, Provincial Health Office, 2006

Muang District			**Krathum Baen District**			**Banphaeo District**		
Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
1499	325	1824	506	211	717	159	34	193

Due to the data from the provincial health office in Table 1, there are a total of 2734 HIV patients in the whole province up to 2006. Out of three districts in Samut

Sakhon Province, there are more PLWHA (people living with HIV/AIDS) currently living in Muang District, which is nearly 67% of all total patients in 2006. Among them, 250 PLWHA are living in Mahachai sub-district, 193 are males and 57 are female. Mahachai is in Muang district, which is the place where many migrants are living and working in many factories and prawn markets (12). The detail status of PLWHA among migrants cannot be accessed because some are illegal and they cannot go to the government hospitals and health clinic for their health problems. Even most of the migrants are from Myanmar, but the detail information of Myanmar migrants HIV cannot be known because there are also migrants from Laos and Cambodia.

Table 2 Current distribution of PLWHA in Samut Sakhon Province according to reproductive age group up to 2006

Age group	Male	Female	Total	Ratio
15-19	4	8	12	0.44
20-24	125	80	205	7.50
25-29	456	144	600	21.95
30-34	556	121	677	24.76
35-39	423	82	505	18.47
40-44	266	50	316	11.56
45-49	153	28	181	6.62
Total	1983	513	2496	91.20
Samut sakhon Total PLWHA	2164	570	2734	100.00

Table 2 shows that the prevalence of HIV status among the reproductive-aged group is the highest in Samutsakhon Province which accounts almost 91.2% of the total PLWHA. Among them, (30-34 years) age group is nearly 24.76%. Male and female ratio is 4:1 (12). Similar to national HIV data, sexual route is the main cause of transmission of HIV/AIDS in this province nearly over three-fourth of the total infection

Table 3 HIV status according to the occupation up to 2006 in Samutsakhon Province

Occupation	Male	Female	Total	Percent
1. Farmer	42	4	46	1.66
2. Government Staffs	56	3	59	2.16
3. Private office staffs	15	2	17	0.62
4. Sellers	92	42	134	4.90
5. Workers	1453	313	1766	64.59
6. Others	506	206	712	26.07

Up to 2006 among the different categories of occupation in Samutsakhon province, HIV prevalence is the highest in workers group nearly 65% of the total HIV infections. Another group is the other undefined occupation including direct and indirect sex worker which is 26.07% of the total HIV patients (11).

Table 4 HIV data among specified group, Samutsakhon Province , 2007

Specified groups	Test population	(+) result
1. Pregnant women	716	6
2. Direct sex workers	151	22
3. Indirect sex workers	89	2
4. Blood donars	999	4
5. Migrant workers	200	3
6. Fishermen	23	0

From the above data, Samut Sakhon is the province which has some burden of migrants concerning about HIV/AIDS from the neighbouring countries. Many migrants are vulnerable to STI and HIV due to their sexual behavior, especially certain sub-groups such as fishermen. Due to negligible rates of condom use between spouses and intimate partners, migrant women also highly vulnerable to STIs and HIV risk (13). Due to HIV/AIDS surveillance database, Thailand (2006) shows that HIV sero-positive rate among prostitutes in Samut Sakhon province is 11.58%.

For this reason, many researches need to know more detailed information about HIV disease among the migrant population. This study will be done on Myanmar migrants in Samut Sakhon province as they are a vulnerable group of reproductive aged between 15 to 49 years. There are some research that had been done among Myanmar migrants with this kind of study at this area in 1998, 2002, 2004, and also with the increasing trend of this devastating HIV disease in migrant population in this area as mentioned before. So this is essential issue to study. The findings from this research can fill the information gap on migrants relating to HIV/AIDS prevention and control. The results obtained from this study may give not only useful tools for combating HIV among migrant population but also for fighting against diseases of border area. Due to figure 3, Samut Sakhon is not a province along Thai-Myanmar border, but because of economical needs, Myanmar migrants are gathering in this province causing a part of health burden for provincial health activities.

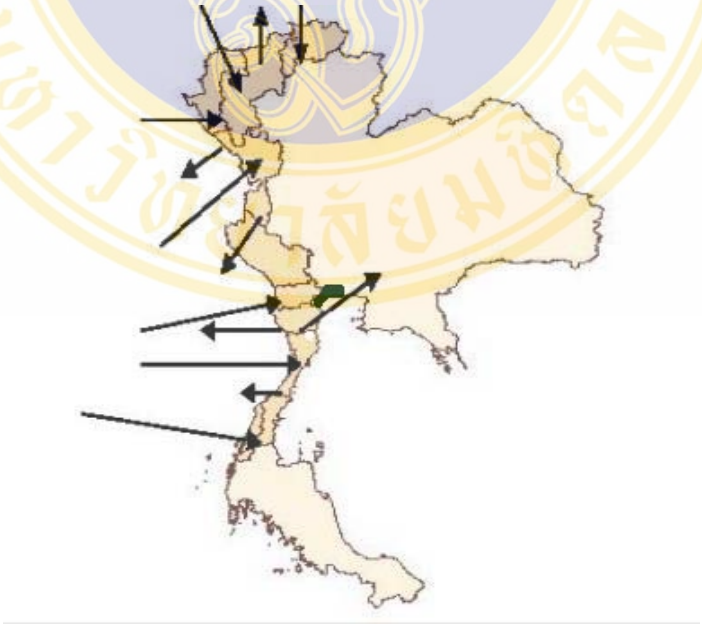


Figure 3 Ten Border Provinces contact with Myanmar and labour migrations (Tak, Mae Sot, Phro Phra ,Mae Ramat, Tha Song Yang, Umphang, Ranong, Mae Hong Son, Ratchaburi, Kanchannaburi,etc) Shaded area Samut Sakhon Province

An ideal health education approach to explain a wide variety of prevention and screening behavior of HIV, we have to postulate health beliefs that produce a readiness to act; perceived personal susceptibility to HIV, perceived severity of the condition, perceived benefit of the behavior, barriers to the behavior and cue to action.

Studies of AIDS related behavior change used a systematic psychological conceptual model - The Health Belief Model (HBM) which is reviewed and found out to widen the conceptual model. HBM is being centered on the individual and neglects the dynamic, social interaction that shape behavior. But even on the individual level it takes into account cognitive elements only and neglects other psychological determinants of the ability to copy in situation of risks.

Cues to action is the way like a trigger of decision to make action .In health belief model, cue to action leads a person to make a good action .For HIV /AIDS we have to change our behavior with cue to action like seeing a patient with AIDS or death of him. Another we can get information about HIV from mass media, our society, our family, NGO in the community, peer groups, friends or relatives for prevention of it in the community.

Therefore, it was possible to predict if an individual would engage in positive health behaviors by determining the individuals' perception of the disease, illness or accident, identification of modifying factors, and the likelihood that the individual will take some action. Health belief model is the best one in describing one's behavior to prevent against one problem or disease by perceiving oneself in susceptibility, severity, benefit of his good behavior and barriers to his behavior. Therefore the conceptual framework is based on Health Belief Model to assess the safe sex behavior of respondents in this study.

1.2 Research Questions

(1) What is the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants in Muang district, Samut Sakhon Province, Thailand?

(2) What factors are related with the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants in Muang district, Samut Sakhon Province, Thailand?

1.3 Research Objectives

1.3.1 General objectives

To assess the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants in Muang district, Samutsakhon Province ,Thailand .

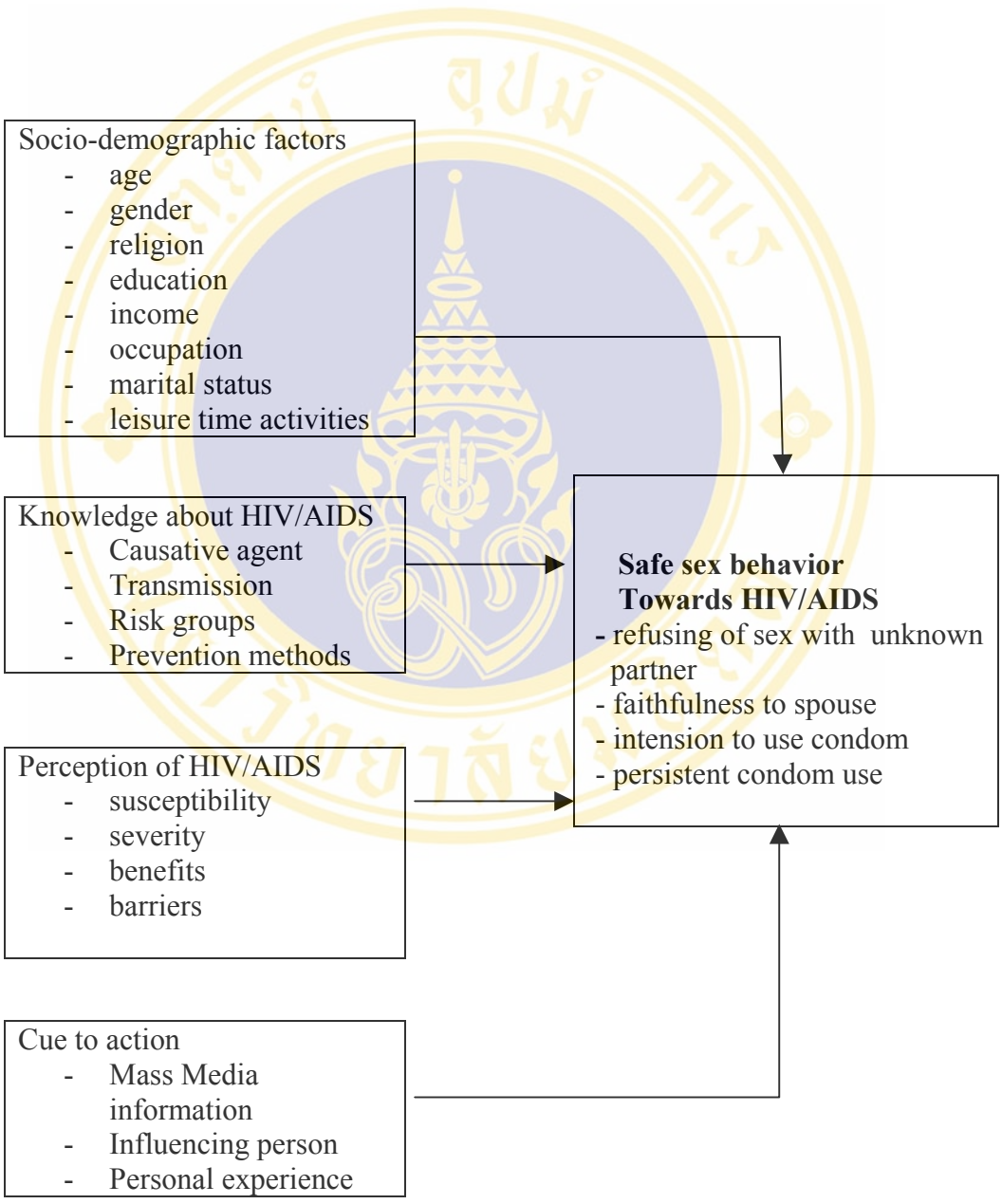
1.3.2 Specific Objectives

(1) To assess the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants

(2) To describe the socio-demographic factors, knowledge, perception and cue to action towards HIV/AIDS among Myanmar reproductive aged migrants

(3) To describe the relationship between socio-demographic factors, knowledge, perception, cue to action and their safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants

1.4 Conceptual framework (Based on Health Belief Model and AIDS Risk Reduction Model)



1.5 Operational definitions

1.5.1 Age

Age refers to the present age of respondents within reproductive age 15 to 49 years.

1.5.2 Religion

Religion refers to the religion of the respondents which may be Buddhism, Christianity, Islams and others.

1.5.3 Education

Education refers to the educational standard of the respondents like no education, primary school, secondary school , pre-college or bachelors etc.

1.5.4 Income/ Allowance

Income refers to the monthly income from the job and allowance refers to the monthly income that the respondents get from parents or relatives.

1.5.5 Occupation

Occupation refers to the present job that the respondents are now working.

1.5.6 Leisure time activities

Leisure time activities refers to the hobby or the task that the respondents do in their leisure times.

1.5.7 Safe sex behavior

In this study, safe sex refers to be refusing of sex with unknown partner, faithfulness to spouse, condom use and intending to use condoms.

1.5.8 Knowledge about HIV/AIDS

Knowledge refers to the understanding of HIV/AIDS such as the nature of HIV, the transmission routes, risk factors and risk groups, sign and symptoms and prevention of it especially condom use.

1.5.9 Perception of HIV/AIDS

1.5.9.1 Perception of susceptibility

Perception of susceptibility is one's opinion of chances of getting a condition of HIV infection.

1.5.9.2 Perception of severity

Perception of severity is one's opinion of how serious a condition and its consequences.

1.5.9.3 Perception of benefits

Perception of benefits is one's belief in the efficacy of the advised action to reduce risk or seriousness of impact.

1.5.9.4 Perception of barriers

Perception of barriers is one's opinion of the tangible and psychological costs of the advised action.

1.5.10 Cue to action

1.5.10.1 Personal experience

Personal experience refers to experience of seeing a patient or relative or friend suffering from HIV/AIDS and died of HIV/AIDS.

1.5.10.2 Mass Media Information

Mass media refers to from which sources of media (radio, television, video, journals, magazine or printed materials) that the respondents get information about HIV/AIDS.

1.5.10.3 Influencing person

It refers to the most influencing person on the respondents to guide them concerning about the safe sex behavior of HIV/AIDS.

1.6 Scope of the study

The sample group was not representative of the whole Myanmar migrants population in Thailand because of selected sampling to the study groups, that representing only those near to the central region, Samut Sakhon province of Thailand. Although it cannot be generalized, it is representative of area with similar characteristic pattern about Myanmar migrants.

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CHAPTER 2
LITERATURE REVIEW

From a medical perceptive, AIDS is problematic because there is no cure and no vaccine for this disease. The main route of HIV transmission is sexual route but sexual behavior is almost universally a private affair and people are not willingly to tell outside researchers about their sexual behavior and experience. Many people consider sex to be discussed only with the family members, intimate friends, or health professional (14). Many literates have found a link between migration and spread of HIV/AIDS because of migrants' vulnerability to this disease. This chapter will discuss the theoretical models and will review literature on HIV/AIDS, migration situation, risky behaviors of migrants and other determinants of safe sex behavior. The conceptual framework is based on Health Belief Model and modified to match with the research objectives. So this chapter consists of the following;

- Literature about HIV/ AIDS
- Safe sex behaviors for the prevention of HIV/AIDS
- Migrants situation in Thailand
- Migrants' sexual behavior towards HIV/AIDS
- HIV/AIDS preventive activities for migrants in Thailand
- Theoretical Health Belief Model
- Related studies about safe sex behavior

2.1 Literature about HIV/AIDS

HIV, Human Immunodeficiency Virus, is a virus that invades the immune system of humans and reduces the body's resistance to fight infections. AIDS, Acquired Immuno-deficiency Syndrome, is the late stage of HIV infection. Even after being infected with HIV, appearance of full-blown AIDS can take more than 6 to 10 years.

2.1.1 Transmission routes of HIV

HIV can be transmitted through

- a single unprotected sexual intercourse with an infected person.
- using contaminated instruments and materials
- by transfusing of contaminated blood and blood products
- from mother to baby(vertical transmission)

The possibility of transmission by transfusion of infected blood and blood products is as high as 95% while through contaminated needles and injections is 60% and from infected mother to her unborn child is 25 to 40%.

2.1.2 Non-transmission ways of HIV

HIV is not spread by shaking hands with an infected person, traveling in the same automobile, taxi or bus, eating from the same plate, drinking from the same glass; sporting, hugging and kissing. Mosquitoes and other insects do not spread the virus, neither does it spread through water or air. HIV also does not spread by using toilets and urinals used by infected persons, through sneezing or coughing ,working with an infected person ,giving blood for blood donation when medical staff uses disposable instruments.

2.1.3 Preventive ways for the transmission of HIV/AIDS

One can prevent an infection with HIV by having no sex; by having a mutually faithful monogamous sexual relationship with an uninfected partner and by practicing safer sex. Sex can be made safer by engaging in non-penetrative sex or by consistently and correctly using a condom every time.

2.1.4 Possible ways to avoid HIV infection for reproductive aged groups

Reproductive aged groups need to know how to avoid HIV infection as they are sexually active. Parents, teachers, and peers should ensure that they understand how to avoid HIV infection, and learn the importance of tolerant, compassionate and non-discriminatory attitudes towards people living with HIV. The social system has the responsibility of providing information how to avoid them.

2.1.5 Sign and symptom of AIDS

Symptoms of HIV infection may seem like symptoms of other illnesses and hence can be misleading in the beginning. Common symptoms are similar to that of tuberculosis or pneumonia, such as rapid weight loss, fever for a long duration (up to 3-4 weeks), persistent diarrhea, cough for over a month's time, swelling of lymph nodes and skin infections or a combination of any of these can emerge as symptoms of AIDS.

Major signs

-Weight loss of more than 10% of body weight
-Chronic diarrhea for more than one month duration
-Prolonged fever for more than one month duration

Minor signs

-Persistent cough for more than one month (excluding TB)
-Generalized lymph adenopathy(excluding TB)
-Recurrent herpes zoster
-Oro-pharyngeal candidiasis
-Chronic progressive disseminated herpes simplex infection
-Generalized pruritic dermatitis (excluding scabies)

According to WHO criteria, and we have to diagnose AIDS having two major signs and one minor sign with (+) HIV test.

2.2 Safe sex behaviors for the prevention of HIV/AIDS

Safe sex (safer sex or protected sex) is the practice of sexual activity in a manner that reduces the risk of infection with sexually transmitted diseases (STDs). Safe sex practices became prominent in the late 1980s as a result of the AIDS epidemic. Promoting safe sex is now a principal aim of sex education. From the viewpoint of society, safe sex can be regarded as a harm reduction strategy. The goal of safer sex is education and risk reduction (15). In contrast to protected sex is **unprotected sex**, which can refer to the practice of sex without protection from STDs and HIV. Although safe sex practices can be used as a form of family planning, the

term refers to efforts made to prevent infection rather than conception. Many effective forms of contraception do not offer protection against STDs and HIV infection. Recently, and mostly within Canada and the United States, the use of the term *safer sex* rather than *safe sex* has gained greater use by health workers. They realized that risk of transmission of sexually transmitted infections in various sexual activities is a continuum rather than a simple dichotomy between risky and safe. However, in most other countries, including the United Kingdom and Australia, the term *safe sex* is still mainly used by sex educators (15).

Much attention has focused on controlling HIV through the use of condoms. However, as many STDs can be transmitted through other activities, some sex educators recommend that barrier protection be used for all sexual activities which have the potential for disease transmission, such as manual penetration of the anal or vaginal cavities, or oral stimulation of the genitals.

2.2.1 Common safe sex behaviors

The followings are the common safe sex behaviors already described by "Society of Human Sexuality" from United State of America and widely accepted as safe sex behavior towards HIV/AIDS and STDs.

- Abstinence of sex (no sex)
- Monogamy sex or faithfulness to each other
- Sex by ourselves or masturbation
- Non-penetrative sex or superficial sex/phone sex/cybersex
- Protected penetrative sex or condom use

2.2.2 Abstinence as an alternative to safe sex

One way to avoid the risks associated with sexual contact is to abstain from sexual activity entirely, which nearly eliminates the chances of contracting STDs ,the only alternative methods of infection being non-sexual. In sexually active group, abstinence is almost impossible behavior.

Some groups, notably some American evangelical Christians and the Roman Catholic Church oppose sex outside marriage, and object to safe-sex education

programs because they believe that providing such education promotes promiscuity. Virginity pledges and sexual abstinence education programs are often promoted in safe-sex education programs. This can place some teenagers at higher risk of unintended pregnancy and HIV infection, because up to 60 percent of teenagers who pledge virginity until marriage do engage in pre-marital sex and are then one-third less likely to use condoms than their peers who have received more traditional sex education (15).

HIV may also be transmitted through non-sexual means. Thus, abstinence from sexual behavior does not guarantee complete protection against HIV. For example, HIV may be transmitted through contaminated needles used in tattooing, body piercing, or injections. Medical or dental procedures using contaminated instruments can also spread HIV, while some health-care workers have acquired HIV through occupational exposure to accidental injuries with needles (16).

2.2.3 Monogamy sex or faithfulness to each other

Acknowledging that it is usually impossible to have entirely risk-free sex with another person, proponents of safe sex recommend that some of the following methods be used to minimize the risks of HIV transmission. Monogamy or polyfidelity, practiced faithfully, is very safe when all partners are non-infected. However, many monogamous people have been infected with sexually transmitted diseases by partners who are sexually unfaithful.They might use injection drugs, or were infected by previous sexual partners so that the same risks apply to polyfidelitous people, who face slightly higher risks depending on how many people are in the polyfidelitous group.

For those who are not monogamous, reducing the number of one's sexual partners, particularly anonymous sexual partners, may also reduce one's potential exposure HIV. Communication with one's sexual partner(s) makes for greater safety. Before initiating sexual activities, partners may discuss what activities they will and will not engage in, and what precautions they will take. This can reduce the chance of risky decisions being made "in the heat of passion". If a person is sexually active with

a number of partners, it is important that they get regular check-ups from a doctor. Anyone noticing unusual symptoms should get medical advice quickly. Unfortunately HIV is almost symptom free until AIDS develops.

2.2.4 Sex by ourselves (Masturbation)

Sex by yourself known as *autoeroticism*, solitary sexual activity is relatively safe. Masturbation, the simple act of stimulating one's own genitalia, is safe so long as contact is not made with other people's discharged bodily fluids. However, some practices, such as self-bondage and autoerotic asphyxia, are made considerably more dangerous by the absence of people who can intervene if something goes wrong (17).

2.2.5 Non-penerative sexual behavior

Modern technology does permit some activities, such as "phone sex" and "cybersex", that allow for partners to engage in sexual activity without being in the same room, eliminating the risks involved with exchanging bodily fluids. Non-penetrative sex is a range of sex acts, sometimes called "outercourse", can be enjoyed by lovers with significantly reduced risks of infection.

2.2.6 Protected safe sex or Condom use

This is using of condom or barriers while having penerative sex. Various devices are used to avoid contact with blood, vaginal fluid, and semen during sexual activity. Condoms cover the penis during sexual activity. They are most frequently made of latex, but can also be made out of polyurethane. Polyurethane is thought to be a safe material for use in condoms, since it is nonporous and viruses cannot pass through it. Female condoms are inserted into the vagina prior to intercourse. They may also be used for anal sex, although they are less effective.

A dental dam (originally used in dentistry) is a sheet of latex used for protection when engaging in oral sex. It is typically used as a barrier between the mouth and the vulva during cunnilingus or between the mouth and the anus during anilingus.

Medical gloves made out of latex, vinyl, nitrile, or polyurethane may be used as an ersatz dental dam during oral sex, or to protect the hands during mutual masturbation. Hands may have invisible cuts on them that may admit pathogens that are found in the semen or the vaginal fluids of STD infectees. Although the risk of infection in this manner is thought to be low, gloves can be used as an extra precaution.

Another way to avoid contact with blood and semen is penetration, but not by the penis, such as using (properly cleaned) dildos or other sex toys. If a sex toy is to be used in more than one orifice, a condom can be used over it and changed when the toy is moved. Fisting (penetration by the hand), has its own risks, but the risk of HIV transfer can be reduced by latex gloves or a condom. Pegging, female-to-male anal sex with a strap-on dildo, does not involve fluid transfer. If a latex barrier is being used, any lubrication must not be oil based, as this can break down the structure of the latex and undo the protection it gives.

2.3 Migrants in Thailand

The term “migration” applies to an immigrant or refugee arriving in a given zone and settling there. The definition is approached under the angle of the demand, the pressure to emigrate resulting from demand from country residents, which depends on different factors ranging from the state of the economy to political conditions (Schaeffer, 1993). Definitive migrations can be “internal” if the places of origin and arrival are in the same national territory, or “external” if outside a national boundary. Definitive migrations entail a change of residence, and should be distinguished from temporary migrations that do not imply a definitive change of residence. The idea of establishment or settling in, however, should not be confused with adaptation, integration, social commitment, or citizenship, which are long-term processes and can take an entire lifetime to achieve. Although varied, causes of migration are often economic in nature and result in a search for employment in cities or industrial parks. For example, the second oil crisis in 1979 created a massive movement of Asians to the Middle East to work in the construction sector and oil

industry. Technological and social progress also play a part having found employment in technological sectors, national workers gradually give up low-skilled and low paid jobs to immigrants. In addition, there are national or internal migration flows, mostly from rural to urban areas. Sometimes, many migrants are victims to contract diseases.

Migrant worker is a sub-category of mobile people and can be defined as a person engaged in a remunerated activity in a State in which he/she is not a national. Examples of migrant workers include individuals traveling to obtain employment such as mine workers or agricultural laborers, and health care professionals seeking better salaries and conditions in developed countries. Migrant workers comprise a major category among mobile people; out of the 175 millions mobile people worldwide, 120 millions represent migrant workers and their families (17).

Thailand is a major receiving country for migrants Southeast Asia. In July 2004, 1,276,837 migrants including laborers and their family members attempted to register under the state registry of Thailand. Of that number, 1,161,013 officially completed their registration. Estimates by Government and NGOs, point to the actual number of migrants present, as possibly exceeding two millions (not including the 117,000 official refugees). Of those migrants working in Thailand, 849,552 registered for a work permit in 2004, and only 810,730 fully completed the issuing process for work permits. Many more migrant laborers do not have work permits, and new migrants are crossing the border for work every day. Results from the Thai Government's state registration of migrants in July 2004, out of the total 1,284,920 migrants that entered the registration system, almost 72 percent (921,492) came from Myanmar, just over 14 percent (183,541) from Cambodia, and just under 14 percent (179,887) from Lao (18).

Over 900,000 of the migrants registered under Thailand's state registry, including dependents and family members, come from Myanmar, and there are many more present who are undocumented. Migrants coming from Myanmar encompass the variety of cultures and languages present in Myanmar's multi-ethnic landscape. Purportedly, there is a literacy rate of 85 percent in Myanmar (UNICEF, 2001);

however, it seems that migrants who come from poorer areas generally have low education levels, as indicated by a 35% gross-secondary school enrolment rate for both males and females (18). The exact number of migrants cannot be counted as there are a large number of mobile workers are entering Thailand day by day. Due to the intensive crackdown by the police and lack of legal work permit, these migrants cannot go outside from their workplace.

Table 5 Nationalities of Migrants Registered for Work Permit by occupation

Work Category	Myanmar	Cambodia	Lao	Total	Percent
Agriculture	125,723	17,716	13,506	156,990	18%
Household worker (Domestic worker, homecare, gardener)	86,109	8,104	32,156	126,369	15%
Construction	87,807	27,673	9,310	124,790	15%
Seafood processing and related industries	68,834	5,228	1,055	75,117	9%
Fishermen (Ocean)	31,542	22,542	2,100	56,184	7%
Rice Milling, Brick and Ice Factory, Goods transport (docks and warehouses), Mining, Fresh Water Fishing	21,256	4,355	2,045	27,656	3%
Animal husbandry	19,704	2,382	3,597	25,683	3%
Misc. (may include general laborer, service industry, and sex work)	192,717	22,556	41,490	256,763	30%
TOTAL	633,692	110,601	105,259	849,552	100%
	75%	13%	12%		

Source : Office of Foreign Workers Administration, Department of Employment, Ministry of Labor, Thailand, June 2005

In 2007, some 200000 migrants have work permits due to expire date on February 28 and another 460000 have permits expiring on June 30, 2007. The Thai Press reported that there were 668,756 registered migrants in December 2006. Some 760,000 Myanmar registered to the Thai Department of Employment in 2006 for the waiting list for legal employers (19).

According to these data, there will be at least one million Myanmar migrants are working all over Thailand at the end of 2007. On 1st January, 2008 the government also announced to make legal work permit for the illegal migrants so that more migrants are now moving to Thailand for new employment.

The Mon group start becoming prominent along the southern half of the border with Thailand starting at Kanchanaburi, and can be prominently found working as fishermen in most central and southern coastal provinces, as well as being prominent in the seafood processing industry in Mahachai in Samut Sakorn Province. Mon people are known to be able to learn to speak Thai quickly and are reluctant to speak Myanmar or identify themselves as being of "Myanmar" nationality.

2.4 Migrants' sexual behavior in Thailand

Migrants' vulnerability to HIV/AIDS is increased by a complex set of factors. Foremost, there is still a large amount of misunderstanding or lack of proper knowledge about HIV among migrant populations. While there is limited access to condoms, there are numerous opportunities to engage in risky behaviors. Even when migrants have a clear understanding of HIV prevention, condom use is still inconsistent, especially among spouses and sweethearts, which sometimes includes indirect sex workers (18). Personal vulnerability to HIV/AIDS involves both cognitive and behavioral dimensions. Cognitive factors involve information and knowledge about HIV/AIDS, sexuality and services. Behavioral factors may be the personal character, which includes emotion, perception of risk and attitudes towards risk-taking, substance abuse etc.(Caoette, 2000) (20).

The main reason migrants seek commercial sex is that they are usually without their regular sexual partner. Other reasons include: a different lifestyle from their country of origin, which may lead to high-risk behaviors resulting from lower social pressure abroad (Wolffers et al., 1998); the lack of condom use by certain groups, such as Indonesians in Malaysia, who have a religious opposition to them (Marwaan, 1999); ignorance about the disease and its prevention; loneliness; marginalization

(Xiushi, 2001); and the formation of ethnic enclaves (Fernandez et al., 1998). In addition, in certain countries, such as the Philippines, migrants are increasingly young and single (Bugna, 1998), and in others, such as Viet Nam, migrants have difficulty integrating into mainstream society. These issues, combined with increasing prices, might tempt many migrants into prostitution to supplement their income. Finally, migrants' traditional professions often put them out of reach of disease prevention programmes and into vulnerable positions. Migrant sex workers, for example, are vulnerable to pimps and customers who may refuse condoms (Safreed, 2000). In other cases, economic crises have indirect effects, for example, some migrants are unable to finance their children's studies, forcing the children to leave school prematurely, thereby causing them to be out of reach of HIV/AIDS prevention programmes.

Among the HIV sentinel surveillance of high-risk groups, the highest rates of infection were found in Myanmar's cross-border points with Thailand (Chintayananda, 1997) (21). Many migrant workers with little or no knowledge on HIV/AIDS, have experienced family separations and easy access to sex services, leading to high prevalence of sexually transmitted diseases and HIV/AIDS.

Structural barriers, such as language differences, the location of services, documentation, and concerns of arrest or harassment, hamper migrants' ability to access proper reproductive and general health services, including condoms. As a result, untreated STIs contribute to migrants' HIV/AIDS vulnerability, and unplanned pregnancies result in unsafe abortions and other reproductive health problems (18).

Regarding the safe sex behaviors among the migrants, no sex or avoidance of sex is almost impossible as they are in sexually active age. Some refuse for sex with unknown partners because they are afraid of HIV infection. Faithfulness to the present sexual partners of spouse is practiced among the married populations but in some situations it is very easy to make extra-marital sex as they leave their spouse at home. Some young migrants also think that having multiple sexual partners among their friends and peers is popular.

The risk of HIV infection varies greatly according to the situation in which migrants find themselves and the conditions under which migration occurs. The types of work, legal status of the migrants, economic situation, age and education are among the important factors which can be related to risk of infection with HIV. It is even possible that, in some cases, migration may mean a decreased risk of AIDS. But whatever it will be, border areas are sites of destination as well as transit points attracting a range of people, and thus informed strategies are necessary to deal with the spread of HIV among both migrants as well as other mobile population (22).

There is widespread evidence that migrant populations are at increased risk for poor health in general and HIV in particular. In many developing countries, regions reporting higher seasonal and long-term mobility also have higher rates of HIV infection. This is especially evident along transport routes and in border regions. This link between HIV and migration has been well documented. One study conducted in a rural community in Uganda found that the sero-prevalence rate for those who had migrated was 11.5%, twice that of those who had not changed addresses. Equally as serious, in a study undertaken by CARE, it was disclosed that 50% of migrants report having sex at their destination, while only 10% indicated that they use condoms (23).

Although there are still some innocuous misconceptions, such as fears that HIV can be transmitted from a toilet or through mosquitoes, other misconceptions negatively influence condom use. Occupations filled by migrants that have the highest risk behaviors include fishermen and sex workers. After being on a boat for long periods without sexual release, a practice enforced by superstition, it is common for fishermen to band together, get drunk and visit sex workers during shore leave. Although drunkenness influences inconsistent or improper use of condoms, negative attitudes towards condoms, which are reinforced by uninformed beliefs about HIV/AIDS, play a greater role in inconsistent or low rates of condom use among migrant men. Negative attitudes and misinformation about HIV/AIDS are common among all migrants, however, they seem especially prominent among fishermen, including feelings that condoms are uncomfortable and unnatural, or that the need for

a condom can be determined on the basis of empirical factors that indicate a sex worker's HIV status, such as the temperature or color of her skin. So the migrants themselves as well as their partners are high vulnerable to HIV upon their return from distant locations.

Inadequate social development is also a factor that significantly contributes to the spread of HIV/AIDS in migrant populations. Vulnerability to HIV is often greatest when people find themselves living and working in conditions of poverty, powerlessness and social instability. Such circumstances apply to many mobile populations and could undermine an individual's motivation and ability to negotiate safer sex. Many mobile populations have no access to education, health or social services and few are willing to seek medical help for fear of being detained or expelled. Furthermore host countries are often unwilling to invest in health and sanitation for migrants and many national health care plans discriminate by excluding migrants completely or by limiting their service delivery to emergency care only.

Those PLWHA who have families with them are reportedly taken care of by family members; those without family often suffer alone, and eventually die alone. Some migrant PLWHA have wanted to go home to die as their last wish and have voluntarily gone to the border; others have been forcibly repatriated because they are unable to work or have been arrested as an undocumented migrant. In many cases, those sick from HIV/AIDS only find they are not strong enough to make the trip home and remain at the border until they pass away (18). A study by the UNDP Regional HIV and Development Program in New Delhi (UNDP REACH, 2004) and the PLWHA resource center reported that 67 per cent of the people living with HIV/AIDS said that migration was the main factor that led to HIV vulnerability (24).

Their mobile lifestyle can put them into contact with a higher number of sexual networks than other people, increasing both the risk that they will become infected and that they will spread infection to other areas of the country. Female migrants, especially those drawn into commercial sex work, are particularly affected by the epidemic.

2.5 HIV /AIDS preventive activities Health Services for Migrants in Thailand

In the face of increasing rate of HIV infection around the world, there are those who doubt that HIV prevention strategy work, despite extensive evidence of the effectiveness of several interventions. In large part, this is due to the lack of prevention strategies may be working even when HIV infection rates are high or increasing or to a belief that only certain kinds of data constitute valid evidence of effectiveness. The goal of intervention now aimed at changing behaviors is to reduce the risk of HIV behavior. Behavioral Change intervention seeks to delay the onset of sexual intercourse, reduce the number of sexual partners and the use of condom in sexual activity. We need to change our behavior for our good health with Behavior Change Communication (BCC) procedure. Actually BCC is related to socio-cultural factors in modern world. Health Belief Model is the best way of preventing the disease and making a good action for it in primary health care approach.

In response to the variety of barriers that limit the quality and access of public health services for migrants, it seems that migrants have a “hierarchy of preference” for services. This is influenced by a variety of factors, including: price, convenience, cultural familiarity and considerations of language. In many cases, traditional healers and herbal remedies are the first choice of treatment for minor ailments. These are inexpensive, familiar and easy to access. Next in preference is to self-medicate. This often involves taking leftover medication from a friend, going to a pharmacist or even having a friend going and explaining symptoms second-hand to a pharmacist. This is especially common for treating symptoms related to STIs. In some communities, there are “quacks” and midwives that provide injections, which are strongly preferred among migrants from Myanmar. Private clinics, including NGO clinics, are the next line of preference for more serious conditions. Even private clinics are expensive and may have limited services, the convenience of location and not having to worry about showing registration card make clinics an appealing health service option for migrants. Hospitals are generally the last resort except for services that are only provided in hospitals. Even though the fixed rate of 30 Baht included as part of health insurance, migrants are either unaware of this or are reluctant to go.

NGO clinics are highly regarded by migrants because services are usually provided in migrants' language, clinics are conveniently located in or near migrant communities, and services are inexpensive. Running a clinic is a complex undertaking, and thus, there are only a few, and the set of services they provide are limited. Clinics, one component in the strategies of NGOs in Thailand, are employing to improve migrants' access to health services. Currently, NGOs are using two strategies to improve migrants' access to health; in the first, the NGO is the service provider; in the second, Public Health is the provider with NGOs acting as a linkage.

By introducing 100% condom promotion program in Thailand by Government, it has many positive impacts on Thai people. Although sex is illegal in Thailand, the government's measures to solve the problem were mainly demand-and-supply reduction strategies, which were unable to control the existence of the sex business. The condoms delivered by this program as well as by NGOs are the main preventive materials for HIV/AIDS among the migrants. These condoms can be easily available at their buildings, at the workplace, at clinic and even in brothels. The 100% condom promotion program utilizes the 'harm reduction' strategy for behavioral change especially for safe sex behavior towards HIV/AIDS, and is found to be very effective in reducing health and social consequences resulting from sex work (25).

2.6 Theoretical Model used in this study

2.6.1 Health Belief Model

Health Belief Model is the theory developed in the 1950s by the sociologists and philosophers for behavior change depending upon the individual's knowledge and perception. Health belief model is actually the grandfather of all behavior change models. It can be used alone as the theoretical basis of a health education program ,or it can be used in combination with other models. Two major factors influence the likelihood that a person will adopt a recommended preventive health action. First, they must feel personally threatened by the disease (susceptible to a disease with serious or severe consequences). Secondly, they must believe that the benefits of taking the preventive action outweigh the perceived barriers to preventive action (26).

Table 6 The components of Health Belief Model

Concept	Definition	Application
Perceived Susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility if too low.
Perceived Severity	One's opinion of how serious a condition and its consequences	Specify consequences of the risk and the condition
Perceived Benefits	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.
Perceived Barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
Self-Efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action.

Health Belief Model based upon the idea that an individual must have the willingness to participate in health interventions and believe that being healthy is a highly valued outcome. Therefore, it is possible to predict if an individual would engage in positive health behaviors by determining the individuals' perception of the disease, illness or accident, identification of modifying factors, and the likelihood that the individual will take some action (26).

2.6.2 Becker's Health Belief Model

Becker (1974) developed the concepts of a health belief model by expanding upon the works of Reoenstock who studied individuals' reasons for not

participating in health-screening programs. Health belief from Becker's point of view is based upon the idea that an individual must have the willingness to participate in health interventions and believe that being healthy is a highly valued outcome. The most influential factor within Becker's model that might prevent an individual from engaging in healthy behaviors was the perceived barriers.

Becker's The Health Belief Model

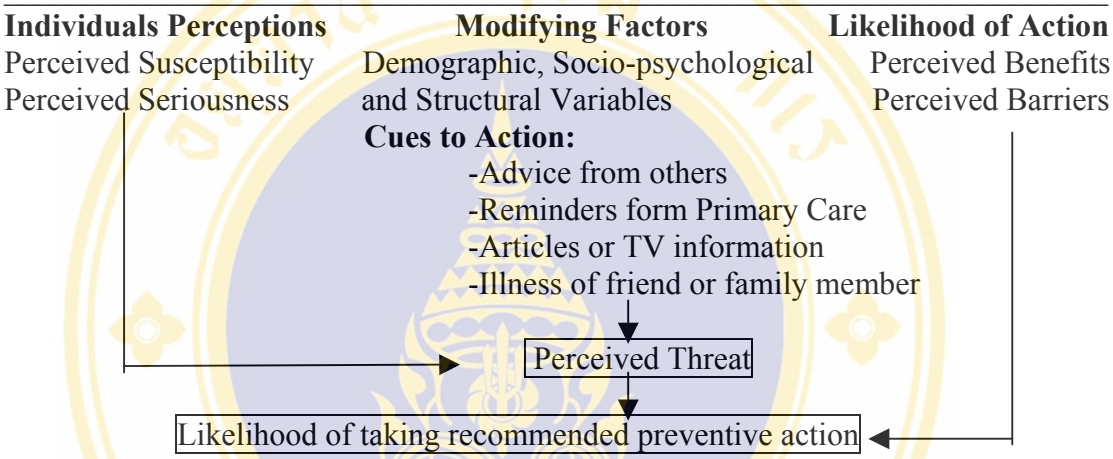


Figure 4 Becker's Health Belief Model

2.6.3 Health Belief Model and its useful way of safe sex behavior

According to this model, a person must hold the following beliefs for the prevention of HIV/AIDS to change behavior. These beliefs in these theories are,

-Perceived susceptibility to a particular health problem ("I am at risk for HIV after one done the risk behavior as in unsafe sex)

-Perceived seriousness of the condition (AIDS is serious. My life will be hard if I get it. Think before you do it.)

- Belief in effectiveness of the new behavior (Condom is effective against infection)
- Cue to action ("Witnessing of the death of other or a close friend due to AIDS)
- Perceived benefit of preventing action ("If I start using condom, I can prevent it.")
- Barrier to taking action ("I don't like to take condoms. It is unpleasurable.") (27).

When assessing a person's behavior for prevention, Health Belief Model alone is not enough because it consists of only the perception part. To construct a good

behavior, a person must know which factor is risky for that particular disease. Without having proper knowledge, a person cannot know which is risky or not exactly and also cannot avoid the susceptibility of that disease. One of the reinforcing model with Health Belief Model for the preventive behavior of safe sex is AIDS risk reduction model combining knowledge factor and socio-demographic factors, perception and cue to action of a person.

2.6.4 AIDS Risk Reduction Model

Another model can be applied to this study is the AIDS Risk Reduction Model which believes change is a process individuals must go through with different factors affecting movement (28). This model proposes that the further an intervention helps clients to progress on the stage continuum, the more likely they are to exhibit change. This was developed specifically for the context of HIV perception. Individuals must pass through three stages;

- labeling for their knowledge and perception
- commitment for their decision making, and
- enactment for their cue to action

(A) Labeling – one must label their actions as risky for contracting HIV (i.e problematic). Three elements are necessary

(1) Knowledge about how HIV is transmitted and prevented,

(2) Perceiving themselves as susceptible for HIV and

(3) Believing HIV is undesirable.

(B) Commitment – this decision-making stage may result in one of several outcomes as follows;

(1) Making a firm commitment to deal with the problem,

(2) Remaining undecided,

(3) Waiting for the problem to solve itself, or

(4) Resigning to the problem. Weigh cost and benefits. Major factors are (1) response efficacy (effectiveness to change), (2) perceived enjoyment (acts being added or eliminated), (3) self-efficacy, and (4) relevant information and social norms.

(C) Enactment – This includes three stages

(1) Seeking information,

(2) Obtaining remedies, and

(3) Enacting solutions.

The labeling part including knowledge and perception of susceptibility and severity is combined to health belief model for the backbone of conceptual frame work. By knowing how HIV is transmitted, they perceive that they can be susceptible to HIV if they do the risky behavior. By perceiving severity of the disease, they consider for decision making in commitment part but the outcomes may be different. This phase is relied on cost and benefit of behavior to adopt for preventive action similar to perceived benefits and perceived barriers in Health Belief Model. The final step is seeking information about that disease (mass media) and other remedies to support for action like cue to action. By combining these two models, these all variables together lead to take a recommended preventive action for HIV infection.

2.7 Related studies about safe sex behavior

2.7.1 Literatures on independent variables

AIDS is an important public health problem due to medical, social and economic repercussions. Characteristically, which are important in relation to condom used , were identified , such as age, education and socio-economic level as independent variables.

According to Ostrow (1991), age is one of the variables to influence behavior related to HIV transmission. Younger age groups are more likely to engage risky behaviors than older person (29). According to Carols A, the existence of important characteristics that influence use of male condom such as age (younger than 25), marital status, education status, socio-economic level (middle/high) and types of sexual partners (occasional), which should considered in the evaluation of changes in sexual behavior. This study shows that young, single, high education, middle and high socio-economic level of men are more likely to use condoms (30).

The study on Bridge population in the spread of HIV/AIDS in Thailand using the data from Behavior Research for AIDS prevention in Thailand (BRAIDS) showed that approximately 17% of men in low-income urban areas and 25% of truckers can be considered as a bridge population and these men are more likely to be HIV positive and to have at least one other STD in the past year. Among those low-income men and truckers, consistent condom use with CSWs is less than 30% and is less than 1 % with non-CSW partners. As a result, 30 women in general population were potentially exposed to HIV per 100 sexually active men in the last year.

Education also plays the important role in safe sex behavior and HIV/AIDS. More educated persons are hypothesized to have better understanding about HIV/AIDS. Moreover young people who spend time in formal educational system might have to gain more knowledge about HIV/ AIDS (13).

Marital status appeared to influence men's experience with sex workers. There are a notable difference between and among the studies conducted in Thailand. In Ranong, the population of those who had ever brought sex was highest among 'once married' men (divorced, widowed or separated – 38 percent). In Chaing Mai, on the other hand, the highest proportion was among single men (59 percent) (13).

One of the barrier for safe sex behavior is many men claim to be unable to attain orgasm when they use condom. Apart from this psychological barrier, the act of using condom is may be viewed as de-eroticizing. Another problem is most of the condom detailers only sell the standard size. Some want different sizes. In addition, men from Islamic backgrounds claim that they cannot use condoms for religious reasons.

Studies in Samut Sakhon Province, Thailand have found that the most common source of HIV/AIDS information was through TV, followed radio and newspaper, and the health workers, and lastly by friends and family members. On the other hand studies in Nigeria have shown that the primary information sources of HIV were radio, newspaper followed by friends and health personal. Concerning

specifically young people, research has shown that the mass media especially TV, is a powerful source of information but insufficient for change in actual risk behavior (31).

One of the effective media for HIV / AIDS prevention through TV but poster is also the effective way for cue to action to change behavior. One of the Brazilian poster follows the guidelines from the AIDS committee and it laudably combines a positive message with specific information- using the idiom of people- on how to protest oneself. The slogan “Love doesn’t kill” is supplemented with the following advise: “ You can have sexual relations with security using a latex condom, a rubber. The condom can keep AIDS away from you, but you doesn’t keep you away from the one you love ” (32).

Previous studies have shown that the lower the level of knowledge of HIV/AIDS , the higher the level of HIV/AIDS vulnerability. In Thailand, studies show that knowledge on HIV/AIDS among migrants varies from place to place. In Chaing Mai and Ranong, the study shows that migrants from Myanmar almost all of the participants had heard of AIDS. However, only 60% of the participants were able to answer questions about HIV/AIDS (13).

Maw Maw Zaw (2002) studies about the knowledge regarding HIV/AIDS of Myanmar migrant workers in Bangkok Province was at "fair" level ,but higher than a previous study involving Myanmar migrants conducted in Sangkhlarburi and Ranong provinces. Nearly half (47.4%) of the migrants had "fair" level of knowledge regarding HIV/AIDS; in particular being aware of various ways HIV is transmitted. However, there were several beliefs contrary to facts resulting from insufficient knowledge and confusion (33).

Cho Cho Aung (2002) studies about the knowledge of condom use as a safe sex behavior towards HIV/AIDS in Samut Sakhon Province shows that almost all (97.3%) knows to use condom for prevention of HIV. But, when the knowledge of handling a condom was broken up in each step, insufficient knowledge was revealed,

resulting in the lower percentage (45.5%) for squeeze end of condom when put on erect penis and for removing it properly. In addition, date of expired of condom was not checked often among users (34).

Myint Thu (2002) studied on the basic knowledge, attitude and the practices of the Myanmar migrant workers in Mahachai, Samut Sakhon, Thailand related to HIV / AIDS prevention. The specific objectives were to describe socio-demographic characteristics, sources of information on HIV / AIDS, social network and social support systems, basic knowledge, attitude and practices of these workers on HIV / AIDS and its prevention, and to find the associations between these variables. The results showed that the mean knowledge on AIDS in both male and female was about 62%. There was no statistically significant association between knowledge and condom use, but a positive attitude was associated with safe sex practice. Social network analysis showed that the most important social network for the Myanmar migrants in Mahachai was their peers and/or friends (35).

2.7.2 Literature on dependent variables

Generally, there is little available data on actual rates of HIV/AIDS among migrants in Thailand. As Thailand has been one of the foremost countries to feel the brunt of the AIDS epidemic, Thailand's government has adopted many progressive policies in regards to HIV/AIDS. Accordingly, the country has a policy that prohibits mandatory HIV testing for employees, even for migrant workers. Most of the studies about the migrants' safe sex behavior are only focused on condom use and a few studied about some indicators similar to this study.

Due to the report of UNAIDS (2004), being faithful to one's partner or reducing the number of sexual partners is one of the preventive safe sex behaviors. The lifetime number of sexual partners is very important predictor of HIV infection. Thus, having fewer numbers of sexual partners reduces the risk of HIV infection. However, strategies to promote faithfulness among couples do not necessarily lead to lower incidence of HIV unless neither partners has HIV infection and both are consistently faithful.

However, in saying more than one partner, care must be taken that non-cohabiting partners do not form a homogenous group. Sex with a non-cohabiting partner would not be expected to emerge as a consistent risk factor because it is not a very specific marker of risk. Many people who have sex with a non-cohabiting partner will have little or no additional risk of HIV infection compare with who have not done so.

It is difficult to define objectively the different types of safe sex behavior in each country. Actually one sex which is unprotected is very risky behavior and it may contain without condom use, unfaithfulness to each sex partner or spouse, having multiple sex partners, pre-marital and extra-marital. Generally, these are unsafe sex behaviors and this study also has to use the same criteria to determine Myanmar migrants' sexual behavior towards HIV/AIDS.

Kyaw Moe Lwin (2004) studied about the safe sex behavior of refraining from CSW and refraining from multiple sex partners in Samut Sakhon Province, Thailand. He found out that 31.3% of Myanmar male migrants used condom with CSWs and 35.5% used condom with multiple sexual partners (40).

There has been some HIV surveillance of migrant worker populations by local officials, although it has not been done on a regular basis, and sometimes may use unclear methodologies. In Samut Sakhorn Province in 2001, a surveillance sample among migrants from Myanmar indicated that 1.4 percent or 316 individuals had tested positive for HIV (Bhumiprabhas, 2001).

A survey of Cambodian fishermen in Pattani showed that 32 percent of respondents never use condoms with women from karaoke bars and coffee shops, and 14 percent inconsistently use condoms with these women (54 percent consistently used condoms); while with girlfriends, who may also be karaoke workers, 95 percent never used condoms. (RTF/CARE, 2002) In Ranong, migrant sex workers from Myanmar reported 84 percent average condom use with one-time clients, and 16 percent with regular clients (Isarabhakdi, 2004).

Considering these low rates of usage among married couples, a major factor in the spouse's vulnerability to HIV is the question of whether married men and women use condoms consistently if, and when, they have sex outside of their relationship. In the border town of Ranong, 42 percent of all male respondents reported always using a condom with sex workers, while 91 percent of men surveyed in Chiang Mai reported they always used condoms with sex workers (Caouette, 2000) (20). At Phuket, migrants from Myanmar working as fishermen reported less than 30 percent condom use in their last experience with a migrant direct sex worker, and less than 18 percent condom use in their last experience with an indirect migrant sex worker. With Thai sex workers, 74 percent of the men reported using a condom the last time they had sex, whereas only 58 percent reported using condoms consistently with Thai sex workers. (WVFT, 2003) Cambodian fishermen in Pattani reported that of those who went to brothels, 12 percent used condoms sometimes while 22 percent never used condoms (the rest used condoms regularly). (RTF/CARE, 2002) (13).

Ford and Kittisuksathit (1996) monitored that condom use with a steady partner is very low in contrast to the fairly high level of condom use with sex workers. Only 4% of women and 21% of men reported consistent condom use with their partners. The main reason for non-use of condom with steady partner were reduction in emotional closeness, undermining the sense of trust or faithfulness, and lack of perceived risk, as well as perceived reduction in pleasurable sensation in intercourse. Actually safe sex behavior should be applied while having sex with unknown partner even with unfaithful spouse or recent sexual partner (36).

One of the study for safe sex behavior (van de Raadt el al. 1988) shows that most of the CSWs are less likely to use condom for oral sex than vaginal course thinking oral sex is safer than vaginal sex. But many CSW are drug-dependent are have poor dental health and often have cut or bleeding gums.

Among the methods of safe sex behavior, condom use is scientifically proved method with several laboratory experiments for the ability of latex condom. Condoms are tested by placing a solution containing HIV inside the condom, and the culture

medium (free of HIV) outside the condoms. No leakage of HIV across latex condom was demonstrable (37).

One similar study of Cho Cho Aung (34) in which 59% of male migrants used condom for preventive behavior in 2002 and two times increase of 30.5% condom use in Ni Ni Khaing's study (39) among Migrants in Samut Sakhon in 1998. In 2003, one survey in Myanmar by National AIDS Program on high risk behavior shows that the proportion of men who reported using condom consistently with sex workers was 54% (60% among youth and 51% among adult men). These official data are supported by the results of "condom market survey" by Population Service International (PSI), Myanmar. These market survey covers client's samples including trishaw drivers, taxi drivers, truckers, highway drivers, fishermen and miners and sex workers.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Study design

The study design for this thesis is a cross-sectional descriptive study aiming to assess the safe sex behavior of Myanmar reproductive aged migrants towards HIV/AIDS in Samutsakhon Province, Thailand. It also has to determine the socio-demographic characteristics, their knowledge, perception and cue to action for the prevention of HIV/AIDS in Myanmar reproductive aged migrants population.

3.2 Study population

The target population for the study is Myanmar migrants aged 15-49 years in Muang district, Samutsakhon Province, Thailand.

3.3 Sample size

To estimate the number of target population, it is based on the following formula.

$$n = \frac{Z_{\alpha}^{2} P (1-P)}{d^{2}}$$

(To find sample size population according to W. Daniel , a foundation for analysis in Health statistics) (38)

n = estimated sample size

α = level of statistics significance, which is set at 0.05 (z = 1.96)

P = proportion of population with safe sex behavior

d = absolute precision of this study = 0.06

Most of the studies about HIV/AIDS among Myanmar migrants are focused only to condom use and intension to use condom. This study is the first one to study some variables of safe sex behavior including no sex with unknown partner, faithfulness to spouse apart from condom use. Therefore, proportion of population with safe sex behavior (P) is generally described as condom use among Myanmar migrants. Based on Cho Cho Aung's study (34), P is set at 0.59. For estimating sample size;

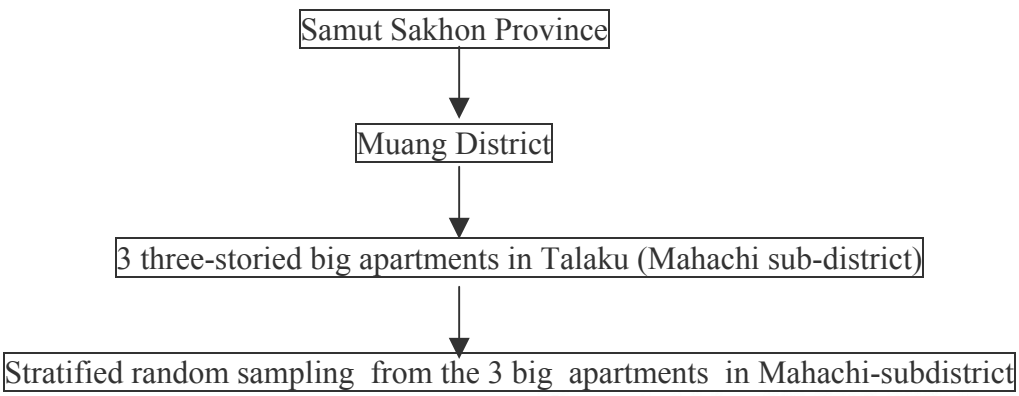
$$n = \frac{(1.96)\,(1.96)\,(0.59)\,(1\text{-}0.59)}{(0.06)\,(0.06)} = 256$$

Therefore the total sample size for this study is 256 respondents. For this study, 270 respondents were collected.

3.4 Sampling technique

For the sampling technique , stratified random sampling technique was used for the specific aged group of reproductive age (15-49) years. In Samutsakhon Province, there are 3 districts and, Mahachi, is in Maung district. There are 30 rooms in each flat of one building so taking randomly 30 respondents from one flat getting 90 respondents in each building. A total of 270 respondents are interviewed from three buildings.

3.4.1 Sampling frame



1 respondent each x 30 rooms = 30 (first floor)

1 respondent each x 30 rooms = 30 (second floor)

1 respondent each x 30 rooms = 30 (third floor)

= 90 respondents x 3 apartments= 270

3.5 Data collecting tools and methods

The research instrument in this study for data collection is through structured interview. This will contain five parts;

Part 1 : Socio-demographic characteristics

Part 2 : Knowledge on HIV/AIDS

Part 3 : Perception towards HIV/AIDS

Part 4 : Cue to action

Part 5 : Safe sex behavior towards HIV/AIDS

3.5.1 Socio-demographic characteristics

This part consists of 8 questions about the present age, gender, religion, education, marital status, present occupation, monthly income and hobbies in their leisure time of the respondents. Age group will be classified as young age (15-24), working age (25-34) and older age (35-49). Income will also be classified as low income (< 5000 Baht) and high income (>5000 Baht) because 5000 Baht is the minimum income need for their lives to stay in Thailand.

3.5.2 Knowledge about HIV/AIDS

This part consists of 10 questions about knowledge of HIV/AIDS. The score will be given to 1 for the correct answer and 0 for the wrong answer in each statement. The maximum total score is 10 and the minimum total score is 0. Based on the Benjamin Bloom criteria, the total knowledge score will be classified into three levels as follows;

- Low level of knowledge: The score is <60%
- Moderate level of knowledge: The score is between 60%-80%
- High level of knowledge: The score is >80%

3.5.3 Perception about HIV/AIDS

This part consists of 23 questions, which is combined positive and negative statements in perception of susceptibility, severity, benefits and barriers towards HIV/AIDS. The respondents are asked to agree, not sure and disagree about the perception of HIV/AIDS. The score will be given 3, 2 and 1 according to the statements as follows. For positive perception question,

Agree =3 score
Not sure =2 score
Disagree =1 score

For negative perception question,

Agree =1 score
Not sure =2 score
Disagree =3 score

The total maximum score is 69 and minimum score is 23 for 23 questions. Based on the Best's rating criteria, the perception will be classified to three levels from the total score of perception. The interval is calculated by subtracting minimum score from maximum and dividing by number of levels. So the three levels are as follows;

-Low level of perception : The score is from 23 to 38.
-Moderate level of perception : The score is from 39 to 54.
-High level of perception : The score is from 54 to 69.

3.5.4 Cue to action

This part consists of 4 questions about the source or media of information of HIV, personal influence, and personal experience of seeing AIDS patient .

3.5.5 Safe sex behavior on HIV/AIDS

This part consists of 5 questions about refusing sex with unknown partner, being faithful to spouse or sex-partner, use of condom and intension to use condom. The respondents are asked to answer yes or no for each question about their

safe sex behavior according to their decision and will. The score will be given as 1 if they answer "yes" and 0 if they answer "no". The maximum score is 5 and the minimum score is 0. The level of safe sex behavior is classified by the percentile level as the respondents getting the total score < P_{25} (25^{th} percentile) for poor behavior, those getting the total score is between P_{25}- P_{75} (between 25^{th} percentile and 75^{th} percentile) for moderate or fair behavior, and those getting the total score > P_{75} (75^{th} percentile) for good behavior.

3.6 Pretest for reliability and validity

For the reliability and validity of the data and result, pre-test was conducted to 30 respondents in another sub-district among Myanmar migrants in Muang district, Samutsakhon Province in the first week of January 2008. After receiving the data, the part of knowledge was analyzed for reliability by KR20 and it was 0.581. Cronbach's Alpha was used for validity about the part of perception and it was 0.813 but in that part containing five choices as strongly agree, agree, not sure, disagree, strongly disagree are not suitable for migrants group as they confused the terms. So some questionnaires were modified for the knowledge part as well as perception part with 3 choices of agree, not sure and disagree and did second pretest and it was found that KR20 was 0.631 and Cronbach's alpha was 0.715, respectively.

3.7 Data collection

Data was collected by means of structured interview, which was closely supervised by my supervisors. The researcher was accompanied by 3 Myanmar interviewers, 2 males and 1 female, from Raks Thai Foundation. These interviewers were trained for 1 day before data collection procedure. The data collection was from 10^{th} January to 31^{st} January, 2008. The questionnaire was first prepared in English and then transferred to Myanmar version.

3.8 Data analysis and statistics used

After examination and correction of each returned questionnaire, some unqualified answer and papers unsuitable were cleaned for data analysis. Then the stored data was processed by Epidata 3.0. After entering all data to Epidata, data analysis was done by Minitab 13.0. The outcome of the study was presented as follows.

Descriptive statistics was used for the frequency and percentage distribution of socio-demographic, which include age, gender, education, marital status, occupation, income and hobbies. In this part it also includes the level of knowledge, perception and cues to action. In order to assess the relationship between independent and dependent variables, chi-square test and fisher's exact test will be applied at significant level 0.05.

3.9 Ethical consideration

The sexual behavior is particularly a sensitive issue in Myanmar society but after introducing the researcher as a Myanmar medical doctor they answer the questions openly. Nevertheless, the following ethical considerations are prepared in each step of study.

- This proposal has to be approved by the Faculty of Graduate Studies, Mahidol University.
- The informed letter to the Chief Provincial Medical Officer was already sent from Director of ASEAN Institute for Health Development, Mahidol University for permission of study in Samut Sakhon Province.
- The researcher has to explain the purpose of the study to all the respondents and the data will be collected under the verbal consent of respondents.
- Anonymity and confidentiality of all respondents will be guaranteed as follows;
  (a) The name of respondents will not be recorded.
  (b) The privacy has to be protected during interview session.

(c) The questionnaire sheets will be destroyed after data have been entered and analyzed.

- During the whole process of interview, the respondents have the right to refuse to answer the question if they do not want to and drop out any time without any obligation.

CHAPTER 4
RESULTS

This chapter provides the study results to describe the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants in Samut Sakhon Province, Thailand. The results are presented by the following categories; socio-demographic characteristics of migrant workers, knowledge about HIV/AIDS, perception about HIV/AIDS including susceptibility, severity, benefits and barriers, cue to action and their safe sex behavior. The safe sex behavior includes having no sex with unknown partner, being faithfulness, intension to use condom and consistent condom usage. The next part is shown by the chi square test for determining the relationship between socio-demographic characteristics, knowledge, perception, cue to action and their safe sex behavior.

The data was collected from 260 Myanmar migrants between 15-49 years old of reproductive aged presently working in Maung district in Samut Sakhon Province. The respondents are interviewed with structured questionnaires in January 2008. The participants in this interview are from Talaku, and Kohsamut within Mahachi subdistrict in Samut Sakhon Province.

4.1 General characteristics of Myanmar migrants

4.1.1 Socio-demographic characteristics

The socio-demographic characteristics include age, gender, religion, education, marital status, occupation, monthly income and hobby or leisure time activities.

Regarding to the analyzed results, nearly one-half (45.77%) of the respondents are within the working age group with the mean age of 27.612 years and standard deviation is 7.817. Among the respondents, slightly over two-third (68.46%)

of the respondents are male. In this study group, a large majority (92.31%) of the respondents are Buddhism. The remaining 4.62% are Christianity and 3.08% are Islam.

For educational background, slightly over one-third (38.46%) of the respondents had finished secondary level. Only 4.23% of workers interviewed are non-educated. The rest 28.08% are primary level, 0.77% has other education, 24.23% are high school level and 4.23% of respondents had attended one college or university.

Marital status of the respondents is divided into three groups, single, married and divorced/separated/widow. Among them, 61.54 % are married, 32.69 % are single and 5.77% are in divorced/separated/widow group.

Their jobs in this province are based on the seafood processing so almost three-fourth (73.46%) of the respondents engaged in the seafood markets, 10.00 % in factories and 7.69% of respondents as general workers. A very few number 4.23 % of the respondents do other jobs and the rest 4.62% are jobless.

The level of economic status is best assessed by their monthly income. Their income is then divided into two classes (0-5000) bahts and (5001-10000) baths. Slightly over two-third (68.46%) of the respondents are in the low income group and 31.54% get more than 5000 bahts per month.

Because of tired long time work and overtime work, they spent their leisure time in different ways. According to their answers, 26.15 % of the respondents have a hobby of reading, 35.38 % have watching TV/Video, 23.46% have a hobby of listening to music and some 15 % do other activities in their extra time.

Table 7 Number and percentage of the respondents by socio-demographic characteristic

Socio-demographic characteristics	Number	Percentage
Age		
15-24 years	97	37.31
25-34 years	119	45.77
35-44 years	34	13.08
45-49 years	10	3.85
Mean = 27.612 , SD = 7.187 , Minimum = 15 , Maximum = 48		
Gender		
Male	178	68.46
Female	82	31.54
Religion		
Buddhism	240	92.31
Christianity	12	4.62
Islam	8	3.08
Educational level		
No education	11	4.23
Primary school	73	28.08
Secondary school	100	38.46
High school	63	24.23
College/ university	11	4.23
Others (monastery education, etc.)	2	0.77
Occupation		
Seafood processing workers	191	73.46
Factory workers	26	10.00
General workers	20	7.69
Jobless	12	4.62
Other	11	4.23
Marital status		
Single	85	32.69
Married	160	61.54
Divorced/ separated/ widowed	15	5.77
Monthly income (baths)		
0-5000	178	68.46
5001-10000	82	31.54
Median= 5000, SD = 1691, Minimum= 0, Maximum= 8400		

Table 7 Number and percentage of the respondents by socio-demographic characteristic (cont.)

Socio-demographic characteristics	Number	Percentage
Leisure time activities		
Reading	68	26.15
Listening to music	61	23.46
TV/ Video	92	35.38
Others	39	15.00

4.2 Level of knowledge about HIV/AIDS

A set of 10 item questions is investigated to know the level of knowledge about HIV/AIDS. It was found that most of the respondents have the basic knowledge about the transmission, high risk groups, symptoms of AIDS and preventive behavior but only a few number can answer about the detail or in-depth questions.

Table 8 shows that almost one-half (49.23 %) of the respondents can give the correct answer about the nature of HIV. A majority (88.85%) of respondents answered that HIV can be transmitted by engaging unprotected sexual intercourse with a person who has many sexual partners. Regarding the high risk group, a slightly over one-half (51.92%) of the respondents knows that people who are not faithful to their spouse and find extra-marital sex are at high risk. Over one-half (53.85 %) of the respondents know the way or method to find out who is HIV infected or not. For detail laboratory examination to assure HIV infection is known by 55.76% of the respondents. The longest time taken to become a full-blown AIDS appearance is 6-10 years but only 35% knows it. Over one-half (57.31%) of the migrants know that decreasing 10 % of the body weight within one month without any reason is the major symptom of AIDS. Only 43.46% know about ARV for treatment of HIV/AIDS. Almost three-fourth (74.23%) of the respondents know that individual's sexual behavior is the one related to HIV infection and 61.15% of the respondents can give the correct answer about prevention of HIV by safe sex practices.

Table 8 Number and percentage of the respondents by item analysis of knowledge about HIV/AIDS

Knowledge statement	correct	wrong	don't know	comment
1. Nature of HIV	128 (49.23%)	119(45.76%)	13(5.01%)	Poor
2. Transmission of HIV	231(88.85%)	29(11.15%)	-	High
3. High risk groups	135(51.92%)	123(47.30%)	2(0.78%)	Poor
4. Method to know HIV infection	140(53.85%)	120(46.15%)	-	Poor
5. Laboratory test of HIV infection	145 (55.76%)	113(43.46%)	2(0.78%)	Poor
6. Longest time to become a full-blown AIDS patient	91 (35.00%)	165(63.46%)	4(1.54%)	Poor
7. Symptom of AIDS patient	149 (57.31%)	111(42.69%)	-	Poor
8. The treatment of AIDS (ARV)	113 (43.46%)	140(53.84%)	7(2.70%)	Poor
9. The high risk behavior of HIV	193 (74.23%)	67(25.77%)	-	Moderate
10. Preventive way of HIV infection	159 (61.15%)	100(38.46%)	1(0.39%)	Moderate

High = score> 80% , Moderate = score 60-80% , Low = score< 60%

The highest score of knowledge was 10 and the lowest score was 0. Mean and standard deviation were 5.708 and 2.371, respectively. The knowledge was divided into 3 three levels; low, moderate and high. In this study, nearly one-half (45%) of the respondents are in moderate level of knowledge. A few 11.15% of the respondents are in high level knowledge group and some 43.85% are in low level knowledge group.

Table 9 Number and percentage of the respondents by knowledge level about HIV/AIDS

Knowledge level	Number	Percent
High level	29	11.15
Moderate level	117	45.00
Low level	114	43.85

High = total score> 80% , Moderate = total score 60-80% , Low = total score< 60%

4.3 Perception about HIV/AIDS among Myanmar migrants

Perception about HIV/AIDS was measured by 23 items representing the cognitive nature of each respondent including susceptibility, severity and benefits and barriers for the prevention of HIV/AIDS. The results are shown in Table 10.

In this table, nearly one-half (47.69%) of the respondents agree that AIDS is a disease that can happen to all people. A majority (88.46%) of the respondents agree that contact with HIV infected fluids and blood with wounds and injuries can also get HIV infection. Over three-fourth (76.15 %) of respondents agree that one can get HIV infection when using blood stained or sharp instruments and needles. Similarly, over three-fourth (76.15%) of the respondents agree for the statement of having sex with someone doesn't know properly without condom can get HIV infection. Nearly one-fifth (17.69%) of respondents agree that only one unsafe sex can get HIV infection as 26.15% are not sure. Almost three-fourth (75.38%) of the respondents disagree that multiple sex partners cannot increase HIV infection.

A great majority (94.62 %) agree that AIDS is a deadly disease. Only 17.31% agree that AIDS patients cannot die before full life-span. A majority of the respondents (82.69%) give their agreement on AIDS patients can get other opportunistic infections easily but 70.77% give their agreement on that AIDS patients die because of these opportunistic diseases. A majority (81.15 %) of respondents agree that AIDS is incurable. Over two-third (70.00%) agree that HIV infected person can do normal activities like non-infected person.

For the perception of benefits about condom use, a large majority (91.15%) of the respondents agree that condom usage can save life from HIV infection. Similarly, 90% agree that a person should use condom while having sex with an unfaithful partner. A great majority (97.31%) of respondents agree that consistent condom use can prevent HIV infection. Three-fourth (75.77 %) agree that refraining from multiple sex partners can save life from HIV infection as well as 78.85 % agree that refraining from CSW can prevent HIV infection.

For the barriers to use condom for the prevention of HIV infection, 44.23% of the respondents agree that condom is uncomfortable or without feeling. Nearly one-third (30.38%) agree that only one sexual partner will not be popular among their peers and 29.23% agree that having only one sexual partner is boring. A one-fourth (25.77%) of the respondents agree that it is difficult to use condom during sexual relationship and nearly one-fifth (19.23%) think that condom usage is wastage of money. Over two-third (70%) of the respondents are not shameful to carry condom when going outside.

Table 10 Percentage distribution of the respondents according to item analysis of perception about HIV/AIDS

Statement	Agree	Not sure	Disagree	$\bar{X}$	SD	Comment
1. AIDS is a disease that can happen to all people.	47.69	10.77	41.45	2.06	0.94	Moderate
2. Contact with HIV infected fluid with injuries can get HIV infection.	88.46	3.08	8.46	2.80	0.57	High
3. Using blood-stained sharp needles and instruments can get HIV infection.	76.15	10.38	13.46	2.63	0.71	High
4. Having sex with someone don't know properly can get HIV infection.	76.15	14.23	9.62	2.66	0.64	High
5. Only one unsafe sex practice may not cause HIV infection.	17.69	26.15	56.15	2.38	0.77	High
6. Multiple sex partners cannot increase the risk of HIV infection.	16.54	8.08	75.38	2.59	0.76	High
7. AIDS is a deadly disease.	94.62	1.15	4.23	2.90	0.42	High
8. AIDS patient will not die before full life span.	17.31	18.85	63.85	2.47	0.77	High

Table 10 Percentage distribution of the respondents according to item analysis of perception about HIV/AIDS (cont.)

Statement	Agree	Not sure	Disagree	$\bar{X}$	SD	Comment
9. AIDS patient can get opportunistic infections more than normal person.	82.69	6.92	10.38	2.72	0.64	High
10. Even HIV infected, a person can work like normal person.	70.00	15.00	15.00	2.56	0.74	High
11. AIDS is a curable disease.	11.15	7.69	81.15	2.70	0.66	High
12. AIDS patient can die easily because of opportunistic diseases like TB.	70.77	18.46	10.77	2.60	0.68	High
13. Using condom at sexual intercourse with sexual partner can save life from HIV infection.	91.15	3.46	5.38	2.86	0.48	High
14. A person should use condom while having sex with unfaithful spouse.	90.00	3.46	6.54	2.83	0.52	High
15. Consistent condom use can prevent HIV infection.	97.31	2.31	0.38	2.97	0.19	High
16. Refraining from multiple sex partners can save life from HIV infection.	75.77	13.46	10.77	2.65	0.67	High
17. Refraining from CSW can save life from HIV infection.	78.85	11.92	9.23	2.70	0.63	High
18. It is uncomfortable to you and your partner when use condom.	44.23	19.62	36.15	1.92	0.89	Moderate

Table 10 Percentage distribution of the respondents according to item analysis of perception about HIV/AIDS (cont.)

Statement	Agree	Not sure	Disagree	$\bar{X}$	SD	Comment
19. Having only one sexual partner will not be popular among my friends.	30.38	22.31	30.38	2.17	0.87	Moderate
20. Having only one sexual partner is not enjoyable and boring.	29.23	20.77	50.00	2.21	0.87	Moderate
21. Using condom would require a new habit and is difficult.	25.77	11.92	62.31	2.37	0.87	High
22. Condom usage is wastage of money.	19.23	10.00	70.77	2.52	0.80	High
23. Carrying condom when go out for sex is shameful.	26.54	3.46	70.00	2.43	0.88	High

Low : Mean= 1-1.67, Moderate: Mean = 1.68-2.35, High: Mean= 2.36-3

Table 11 shows the number and percentage of respondents regarding to the level of perception about HIV/AIDS. A majority of the respondents (79.23%) are in high level of perception.

Table 11 Number and percentage of the respondents according to the level of Perception about HIV/AIDS

Perception level	Number	Percent
High level	206	79.23
Moderate level	51	19.62
Low level	3	1.15

Score: High = 55-69 , Moderate = 39-54 , Low = 23-38

4.4 Cue to action about HIV/AIDS

The following table 12 shows the different categories of cue to action about HIV/AIDS which includes the information media they got about HIV/AIDS, the most influencing person for preventive behavior of HIV/AIDS, and the personal experience of seeing AIDS patient in their lives. Over one-half (54.62%) of the respondents got the information about HIV/AIDS from the printed materials. Nearly one-third (32.31%) of the respondents got from Television and Video, 33.85% from other sources, 3.85% from radio and 0.77% did not get from any source. The most influencing person guiding them for preventive behavior of HIV is health personnel. Among the respondents, 44.23% have an experience of seeing AIDS patient.

Table 12 Number and percentage of the respondents by different categories of cue to action about HIV/AIDS

Cue to action	Number	Percent
1. Media information		
- Radio	10	3.85
- Television/Video	84	32.31
- Printed materials	142	54.62
- Others	88	33.85
- No information	2	0.77
2.Personal influence		
- Parents	18	6.92
- Teachers	30	11.54
- Peers	29	11.15
- Health personnel	178	68.46
- Other individuals	5	1.92
3. Personal experience of seeing AIDS patient	115	44.23

4.5 Safe sex behavior towards HIV/AIDS

Among the sample population of 260 respondents, 46.15% refuse for having sexual intercourse with unknown partner and 53.85 % do not refuse. Regarding about faithfulness to their spouse, a majority (89.62%) of respondents intend to be faithful to their spouse, but 10.38% do not intend to be faithful to their spouses. Nearly two-third of the respondents (60.38%) stay only with one sexual partner, but 39.62% do not have sex with one partner. Out of the total respondents, over one-half (58.46%) of the respondents carry condom to have sex outside their family, where as 41.54% do not carry condom when they go outside for sex. Similarly, 58.08% use condom all the time while they have sex outside their family control but 41.92% do not use condom regularly all the time if they have sex outside their families.

Table 13 Frequency and percentage distribution of the respondents by item analysis of safe sex behavior about HIV/AIDS

Statement	Yes	%	No	%
1. Do you refuse sexual intercourse with unknown partner?	120	46.15	140	53.85
2. Do you intend to be faithful to your spouse forever?	233	89.62	27	10.38
3. Do you have sex with only one partner?	157	60.38	103	39.62
4. Do you carry condoms all the time when you go outside for sex?	152	58.46	108	41.54
5. Do you use condom all the time if you have sex outside your family?	151	58.08	109	41.92

However, among the total respondents, 17.31% has good behavior towards HIV/AIDS while 12.69% has poor behavior. Over two-third (70%) of the respondents have moderate or fair behavior. The safe sex behavior is assessed by percentile level dividing into good behavior when the total score is greater than P_{75} and poor behavior

when the total score is less than P_{25}. The moderate or fair level behavior is between P_{25}-P_{75} of the total score. The consistent condom use is 58.08%.

Table 14 Number and percentage of the respondents by level of safe sex behavior

Safe sex behavior	Number	Percent
Good behavior	45	17.31
Moderate or fair behavior	182	70.00
Poor behavior	33	12.69

Good: total score >P_{75}, Fair :Total score between P_{25}-P_{75} Poor:Total score < P_{25}

4.6 Relationship between independent variables and dependent variables

4.6.1 Relationship between socio-demographic characteristics and safe sex behavior

The relationship between the socio-demographic factors and safe sex behavior was determined by the chi-squared test and the results are shown in table 15. In this part some columns and rows in descriptive statistics need to combine for enough frequency for chi-squared test.

For combination of some grouping and renaming, age group further combines into young age (15-24), working age (25-34) and old age (35-49). For the religion, Buddhism has some cultural norms affecting on sexual behavior. For the educational level, it can be combined into low-level education including no education, primary level, others and high level group including of secondary, high school and college/university. High level education can learn knowledge about HIV/AIDS from printed materials as well as from VHW easily. For the occupation, long time working group includes jobs more than 8 hrs per day (seafood processing, factory workers) and short time working group includes jobs less than 8 hrs per day. Long time working groups have no more leisure time than short time working group affecting their extra

time to find some information about HIV/AIDS form care givers. Marital status is further divided into single group and married & separated/divorced/widow group according to having an experience of marriage affecting sexual behavior at any extent.

These results show that there is a relationship between age and safe sex behavior for HIV/AIDS (p-value= 0.012).

There is significant relationship between gender and safe sex behavior of HIV/AIDS (p-value=0.000).

The analyzed data also shows no statistically significant relationship between religion and safe sex behavior (p-value= 0.661).

There is a relationship between educational level and safe sex behavior towards HIV/AIDS (p-value =0.040). There is a significant relationship between the marital status and safe sex behavior about HIV/AIDS (p-value = 0.002).

Regarding the occupation and safe sex behavior about HIV/AIDS, there is no relationship between these factors as the statistically significant p-value is 0.073. Observed results of preventive behavior according to the monthly income level shows that there is no relationship between them as there is no statistically significant value (p-value= 0.078).

There is no relationship between leisure time activities and safe sex behavior towards HIV/AIDS as there is statistically significant value (p-value= 0.388).

So, for the socio-demographic characteristics of Myanmar migrants in this study population, age, gender, educational level, and marital status have relationship with the safe sex behavior towards HIV/AIDS.

Table 15 Association between socio-demographic factors and safe sex behavior

Socio-demographic factor	safe sex behavior						χ^2	df	pvalue
	Good	%	Fair	%	Poor	%			
Age									
15-24 years	11	11.34	70	72.16	16	16.49	12.916	2	**0.012**
25-34 years	19	15.96	88	73.94	12	10.08			
35-49 years	15	34.09	24	54.54	5	11.36			
Gender									
Male	19	10.67	131	73.60	28	15.73	19.496	2	**0.000**
Female	26	31.71	51	62.20	5	6.10			
Religion									
Buddhism	41	17.08	133	55.41	66	27.50	0.827	2	0.661
Non-Buddhism	4	20.00	9	45.00	7	35.00			
Educational level									
High-level	37	21.26	118	67.81	19	10.91	6.419	2	**0.040**
Low-level	8	9.30	64	74.41	14	16.27			
Occupation									
Long-time worker	38	17.51	156	71.88	23	10.59	5.230	2	0.073
Short-time worker	7	16.27	26	60.46	10	23.25			
Marital status									
Single	9	10.58	57	67.05	19	22.35	12.736	2	**0.002**
Married & div/sep	36	20.57	125	71.42	14	0.08			
Monthly income									
<5000 Baht	26	14.61	125	70.22	27	15.17	5.110	2	0.078
5000-10000 Baht	19	23.17	57	69.51	6	7.32			
Leisure time activities									
Reading	14	20.59	49	72.06	5	7.35	6.328	6	0.388
Listening to music	10	16.39	42	68.85	9	14.75			
TV/ Video	12	13.04	64	69.57	16	17.39			
Others	9	23.08	27	69.23	3	7.69			

4.6.2 Relationship between knowledge and safe sex behavior

Table 16 showed that there is a relationship between Myanmar migrants' knowledge about HIV/AIDS and their safe sex behavior. There is a statistically significant p-value of 0.000. The high level knowledge group is practicing safe sex behavior more than moderate and low level groups. The basic idea is that if they have more knowledge, they will have safe sex behavior more and more.

Table 16 Association between knowledge level and safe sex behavior

Knowledge	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
High level			11	37.93	18	62.07		0	0
21.778 4 **0.000** Moderate level			25	21.37	80	68.38		12	10.26
Low level	9	7.89	84	73.68	21	18.24			

Table 17 Association between specific knowledge items and safe sex behavior

Specific knowledge Factor	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
Nature of HIV									
- correct	30	23.44	89	69.53	9	7.03	11.847	2	**0.003**
- wrong	15	11.36	93	70.45	24	18.18			
Transmission									
- correct	42	18.18	163	70.56	26	11.26	4.377	2	0.112
- wrong	3	10.34	19	65.52	7	24.14			
High risk group									
- correct	32	23.70	86	63.70	17	12.59	8.230	2	**0.016**
- wrong	13	10.40	96	76.80	16	12.80			
Prevention									
- correct	34	21.38	104	65.41	21	13.21	5.247	2	0.073
- wrong	11	10.89	78	77.23	12	11.88			

Table 17 also shows the relationship or association between specific knowledge factors and safe sex behavior. Among nature of HIV agent, transmission of HIV, high risk groups for HIV infection and prevention methods, only nature of agent and high risk groups factors are associated with safe sex behavior with the p-value of 0.003 and 0.016 respectively.

4.6.3 Relationship between perception about HIV/AIDS and safe sex behavior

Table 18 shows about the results observed for the relationship between perception and safe sex behavior towards HIV/AIDS among the respondents. There is a relationship between these two variables (p-value=0.038). It means that respondents having high level perception are practicing good safe sex behavior. For enough frequency in chi-squared test, the moderate and low perception groups are combined together.

Table 18 Association between perception on HIV/AIDS and safe sex behavior

Perception	**safe sex behavior**								
	Good	**%**	**Fair**	**%**	**Poor**	**%**	**χ^2**	**df**	**p-value**
High level	39	18.93	142	68.93	25	12.14	1.916	2	**0.038**
Moderate/ low level	6	11.11	40	74.07	8	14.82			

4.6.4 Relationship between perception of susceptibility and safe sex behavior

Table 19 shows the relationship between perception of susceptibility and safe sex behavior towards HIV/AIDS among the respondents. There is a relationship between these two variables (p-value =0.006).

Table 19 Association between perception of susceptibility and safe sex behavior

Susceptibility	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p -value
High level	30	22.90	91	69.46	10	7.60	10.106	2	**0.006**
Moderate & low level	15	70.54	91	70.54	23	17.82			

4.6.5 Relationship between perception of severity and safe sex behavior

Table 20 shows about the results observed from the relationship between perception of severity and safe sex behavior towards HIV/AIDS. There is no relationship between these two variables (p-value= 0.627).

Table 20 Association between perception of severity and safe sex behavior

Severity	Safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
High level	27	15.78	121	70.76	23	13.46	0.933	2	0.627
Moderate & low level	18	20.23	61	68.54	10	11.23			

4.6.6 Relationship between perception of benefit and safe sex behavior

Table 21 shows about the results observed from the relationship between perception of benefit and safe sex behavior. There is no relationship between these two variables (p-value=0.076)

Table 21 Association between perception benefits and safe sex behavior

Benefits	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
High level	38	17.12	157	70.72	27	12.16	0.481	2	0.076
Moderate & low level	7	18.42	25	65.79	6	15.79			

4.6.7 Relationship between perception of barriers and safe sex behavior

Table 22 shows about the results observed from the relationship between perception of barriers and safe sex behavior towards HIV/AIDS among the respondents. There is no relationship between these two variables (p-value= 0.399).

Table 22 Association between perception barriers and safe sex behavior

Barriers	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
High level	18	20.00	63	70.00	9	10.00	4.056	4	0.399
Moderate level	23	18.85	82	67.21	17	13.93			
Low level	4	8.33	37	77.08	7	14.58			

4.6.8 Relationship between cue to action and safe sex behaviors

The following table 23 shows the relationship between cue to action and safe sex behavior of 260 respondents working in Samut Sakhon Province. These data shows that there is a relationship between printed materials and safe sex behavior among the media they got information about HIV/AIDS. In detail results, there is no relationship between radio message and safe sex behavior (p-value= 0.699). There is no relationship between TV/Video media and safe sex behavior (p-value =0.783). There is a relationship between printed materials and safe sex behavior as the (p=value 0.029). There is no relationship between others media and safe sex behavior (p=value 0.093). Among these other media, the majority is from the NGO clinics and the advocacy meeting and training from different NGOs. The analyzed data shows that there is a relationship between influencing person guiding them for good behavior and safe sex behavior towards HIV/AIDS (p-value =0.001). Among them, majority is from health personnel. Concerning about the personal experience of seeing AIDS patient and safe sex behavior, the result shows that there is a relationship between these two factors (p-value =0.001).

Table 23 Association between cue to action and safe sex behavior

Cue to action	safe sex behavior								
	Good	%	Fair	%	Poor	%	χ^2	df	p-value
1. Media information									
(1) Radio									
-Yes	1	10.00	9#	90.00					0.699[f]
- No	44	17.60	206#	82.40					
(2) TV/video									
- Yes	13	15.48	59	70.24	12	14.29	0.490	2	0.783
- No	32	18.18	123	69.89	21	11.93			
(3) Printed materials									
- Yes	30	21.13	100	70.42	12	8.45	7.080	2	**0.029**
- No	15	12.71	82	64.49	21	17.80			
(4) Other media									
- Yes	20	22.73	54	61.36	14	15.91	4.759	2	0.093
- No	25	14.53	128	74.42	19	11.05			
2.Personal influence									
-Health personnel	41	23.03	121	67.98	16	8.99	17.611	4	**0.001**
-Parents/teachers	3	6.25	36	75.00	9	18.75			
-Peers/others	1	2.94	25	73.53	8	23.53			
3.Personal experience									
-See AIDS patient	29	25.22	79	68.70	7	6.09	14.593	2	**0.001**
-Not see AIDS patient	16	11.03	103	71.03	26	17.93			

combine cell columns (fair and poor groups) * f (fishexact test)

CHAPTER 5
DISCUSSION

Nowadays, issues concerned with the safe sex behavior especially for the preventive behavior of HIV/AIDS have received greater global attention. The most effective strategies must be directed to promote safe sex behavior and removal of the risky behavior of the people because sexual route is the leading cause of HIV/AIDS transmission. Because of the limited available health care resources among Myanmar migrants population, they are most likely to be the potential of infection in that area. As they come from different areas of Myanmar, different socio-demographic characteristics and different sexual behavioral styles are still at a risk of infection. This chapter discusses about the safe sex behavior of Myanmar migrants from different aspects of variables.

This study is to assess the safe sex behavior towards HIV/AIDS among Myanmar migrants of reproductive aged; both registered and unregistered workers, presently working in Samut Sakhon Province, Thailand. The respondents are both male and female workers of different sectors of aged 15-49 years. By interviewing 260 respondents of Myanmar migrants in order to highlight their current safe sex behavior about HIV/AIDS. The final results show that 17.31% of the respondents are in good safe sex behavior, 70% are in fair level safe sex behavior and 12.69% are in poor level safe sex behavior. The respondents are workers from Talaku, Kohsamut from Mahachi sub-district in Samut Sakhon Province. Fortunately, these areas are the area of Raks Thai Foundation Clinic care so it might be some impact on this study. Data collection was done during 10th January to 31st January 2008.

Moreover, specific objectives are set to determine the relationship between socio-demographic characteristics, knowledge, perception, cue to action and safe sex behavior. Out of dependent variables, condom use is the important safe sex behavior for HIV/AIDS and 58.08% consistently use condom as their safe sex behavior.

5.1 Safe sex behavior from socio-demographic characteristics aspect

Among the migrant respondents, most of the workers are from the physically active group and working age, so they relied their physical strength to obtain their employment. The majority are in the age group (24-34 years) and also they are sexually active. So they tend to engage in risky sexual behaviors and find out the extra way to get sex from their family ties and care-givers' control. It is very easy to get extra-sex as most of them come there without relatives and parents or spouse. Among the respondents, the older age (35-49) groups are more likely to have good safe sex behavior and practice it for prevention of HIV/AIDS. Young age is biologically active in sex and they want to practice sex in any way without care. The young group said that they try to get sex as their first experience with sexual partner. For these reasons, young age is poor in overall safe sex behaviors. Concerning the age, there are studies of Kyaw Moe Lwin (40) in Samut Sakhon Province, Thailand, which found that the young age group showed tendency toward intension to use condom compare with the older group.

The migrants also expressed that life in Thailand is quite different from Myanmar with the young people having sex earlier without the lack of parental guidance. The situation is also similar to other studies which point out that sexual behavior of migrants depends on a great deal on cultural issues. The prevailing cultural norms in this society with regards to sexuality, sexual health and HIV are important determinants of the spread of HIV. At the same time, the migrants in the new country are brought into contact with the socio-cultural systems that might be very different.

Majority of the respondents are male and also they are active in sex more than female generally. They can go out from their family giving so many reasons and can get extra-marital or pre-marital sex. In this study group, females are good in safe sex behavior towards HIV/AIDS in compare to males while keeping their faithfulness to themselves as well as to their spouse or recent sexual partners.

Myanmar migrant workers are Buddhism and a few are Christianity and Islam. Some are come from border area such as Kayin State, where there are so many Christians but safe sex behavior is almost associated with individual's sexual behavior, religion has no role in that study. Some married people say that making extramarital sex is the great sin in Buddhism and so it leads to have being faithful to their spouse and good safe sex behavior.

Educational background is the important factor in safe sex behavior. The respondents are classified into low education group and high education group. In low education group, the respondents can read and write so that they can learn some knowledge for HIV/AIDS but not have intelligence for the modern update technique and treatment procedures of HIV. High education level is the group of respondents more literate and can think logically and truly. Respondents having high level education have good safe sex behavior two times more than those having low education level.

Majority of respondents are married. In this study, married/separated groups are higher in practicing safe sex more than single group. The reason is that married people have their regular partners and they did not find other extramarital sex and they believe to be faithful to their sexual partners. The separated/divorced/widow group has an experience of marriage and it will be at risk if they married second time with another partner. They have their knowledge to take care of risky behaviors and aware of not to be infected from their spouses and sexual partners. They know about transmission of HIV from their spouse and even to their children. Married people can openly discuss each other about sex and they are not too shy about it (51). For the single groups, they have no regular partners and they do not deeply know faithfulness to spouse. So even they use condom for outside sex, they are weak in keeping faithfulness to their spouse or their unusual partners. This is different from the previous studies of 10 years ago and 6 years ago in that area, in which the married groups are not likely to use condoms (34,39).

The jobs of migrants workers in Samutsakhon Province are mostly in various sectors of food processing like peeling shrimps and fishes because this province is situated along the fishing ports and there are a lot of seafood processing factories. It is found that Raks Thai Foundation and IOM (International Organization of Migration) gave training course on HIV/AIDS to the health volunteer from the migrant workers living in that area so that they can share each other. The migrants are exposed to that Health Education Program many times. These exposures can have relationship for safe sex behavior and use of condom for their preventive ways so that only occupation cannot have relationship with safe sex behavior. This study is quite different from studies in Africa. In southern African mining companies where 95% of the work forces are migrant workers, the average HIV risky infection rates are close to 18%. Furthermore, in Senegal where 82% of men between 20-40 travel each year for employment, labor mobility has been found to be the only factor significantly associated with HIV/AIDS.

Average total income of respondents is 4580 Bahts per month. Majority of workers get less than 5000 bahts per month. Regarding to this monthly income, the statistical significant was not found in this study. This is not different from the previous studies. It is correlated to the studies of Ni Ni Khaing (39),Cho Cho Aung (34) and Kyaw Moe Lwin (40) in which monthly income is not associated with their preventive safe sex behavior. Surprisingly, there is also an empirical data suggesting the linkage between poverty and HIV. Both absolute poverty and relative differences between rich and poor shape both sexual behavior and care seeking behavior (Wodak, 1998) (41).

As the study area is closely associated with Rak Thai Foundation, most of the respondents go the clinic to watch TV/Video and to the mini-library for their knowledge on health and HIV/AIDS. Some do other social activities on health education and welfare of migrants' health in their leisure times. They got a lot of knowledge about HIV from clinic and they share others about it so that might be no relationship between their hobbies and safe sex behavior. This finding is the same as the study of Myint Thu and Hmwe Hmwe Kyu (42).

5.2 Safe sex behavior from aspect of knowledge on HIV/AIDS

Overall, nearly half (45%) of this study group possessed moderate level of knowledge and nearly equal to poor group, which is 43%. According to this result, the migrants knew well about the basic facts on HIV/AIDS, transmission, high risk groups, symptom of AIDS, treatment and prevention of HIV. But in detail questions about the nature of HIV, the laboratory test for HIV, the longest time to become AIDS patients, new treatment for AIDS are known only by a few migrants probably VHW working in clinic.

Comparing with the previous studies, it was found that the migrants' knowledge about HIV/ AIDS had increased in other study during 1998, 2002 and 2004. This increasing knowledge may be an outcome of distribution of Information, Education and Communication (IEC materials) in this population from Raks Thai International. The development of effective IEC guides them to have good knowledge and leads to safe sex behavior. Condom was widely distributed by this clinic with free of charge.

With regards to the relationship between knowledge and safe sex behavior, the findings in this survey show that knowledge influences their behavior. The workers who have more knowledge about HIV/AIDS were more likely to behave good safe sex. In the study of Cho Cho Aung (34), it was found that the total knowledge was associated with their preventive behavior of condom use for HIV but in the study of Kyaw Moe Lwin (40), the total knowledge level was not associated with their preventive sexual behavior of HIV/AIDS.

Knowledge on prevention method seems however far from been satisfactory and not consistent with relatively good result on behavior relevant to sexual transmission of HIV. The Behavioral Surveillance Survey conducted by National AIDS Program in Myanmar (2003) found out that only 23.9% of young male and 21.2% of young female could correctly identify the 3 common ways of preventing HIV transmission and reject the major misconceptions about HIV transmission.

Most of the respondents know that HIV can be transmitted by unprotected sexual contact. They also know about the high risk groups and preventive behaviors for it. Condom usage was well-known among the migrants as the methods of preventing HIV infection. They also know that extra-marital sex of the people who are not faithful to their spouse is a risk factor for infection. But the respondents who do not have high level knowledge cannot know the nature of cause agent, the test to know HIV infection and the time taken to become full-blown AIDS patient.

By looking the specific knowledge factors, there was an association between knowledge on the nature of HIV and safe sex behavior. This is because of high level knowledge gave them to lead safe sex behavior towards that disease. There was also an association between knowledge on high risk group of HIV and safe sex behaviors. The respondents also feel afraid of the high risk groups and they might have decided to change their sexual behaviors. According to this study finding, they said that some unregistered migrants cannot come to the health education center because of being afraid to be arrested. Some have no extra time as they do long time works and overtime work so that they cannot learn sexual health education from the health volunteers. Local authorities should educate employers and local law enforcement personnel about the rights of migrant workers, and set up channel for health education procedure (local license to operate) for the migrants' health problem as a part of HIV/AIDS prevention and control.

In summary, it is concluded that migrants having some knowledge and low knowledge will make the respondents practicing poor safe sex behavior towards HIV/AIDS. In addition, lower level knowledge on misunderstanding of ARV treatment leads them to believe that AIDS can be cured and also to get poor behavior. Migrants who received knowledge about HIV/AIDS from Care clinic or other sources are afraid of risky conditions and practicing for safe sex towards HIV/AIDS so that it is clearly understandable to have relationship between knowledge and safe sex practices in this study group.

5.3 Safe sex behavior from aspect of Perception on HIV/AIDS

The result of this study showed that over two-thirds of the migrants had perceived the susceptibility and severity of HIV infection. According to the Health Belief Model, the people who perceived higher susceptibility and severity are more likely to take good safe sex. Furthermore, perceived barriers and perceived benefit were significantly influencing variables for predicting and explaining health related behavior of Health Belief Model.

In this study, 79.23 % of the respondents have high level of perception, 19.62% have moderate level and only 2% has low level of perception. Overall perception is significantly associated with safe sex behavior. According to this survey, 5 or 6 people live together in one room and stay together as the room rental fee is expensive. Some live together because they are friends and come from the same village in Myanmar. In some rooms, male and female are sharing together so that they become fall in love and have sex in some time. Young and singles are more engaged in premarital sex without the use of condom as they thought they would be faithful to each other. Although they have high level or moderate level perception, they cannot avoid in sex so they have poor safe sex behavior in being faithful, intension to use condom and condom use. This may explain that perception only cannot make them to engage in safe sex behavior.

The result shows significant association between susceptibility and safe sex behavior. This is contrary with the findings by Cho Cho Aung (2002), Kyaw Moe Lwin (2004) and Wai Lin Oo (1998) (57) but similar to the findings by Ni Ni Khaing (1998). Some sexual active migrants only focus on CSW for susceptible to infection but they did not see the chance of infection from their own sexual partner whether constant or co-habiting. Some think having only one sexual partner is never susceptibility to HIV as he or she is regular partner. Most of the respondents having high level perception know from health personnel that every one is at risk if they have poor safe sex behavior. This may partly explain for the strong relationship between susceptibility and safe sex criteria in this study.

In this study, people with perception of high in severity do not make any marked association with safe sex behavior. The result is different from Cho Cho Aung's study which described the association between severity and preventive condom use. It may be thought that AIDS is a disease to become full–blown only after a period of time at least 6 years. It is difficult to adopt safe sex behavior or taking action only by the threat itself. Actually both susceptibility and severity work well for same action, if it is not taken in time, associated with immediate consequences. In HIV/AIDS where the nature of disease is quite different, it is not too easy to bring action at once.

Most of the respondents perceived that condom use is associated with many barriers and benefits but these are not associated with safe sex behavior. Nearly two – third of male respondents agree that condom cannot give good feeling while having sex. But in the study of Hmwe Hmwe Kyu, most male respondents said it was good to use condom while having non-marital sex to prevent infection and also pregnancy. Whether they use condom or not depends on with whom they have sex. Some young single men think that having only one sexual partner is boring and not enjoyable. Some think that using condom is wastage of money but in that case they misunderstand about buying condom. Especially condoms are well distributed by all NGOs as well as from 100% condom promotion policy in Thailand. Some are shameful to carry condom when going outside for sex. The respondents still have negative perception on barriers of condom for preventive behavior towards HIV/AIDS. This finding is quite contrary to the one, done by Adih, Willian. K. and Alexander, Cheryl S. (43), which described the important role of low perceived barriers interacting with high susceptibility in bringing about safe sex behavior.

It can be concluded that Myanmar migrant workers perceived that HIV/AIDS is a serious disease and susceptible disease. With regards to the relationship between susceptibility and safe sex behavior, this cognitive psychological factor would cause to practice safe sex among migrants.

5.4 Safe sex behavior from aspect of cue to action

Almost all (99.23%) heard about HIV/AIDS as the study area is situated very close to Raks Thai Clinic and due to distribution of IEC materials in this study population. The results showed that most of the migrants got information form health clinic and printed materials like magazines, journals, cartoons and booklets published by Raks Thai Clinic. This showed that there was a relationship between information media and safe sex behavior especially with printed materials. It is also related that most of the respondents are above primary level so that they can read and can know the risky behavior of HIV from printed media information sources.

Study done by Cho Cho Aung (34) found that there was no relationship between source of information and behavior. Media as main sources seemed to create awareness but all media were not related to behavior change. On the other hand, it showed that information from all mass media was not enough to persuade the people to practice safe sex behavior.

The most influencing person on preventive behavior of HIV/AIDS among Myanmar migrants is health personal which is almost 68.46% because this area is undercover of Rak Thai Clinic. Parents have little role only 6.92% as they are away from their parents and careers. Teachers took 11.15% and peers also took 11.15% guiding them for safe sex practices. There was a strong association between health personnel and safe sex behavior as p-value is 0.001. This is similar to the previous study of Cho Cho Aung (1998) and Hmwe Hmwe Kyu (2006) in which workers who received guidance from health personnel use condom as a safe sex behavior.

The important factor in changing safe sex behavior is personal experience of seeing AIDS patients in any way. This is very much important to adopt safe sex behavior. There is a significant relationship between this factor and safe sex behavior. Migrants who have their experience of see AIDS patient at one time in their lives are more likely to have safe sex behavior as they are threatened and frightened by themselves.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This cross-sectional study was aimed to determine the safe sex behavior towards HIV/AIDS among Myanmar reproductive aged migrants presently living in Maung district of Samut Sakhon Provinve, Thailand. This study also describes the socio-demographic characteristics, knowledge about HIV/AIDS, perception on HIV/AIDS and cue to action. The target population is Myanmar migrants of aged 15 to 49 years. A total of 260 migrants were interviewed by structured questionnaire as a research instrument. Data was analyzed by using statistical methods, chi-squared test for association between variables and descriptive statistics for their number and frequency of the respondents.

(1) Regarding about socio-demographic characteristics of 260 respondents, 45.77% are within the age of 24-34, the working age group. Two-third of the respondents are males and almost all are Buddhism. Most of the respondents are more than primary level and nearly two-third are already married. Among them, 73.46% are engaged in seafood processing job but their income are less than 5000 bahts.

(2) The knowledge level of respondents are in moderate level (45%) and only 11.15% has high knowledge.

(3) Perception about HIV/AIDS is high (79.23%) so that they perceive well about susceptibility, severity of HIV and deep concern on benefits and barriers.

(4) They learn about HIV/AIDS mostly from printed materials such as magazines, journals, cartoons and booklets.

(5) The health personnel are the most influencing person in guiding them to have good safe sex behavior.

(6) Myanmar migrants' safe sex behavior includes no sex with unknown partner, faithfulness to spouse or sex partner, intension to use condom and consistent condom use. Two-third of the respondents are in moderate or fair level behavior.

(7) Age, gender, educational level, marital status, knowledge level, perception on HIV susceptibility, mass media and experience of seeing AIDS patient are mostly associated with good safe sex behavior for prevention of HIV/AIDS.

(8) It is interesting to note that females are good in behaving safe sex practices and also to note for once-married group who having better safe sex behavior than single group.

(9) Printed materials are associated with the safe sex behavior of the respondents. It is also found out that health personnel are associated in guiding them for practicing safe sex behavior.

(10) One factor favoring to adopt good safe sex behavior is having an experience of seeing AIDS patients in their lives and it is found out to be related with their safe sex behavior.

6.2 Recommendation for implementation

Based on the research finding of study, the followings are recommended for better improvement in safe sex behavior in prevention and control of HIV/AIDS.

(1) Among these Myanmar migrants group, most of the respondents are keeping their faithfulness to their spouse as a cultural norms, one of the impact of culture on prevention of sexual transmitted diseases and it should be encouraged more and more among the population.

(2) It is found that respondents knowing about nature of HIV agent as well as about the high risk group are associated with their safe sex behavior. It is the impact of health education program providing them true knowledge and logical thinking. So health policy makers and administrator should promote basic health education services.

(3) Perceived susceptibility describing one's opinion of chances of getting HIV infection is also related with their safe sex behavior. In health education program as well as in public places, it should be defined more about the population at risk, risk

level, personalize risk based on a person's features or behavior and heighten perceived susceptibility if it is too low. The public launching program should also be in Myanmar version to overcome language barrier. It is highly recommended to strengthen the existing work forces and health education strategies including 100% condom promotion program.

(5) By this study experience, local NGOs widely use locally available Myanmar health volunteers and there is an association between them and respondents' safe sex behavior. They have strong social network and no language barriers. So, NGOs should play more important function as intermediaries communicating migrants' concern.

(6) The effectiveness of mass media information is seen in association with printed materials and safe sex behavior. Easily understandable books, journals and cartoons are guiding sources. So media role especially on printed materials must be encouraged.

(7) Since it was known that HIV had still infected in migrants as well as in local people, potential to spread every work places, so **Thai Ministry of Public health** should highly focus on HIV disease control program not only to local people but also to migrants because of triple negative impact to local people, employers and also migrant workers.

6.2.9 Recommendation for further study

(1) Since this study had limitation by time constraint, only some quantitative variables are studied. Research methodology for qualitative research will be needed and it should be focused on in-depth interview.

(2) In further study, other indicators to elicit more about the safe sex behavior of the females should be used as females think some issues are especially concern with males only.

(3) Female respondents were reluctant to disclose personal information since the issues were very sensitive for their culture but when interviewed by female interviewer, they answer it without secret and openly. It should be recommended to use female interviewers for the female respondents.

(4) In future study, knowledge test should include not only objective knowledge but also perceived knowledge as well to be able to explain more about the association between knowledge and HIV/AIDS preventive behavior.

(5) For more information about safe sex behavior towards HIV/AIDS, further study should not only focus on descriptive study but also point out for action research for prevention and control of it.

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APPENDIX

APPENDIX A
QUESTIONNAIRE
SAFE SEX BEHAVIOR TOWARDS HIV/AIDS AMONG MYANMAR REPRODUCTIVE AGED MIGRANTS IN MUANG DISTRICT, SAMUTSAKHON PROVINCE, THAILAND

Respondent ID . | | | |

All of your answers will be kept in secret. There is no way we can link your name with your answer on the questionnaires. Please:

- Answer each question with free will and be assured that your answer will be kept confidentially.
- Answer the questions based on what you really do.

Part 1. Socio-demographic characteristics

Please answer the following questions by filling in the blanks, or marking with a √ in the □ provided.

1. Please kindly indicate your age at the time of your last birthday; …… years
2. What is your gender?

□ Male □ Female

3. What is your religion?

□ Buddhism □ Christianity

□ Islam □ Others (specify) …….

4. What is your level of education?

□ No education □ High school

□ Primary school □ College/ University

□ Secondary school □ Other (monastery education) ……

5. What is your marital status?

□ Single □ Married

□ Divorced/ separated/ widowed

6. What is your present job?

□ Seafood processing worker

□ Factory workers

□ General worker

□ Jobless

□ Others (specify) ……

7. What is your monthly income or allowance? ……..(bahts)

8. What is your hobby if you have leisure time?

□ Reading books

□ Listening to music

□ Watching TV, video

□ Others(specify) ……

Part 2. Knowledge about HIV/AIDS

To answer the following questions, select the most appropriate answer from the choices about your knowledge/understanding on HIV/AIDS.

Please answer these questions by marking (√) in the □ according to your understanding.

9. What is the nature of causative agent HIV ?

□ A bacteria

□ A virus (C)

□ A parasite

□ A helminthes

10. Which one is correct about the transmission of HIV?

□ By drinking the same glass of water with a HIV infected person

□ By having an unprotected sex with a person who has many sexual partners (C)

□ By hugging a person infected with HIV

□ By using the utensils together with HIV infected person

11. Which one of the followings is the high risk group for infection with HIV/AIDS?
   - Homosexuals who has a single partner
   - Commercial sex workers who consistently use condoms
   - People who are not faithful to their spouse and find extra-marital sex (C)
   - IDUs who do not share needles and syringes

12. Which method can we use for the detection of HIV?
   - By looking external features of a person
   - By laboratory examination (C)
   - By physical examination
   - By psychological examination

13. Which kind of test is the best test that we can know one is HIV infected or not?
   - By taking X-ray examination to the whole body
   - By taking urine test at any time
   - By taking blood test after sex
   - By taking blood test 3 months or 6 months after the risk behavior (C)

14. What is the longest time that takes a person to become full-blown AIDS patient from time firstly infected with HIV?
   - 3 months
   - 2 weeks
   - 6 months
   - 6-10 years (C)

15. Which one of the following is the symptom suspected as a case of AIDS?
   - By decreasing weight more than 10 % of body weight without any reason (C)
   - By getting headache and fever for 2 weeks
   - By having diarrhea for 3 days
   - By yellow discoloration of the skin and sclera

16. The treatment of HIV/AIDS is
   - By remedy
   - By vaccine
   - By ARV (C)
   - By operation

17. Which one of the followings is the most high risk behavior for HIV infection?

□ Individual's behavior of going to karaoke bars and night clubs

□ Individual's personal hygienic behavior

□ Individual's sexual behavior (C)

□ Individual's drinking behavior

18. How can HIV be prevented?

□ By reducing the number of sexual partners

□ By cleaning sex organ immediately after unprotected sexual intercourse

□ By safe sex practices (C)

□ By having sex with selected CSW who have a few customers

Part 3. Perception about HIV/AIDS

Please answer the following statements by marking √ in the most appropriate □ provided.

No	Statement	Agree	Not Sure	Disagree
19	AIDS is a disease that can happen to all people.			
20	Contact with HIV infected body fluids with injuries and wounds can get HIV infection.			
21	Using the sharp instruments and syringes stained with other's blood can get a chance of HIV infection.			
22	Having sex with someone doesn't know properly without the use of condom can get HIV infection.			
23	A person with only one unsafe sex practice may not cause HIV infection.			
24	Multiple sex partners cannot increase the risk of HIV infection.			
25	AIDS is a deadly disease.			
26	AIDS patients will not die before full life-span.			

No	Statement	Agree	Not Sure	Disagree
27	AIDS patient can get some opportunistic diseases more than normal person.			
28	Even a person is infected with HIV, he/she can work like a normal person.			
29	AIDS is a curable disease.			
30	AIDS person can die easily because of opportunistic diseases (eg. TB).			
31	Using condom at sexual intercourse with sexual partner can save the life from HIV infection.			
32	A person should use condom while having sex with unfaithful spouse.			
33	Consistent condom use can prevent HIV infection.			
34	Refraining from multiple sex partners can save from HIV infection.			
35	Refraining from CSW can prevent from HIV infection.			
36	People feel uncomfortable while using condom with their sexual partners.			
37	Having only one sexual partner will not be popular among your friends.			
38	Having only one sexual partner is not enjoyable and boring.			
39	Using condom during sexual relationship is difficult.			
40	Condom usage is wastage of money.			
41	Carrying condom when going outside is shameful.			

Part 4. Cue to action

Please mark √ in the □ provided after reading the following questions.

42. From which information media that you heard about HIV/AIDS? (You can choice more than one answer)

□ Radio □ Printed materials(journal, magazines, etc.)

□ Television/Video □ Others(specify) ……..

□ Never heard about HIV/AIDS from media

43.Who is the most influent person to guide you for your preventive behavior of HIV/AIDS?

□ Parents □ Health personnel

□ Teachers □ Others (Specify) ……..

□ Peers □ No one influence

44. Have you ever seen a person/ your friend/ relative suffering from AIDS?

□ Yes □ No (skip to No.49)

45. After seeing the AIDS patients, did you decide to change your sexual behavior ?

□ Yes □ No

Part 5. Safe sex behavior

Please answer the followings by marking √ in the □ according to your own decision.

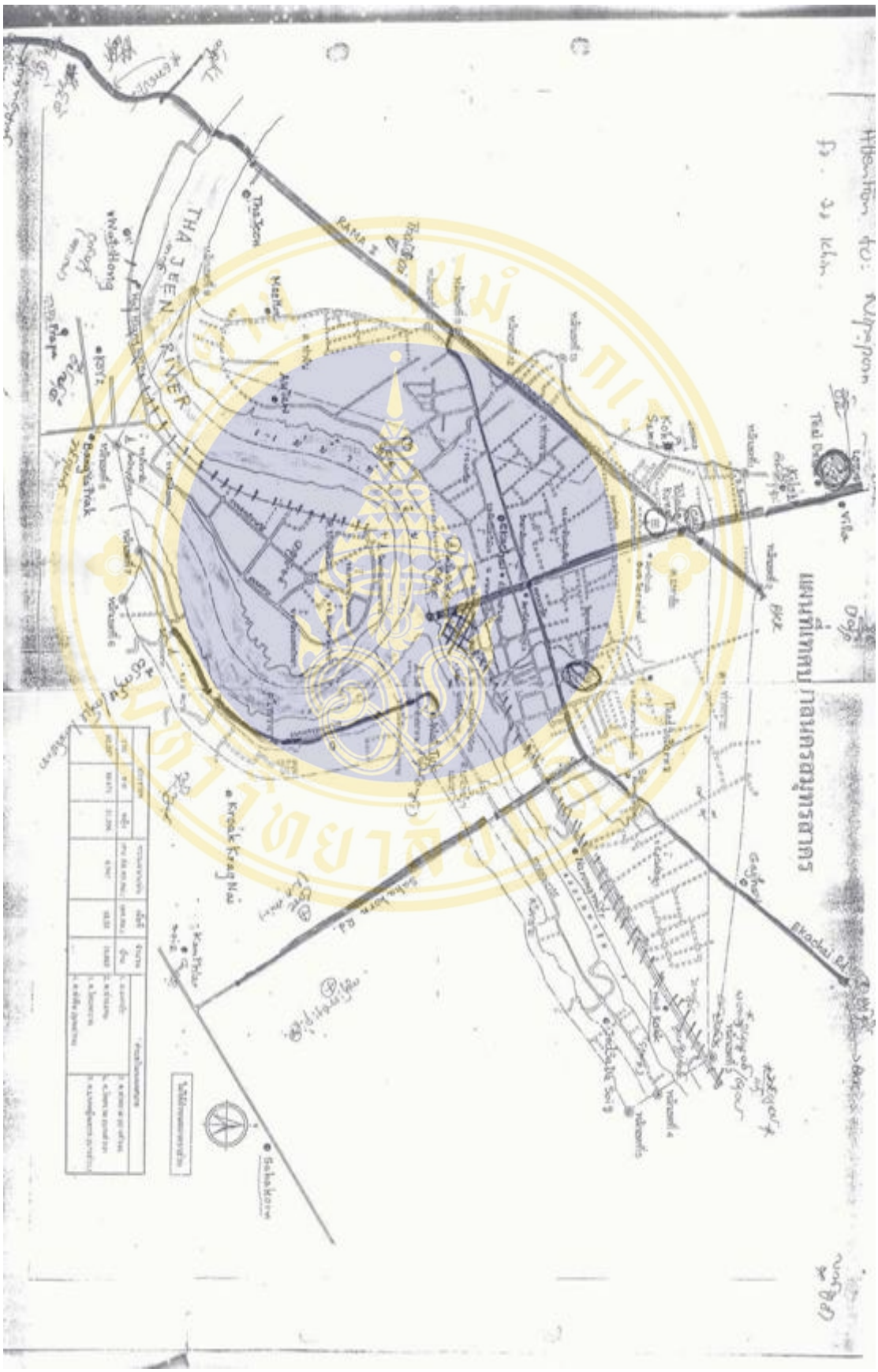
No	Item	Yes	No
46	Do you refuse sexual intercourse with unknown partner?		
47	Do you intend to be faithful to your spouse forever?		
48	Do you have sex with only one sexual partner?		
49	Do you carry condoms all the time when you go outside for sex?		
50	Do you use condom all the time if you have sex outside your family?		

Thank for your kind participation.

APPENDIX B

Samut Sakhon Map

IEC materials for HIV/AIDS



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