

สิ่งแวดล้อมของที่อยู่อาศัย และสถานทำงาน และปัจจัยที่มีความสัมพันธ์กับพฤติกรรมทางเพศ  
และสภาพสุขภาพที่เกี่ยวข้องกับพฤติกรรมทางเพศที่ไม่ปลอดภัยในแรงงานอพยพชาวพม่า  
อำเภอเมือง จังหวัดระนอง ประเทศไทย

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

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ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

LIVING AND WORKING ENVIRONMENT, AND FACTORS ASSOCIATED  
WITH THE SAFE SEX BEHAVIOR AND SEXUALLY TRANSMITTED  
INFECTION OF MYANMAR MIGRANT WORKERS IN  
MUANG DISTRICT, RANONG PROVINCE,  
THAILAND

Mr. Yan Naing Aung

A Thesis Submitted in Partial Fulfillment of the Requirements  
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College of Public Health Sciences

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สารานุกรมที่สำคัญ: คำสำคัญพม่าแรงงานข้ามชาติพฤติกรรมทางเพศปลอดภัยทางเพศสัมพันธ์เชื้อ,  
สภาพแวดล้อมการทำงานสิ่งแวดล้อม (LIVING AND WORKING ENVIRONMENT, AND  
FACTORS ASSOCIATED WITH THE SAFE SEX BEHAVIOR AND SEXUALLY  
TRANSMITTED INFECTION OF MYANMAR MIGRANT WORKERS IN  
MUANG DISTRICT, RANONG PROVINCE, THAILAND) อาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก  
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ยาน เนียง ออง: การประเมินสภาพแวดล้อมของที่อยู่อาศัย สถานที่ทำงาน และปัจจัยอื่น ๆ ที่มีผลต่อ  
พฤติกรรมเสี่ยงทางเพศสัมพันธ์ และสุขภาพ ของแรงงานอพยพต่างด้าวชาวพม่า อำเภอเมือง จังหวัดระนอง ประเทศ  
ไทย การศึกษานี้เป็นการศึกษาในภาคตัดขวาง ซึ่งดำเนินการในช่วงเดือนมีนาคม 2553 โดยมีวัตถุประสงค์เพื่อประเมิน  
สภาพแวดล้อมของที่อยู่อาศัย สถานที่ทำงาน และปัจจัยอื่น ๆ ที่มีผลต่อพฤติกรรมเสี่ยงทางเพศสัมพันธ์ และสุขภาพ  
ของแรงงานอพยพต่างด้าวชาวพม่า อำเภอเมือง จังหวัดระนอง ประเทศไทย การเลือกตัวอย่างโดยใช้วิธีเจาะจงแบบ  
หลายขั้นตอนถูกนำมาใช้ในการศึกษานี้ โดยคัดเลือกจำนวนครัวเรือนทั้งสิ้น 406 ครัวเรือน และใช้ Chi-square ใน  
การวิเคราะห์ข้อมูล การสัมภาษณ์ และแบบสอบถาม ที่ตอบด้วยตนเอง ถูกใช้กับบุคคลในครัวเรือนซึ่งมีอายุระหว่าง  
19-50 ปี จากจำนวน 406 คนที่ถูกคัดเลือก ในการศึกษานี้เป็นเพศชาย 203 คน และ เพศหญิง 203 คน โดยเป็นคนโสด  
41.4% และแต่งงาน 50.7% ในขณะที่มีจำนวนผู้หย่าร้าง และคู่สมรสเสียชีวิตเป็นจำนวน 5.7% และ 2.2% ตามลำดับ  
ชั่วโมง และ 77.5% มีบัตรอนุญาตทำงาน ในขณะที่ 37.3% ของจำนวนผู้เข้าร่วมโครงการ ทั้งหมดต้องเดินทางไป  
ทำงานเนื่องจากสถานที่ทำงานอยู่ไกล จากจำนวนผู้เข้าร่วมโครงการ 384 คนที่รายงานมีเพศสัมพันธ์ 47.7% (183  
คน) มีพฤติกรรมทางเพศสัมพันธ์ไม่ตี 17.7% มีพฤติกรรมทางเพศพอใช้ และ 34.6% มีพฤติกรรมทางเพศที่ดี ในขณะที่  
24.1% มีโรคที่เกิดขึ้นจากเพศสัมพันธ์ ผลการศึกษาแสดงให้เห็นความมีนัยยะสำคัญทางสถิติของ เพศ ชนิดของ  
งานที่ทำ งานที่ต้องเดินทาง ช่วงระยะเวลาที่อยู่ในประเทศไทยและพฤติกรรมทางเพศที่ปลอดภัย ในจำนวน 203 คน  
ที่เป็นเพศชาย 109 (52.7%) มีเพศสัมพันธ์ กับหญิงขายบริการ และในจำนวนนี้มีเพียง 36.2% เท่านั้นที่ใช้ถุงยางอนามัย  
กับหญิงขายบริการกลุ่มนี้ นอกจากนี้ผลการศึกษา ยังแสดงให้เห็นความมีนัยยะสำคัญทางสถิติระหว่าง เพศ สถานะ  
สมรส ระยะเวลาที่อยู่ในเมืองไทย จำนวนปีที่ทำงาน สถานที่ทำงาน ลักษณะงานที่ต้องเดินทาง และการติดโรคจาก  
เพศสัมพันธ์

สาขาวิชา..... สาธารณสุขศาสตร์..... ลายมือชื่อนิสิต..... 

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# # 5279114653 :MAJOR PUBLIC HEALTH  
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ENVIRONMENT.

YAN NANG AUNG: LIVING AND WORKING ENVIRONMENT, AND  
FACTORS ASSOCIATED WITH THE SAFE SEX BEHAVIOR AND  
SEXUALLY TRANSMITTED INFECTION OF MYANMAR MIGRANT  
WORKERS IN MUANG DISTRICT, RANONG PROVINCE, THAILAND.  
THESIS ADVISOR: SATHIRAKORN PONPANICH, Ph.D., 70pp.

A cross-sectional descriptive study was conducted on March 2010 with the objective of assessing the living and working environment and factor associated with the safe sexual behavior and health status related to unsafe sexual behavior of Myanmar migrant workers in Muang District, Ranong Province, Thailand. Multi-stage purposive sampling method was used for the study and 406 households were recruited in the survey. For data analysis, chi-square test was used. Respondents aged between 19 and 50 years from each household were selected and interviewed by using self-administered questionnaires. Female and male respondents are selected half by half (female 203 and male 203). Out of 406 respondents, 41.4% is single, 50.7% are married and 5.7% and 2.2% are divorced and widowed. Their major jobs are Factory worker and fisherman. Among the 406 respondents, half (51.0%) live in dawn town and over 50% (205) respondents live with roommates. For working environment, over half (224) respondents work 10-14 hours per day. There is significant relationship between gender (P-value 0.001), type of job (p-value 0.001), job needs to travel (0.001) duration of stay in Thailand (0.001) and safe sex behavior. In 203 male respondents, 109(52.7%) had sex with sex workers and only 36.2% use condom when have sex with sex worker. There is significant relationship between gender (p-value 0.006), marital status(p-value 0.041), duration of stay in Thailand(p-value 0.001), working years(p-value 0.001), job location(pvalue-0.000), job needs to travel(p-value 0.001) and sexually transmitted infection. Health education and condom promotion programs are necessary for the migrant workers especially in fishermen group because this group has poor sex behavior and high prevalence of STI. Also health education program for sexually transmitted infections and provide more STI clinics are needed. 16.9% of total respondents had STI. 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 male only. For more information about safe sex behavior, further study should not only focus on descriptive study but also point out for action research for prevention and control of it.

Field of Study :Public Health..... Student's Signature.....  
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จุฬาลงกรณ์มหาวิทยาลัย

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## LIST OF ABBREVIATIONS

AIDS- Acquired Immunodeficiency Syndrome

HIV- Human Immune deficiency virus

ILO- International Labor Organization

IOM- International Organization of Migration

MSM- Men who have Sex with Men

RTF- Rak Thai Foundation

STI- Sexually Transmitted Infection

UNAIDS- The joint United Nations programme on HIV/AIDS

WHO- World Health Organization



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# CHAPTER I

## INTRODUCTION

### 1.1 Background and Rationale

There are more than 200 million migrants around the world today. In 2005, 70.6 million in Europe, 45.1 million in North America and 25.3 million in Asia (International Organization of Migration, 2005). According to the United Nations Data, in 2005, there were nearly 191 million international migrants worldwide, which is 3 percent of the world's total population (United Nations, 2005).

The number of registered migrant workers in Thailand by the end of 2006 was roughly 400,000, whilst the number of undocumented migrants has been estimated to be anywhere between 800,000 and two million, 80 percent of this population is from Myanmar. (The Nation, 2006) Many of the migrants working in the illegal, unregulated labor market, and in "3-D jobs" (dangerous, dirty and difficult) that often pay well below the minimum wage. The migrant community from Myanmar is comprised of a myriad of ethnic groups from across all of Myanmar's 14 states and divisions, with the majority coming from the ethnic states which share a border with Thailand. Due to a combination of economic and humanitarian reasons prompting migration into Thailand, it is difficult to distinguish between economic migrants and asylum seekers. While many are forced to flee their homes in Myanmar due to continuing systematic human rights violations, migrants are also drawn across Thailand's expansive border to escape Myanmar's continually deteriorating economy in the hopes of benefiting from Thailand's booming economy and constant demand for cheap labor. Regardless of the motivations perpetuating the constant flow of migrants from Myanmar into Thailand, the Royal Thai Government (RTG) maintains a strict and sometimes arbitrary policy on classifying those arriving from Myanmar as illegal immigrants with many victims of direct human rights abuses, are refused access to refugee camps, international humanitarian aid, and subject to deportation. Neither Thailand nor Myanmar is signatories to the 1990 UN International Convention on the Protection of the Rights of All Migrant Workers and Members of

their Families, which provides basic human rights to those crossing international borders.

To a large degree, the health status of migrants in Thailand is influenced by the health conditions they face in their home country. Myanmar has a low Gross Domestic Product (GDP), and very limited spending on health services. The AIDS epidemic in Myanmar and the lack of information about methods of prevention for this and other diseases within the country is a major contributing factor to their prevalence within migrant communities. Migrants' health is also affected by the fact that they often travel through forested areas, with high exposure to contagious diseases, such as drug-resistant strains of malaria, when attempting to enter Thailand. However, the working and living conditions migrants endure in Thailand also have a large influence on their mental and physical condition. In addition, their tenuous legal status, or lack thereof, and further barriers limiting access to health services, information, and legal mechanisms, means that migrants endure poor working and living conditions without being able to receive full or proper treatment for the health conditions that they suffer from.

When clinics were located in Provincial Health Offices, few migrants were willing to utilize public STI services due to the location. Now, STI clinics are being integrated into hospitals as part of the government's consolidation process. The concern is that utilization rates may further decline due to shyness related to having to seek STI services at the same location as general health services. As it is, migrants who have STI symptoms will commonly resort to self-treatment, will remain untreated, or will go to a private clinic, which is expensive. This is concerning as it seems there are high rates of STI among migrants in Thailand.

For example, in 2002 at the Mae Tao Clinic in Mae Sot, there was a 2.7 percent prevalence rate of syphilis among migrants, many of whom crossed the border from Myanmar into Thailand either as daily workers or simply to access health services (Ekachai, S, 2003). According to the health exam for migrants in 2004, one-third of those with health conditions of concern had syphilis.

In a study done in the year 2000 with migrants from Myanmar at Chiang Mai and Ranong, 21 percent of migrant women reported having had vaginal discharge that they did not consider normal. In the same study, 30 percent of migrant

men indicated that they had difficulty urinating (Caouette, T. Archacanitkul, K. Pyne, H, 2000). At Samut Sakhorn, seven percent of respondents had indicated having had an STI in the last six months, with symptoms of ulcers on the penis, discharge, puss and difficulty urinating (Tin, E., 2000). In Rayong, where many Cambodian fishermen work, nine percent of health referrals for Cambodian migrants during the period of March 2001 to December 2002 were for STIs (Lowe D., Yongpanichkul S.,2003). 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. There is HIV sero-surveillance that focuses on specific groups that are either at high risk of HIV/AIDS or represent a broader sample, including Anti Natal Care (ANC) clinics and STI patients, and certain occupations, such as fishermen and sex workers. However, there is no surveillance specifically for migrants, and the data on these groups does not disaggregate migrants from Thais, leaving uncertainty about actual HIV/AIDS prevalence rates among migrants.

On the other hand, 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, S, 2001). Rates of HIV among pregnant women testing at ANC clinics were recorded in some locations in 2001, with the general trend showing much higher rates among migrant women. At the Mae Tao Clinic in Tak Province, in 2003, out of the 2,435 pregnant women who tested for HIV through the ANC clinic, 35 women or 1.4 percent tested positive for HIV (Dr. Maung C ,2004).

## **1.2 Research Questions**

1. What is the living and working environment among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
2. What is the association between the socio-demographic and safe sex behavior among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
3. What is the prevalence of sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
4. What is the association between socio demographic characteristics and safe sex behavior among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
5. What is the association between the working environment and safe sex behavior among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
6. What is the association between the socio-demographic characteristics and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand?
7. What is the association between safe sex behavior and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand?

## **1.3 Research Objectives**

### **1.3.1 General Objectives**

1. To find the factors associated with safe sex behavior and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand.
2. To describe the living environment and working environment of Myanmar migrant workers in Muang District, Ranong Province, Thailand.

### **1.3.2 Specific Objectives**

1. To determine the association between the socio-demographic and the safe sex behavior among Myanmar migrant workers in Muang District, Ranong Province, Thailand.
2. To describe the association between working environment and the safe sex behavior among Myanmar migrant workers in Muang District, Ranong Province, Thailand.
3. To explain the association between the socio-demographic characteristics and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand.
4. To determine the association between the working environment and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand.

### **1.4 Hypothesis**

There is association between socio demographic characteristics, working environment and safe sex behavior and sexually transmitted infection among Myanmar migrant workers in Muang District, Ranong Province, Thailand.

#### **Key words**

Myanmar migrant workers in Ranong Province/ socio demographic characteristics/ sexual behavior/ living environment/ working environment/ health status related to unsafe sex behavior/ sexually transmitted infection

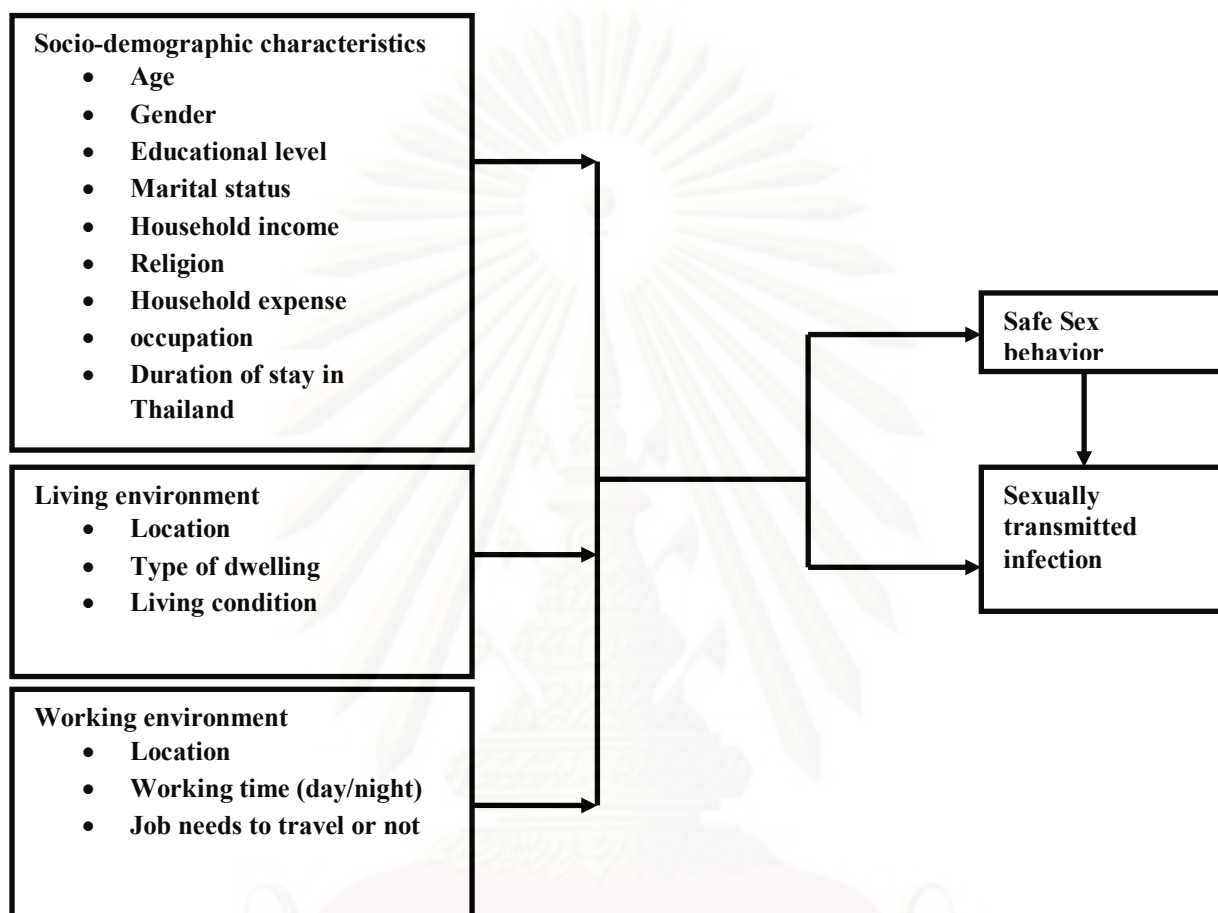
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## 1.5 Conceptual Framework

### INDEPENDENT VARIABLES

### DEPENDENT VARIABLES



## 1.6 Operational definitions

### 1.6.1 Independent variables

**Migrant worker:** The term "migrant worker" refers to a person who is engaged or has been engaged in a remunerated activity in a State of which he or she is not a national. [ UN definition of Migration]

#### 1. Socio economic characteristics

- 1.1. **Age:** refers to how old the respondent is at the time of interview.
- 1.2. **Marital status:** refers to the current marital status of the respondent classified to single, married, divorced, separated or widow.
- 1.3. **Family income:** means the respondent and family members' income per month in Thai baht.
- 1.4. **Educational level:** refers to the highest education that the respondent attained and classified into no education, primary, middle or high school level and graduate level education.
- 1.5. **Occupation:** refers to the present job that the respondents are now working and whether it is legally or illegally.
- 1.6. **Gender:** refers to the respondent's gender, male or female.
- 1.7. **Religion:** refers to the current religion of respondent, Buddhist, Islam, Christian, Hindu or others.
- 1.8. **Household expenses:** refers to the amount that the entire family spends in Thai baht per month.
- 1.9. **Duration of stay in Thailand:** refers to how many years or months or days that the respondent has been staying in Thailand.

#### 2. Home environment

- 2.1. **Location:** refers to the place where the respondent's home is located which can be in the city center or rural area.
- 2.2. **Type of dwelling:** it refers to the kind of housing that the respondent living like
  - 2.2.1. Apartment, condominium, hostel or others
  - 2.2.2. Number of rooms
  - 2.2.3. Ventilation
  - 2.2.4. Lighting

- 2.2.5. What material the dwelling made of
- 2.2.6. Water source
- 2.3. **Number of household members:** refers to the no of people in the whole housing and no. of people in each room.
- 3. **Working environment**
  - 3.1. **Location:** refers to the place where the respondent works
  - 3.2. **Working time:** refers to the time of the day the respondent works, day or night.

#### 1.6.2 Dependent Variables

- 4. **Safe sexual behavior:** In this study, safe sex behavior refers to be refusing of sex with unknown partner, faithfulness to spouse, condom usage when have sex other than spouse.
- 5. **Sexually transmitted infection:** An illness that has a significant probability of transmission between humans or animals by means of sexual contact, including vaginal intercourse, oral sex, and anal sex.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Migration 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).

Thailand is a major receiving country for migrants Southeast Asia. In July 2004, 1,276,837 migrants including laborers and their families attempted to register under the state registry of Thailand. 1,161,013 officially completed their registration. But the actual number of migrants will be 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, but only 810,730 fully completed issuing process for work permits. Over half of the total populations of migrant workers have no work permits. New migrants are crossing the border for work every day. According to the records of Thai Government state registration of migrants in July 2004, out of total 128,490 migrants that entered the registration system, almost 72 percent (921,492) came from Myanmar, over 14 percent (183,541) from Cambodia, and under 14 percent (179,887) from Lao.

#### **2.2 Sexual Behavior and Migrants**

Research on the determinants of sexual behavior among adolescents of migrant workers in Shanghai (China) was done in 2008. The results show that the percentage of adolescents who ever had sexual intercourse or had sexual intercourse in last three months was 7.2% and 4.3% in adolescents of migrant workers, respectively; in contrast, 4.5% and 1.8% in their peers of general residents, respectively. 47.3% adolescents of migrant workers and 34.3% of those adolescents of general residents reported no condom use in sexual intercourse during last three months. Factors such as lower family income, younger age at first sexual intercourse,

lower knowledge on HIV/AIDS, and less communication on HIV/AIDS related issues were related to have sexual intercourse within last three months (Shenghui Li, 2008).

Another study about the migrants' risky sexual behaviors was done in India in 2004. The results show that Migrants commonly had multiple sexual encounters, changed partners, and used condoms infrequently both in India and at home. Several factors influenced them to practice high-risk sexual behaviors. In India, these included peer norms and pressures, cheaper sex, lack of family restraint, drinking alcohol, and low perceived vulnerability to HIV/STIs. In Nepal, these factors included the migrants' new status, frequent local festivals, and low perceived vulnerability to HIV/STIs. Participants displayed substantial deficits in their knowledge of HIV/STIs. This study revealed that the migrant population has risky sexual behaviors comparing to other populations in India (Krishna C. Poudel, 2004).

A study was conducted in Amsterdam (2005) that examined the travel related sexual risk behavior among migrants living in Amsterdam. Of the migrants, 38% of men and 42% of women visited their homeland. Visits were most likely among men who had lived more than 7 years in the Netherlands, were employed, had a high educational level and were/had been married. For women, visiting was associated with older age and living in the Netherlands for more than 8 years. Of migrants visiting their homeland, 47% of men and 11% of women acquired a local sexual partner. For male travelers, Surinamese origin (adjusted OR 10.66; 95% CI 1.72 to 104.48) and a history of >1 sexually transmitted infection (STI) (adjusted OR 12.51; 95% CI 3.75 to 46.95) were associated with having unprotected sex with local partners. For women, having .1 partner in the past 5 years (OR 13.57; 95% CI 2.57 to 250.28) was associated with unprotected sex with local partners. Migrants are at substantial risk for HIV and STIs while visiting their homeland (Kramer, M. A., A. v. d. Hoek, et al, 2005).

### **2.3 Sexual behavior of Myanmar migrants in Thailand**

A cross-sectional study was conducted on 2007 to assess the accessibility to, perceptions on, and preferences for, HIV related health education among Myanmar migrant workers in Ranong Province, Thailand. The results show 68.6% of the total

respondents had received HIV related health education, and both males and females had very similar access. Longer length of stay in Ranong was associated with greater access, but youth aged (15 to 25 yrs) had less access than older respondents. There was no significant difference in access when comparing the high risk occupational group with other occupations, but when fishery-related workers were excluded, high-risk workers had more frequent access than others. Regarding perceptions, only 6.2% agreed that they had adequate access, and only 11.6% were satisfied with level of access. However, all believed that HIV/AIDS is an important matter. All preferred participatory types of HIV-related education over non-participatory ones. This preference was significantly stronger in the high-risk group than in others. Subjects also preferred some non-participatory methods, especially condoms and lubricants, cartoon/comic booklets, real-life photo story booklets, pamphlet, leaflets, brochures, TV drama, and TV spots. The migrants workers strongly preferred to receive HIV related health education in any place except government health centers and border gates (Phyo, 2007).

Another study was conducted on February 2009 to describe the behavior for prevention of HIV/AIDS transmission among Myanmar migrant fishermen in Ranong province, Thailand. The independent variables were socio-demographic characteristics, condom availability, HIV/AIDS information peer pressure, drug and alcohol use, HIV related knowledge, attitudes and skills. The results show 63% of respondents have had sex with sex worker, 70.7% of them always used a condom when having sex with sex worker. 18% of the respondents had casual sexual partners. 40.1% of them always used condom when they had sex with casual partners in the six months previous to the study. The results suggest that age, duration of stay in Thailand, Knew where to get condoms, refusal to have sex without a condom, and discussing condom use maintained significant association with unsafe sex while controlling for other independent variables (K.Maler Htoo, 2009).

Another cross-sectional descriptive study was done on 2008 in Muang district, Samut Sakhon Province, Thailand to assess the safe sex behaviors among Myanmar reproductive aged migrants. 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 study results showed that over 70% of the respondents conduct fair or moderate safe sex behavior while 17.3% have good behavior and 12.7% 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 (Kyaw Soe Nyunt, 2008).

#### **2.4 Sexually Transmitted Infections and Migrants**

Migration is one of the social factors responsible for the spread of human immunodeficiency virus (HIV) infection and other sexually transmitted infections (STIs) (Decosas et al. 1995; Mabey & Mayaud, 1997), (Entz et al, 2000; UNAIDS 2001; Lurie et al, 2003). Many studies have revealed evidence of a potential association between human mobility and the HIV, STI epidemic, especially in developing areas. The public health response to the issue of HIV, STI and migration is usually based upon two scenarios. The first concern is that incoming migrants might already have been infected by HIV. The second refers to the relationship between structure and conditions of the migration process and HIV transmission. While the first scenario still applies, there is an increasing belief that migrants may be more vulnerable to HIV infection than local populations. Mobile populations have higher infection rates than those who do not move, independent of the HIV prevalence at the site of departure or the site of destination. Successful interventions should address all aspects of migrants' vulnerability to infection since human migration, whether voluntary or not, may result in the spread of HIV infection both to those who migrate and to members of the communities that receive migrants, as well as to individuals in the country of origin, if migrants return infected.

A cross-sectional study was conducted in Greece, 2005 to assess the relationship between migration and HIV. From 1989 to 2003, 6292 HIV-positive

cases were reported. Data shows that 749 people (439 males, 303 females) originated from countries other than Greece. Most HIV-positive migrants come from Sub-Saharan Africa (32.44%) and nearly 20% from Central and Eastern Europe. In the Greek population, men who have sex with men (MSM) constitute 50.47% of cases, while 16.15% are heterosexuals. The epidemic profile follows a different pattern among migrants. Heterosexual transmission accounts for 41.52% of HIV-positive reported migrants, while 19.09% are MSM. An 11% increase for each subsequent year in the rate of HIV-positive migrants reported in Greece has been estimated using a Poisson regression model fitted to the data. The result shows that the HIV seropositive migrants are increasing in Greece (Georgios Nikolopoulos, 2003).

A study conducted on 2000, in Spain to describe the Comparison of HIV prevalence among foreigners and national subjects. HIV prevalence and exposure categories were compared between national and non-Spanish subjects voluntarily tested in 18 sexually transmitted disease/HIV testing clinics from 16 Spanish cities in 2000. Of 8861 testers, 2810 (31.7%) came from foreign countries; 73.1% from Latin America, 9.1% from western Europe, 6.2% from central/eastern Europe, 4.4% from northern Africa, and 4.2% from sub-Saharan Africa. Among women from Latin America, 78% were sex workers compared to 5.5% Spanish women. HIV infection was diagnosed in 170 persons, 34.7% from foreign countries. HIV prevalence for Spanish subjects (23% for men and 1.0% for women) was significantly different from men and women from Latin America (11.3% and 0.3% respectively), Sub-Saharan Africa (9.1% and 7.5% respectively), and women from the north of Africa (11.8%). Compared with Spaniards, analyses of persons of the same exposure category showed higher HIV prevalence in men who had sex with men from Latin America (odds ratio: 4.1; 95% CI: 2.4–6.9), heterosexual men from sub-Saharan Africa (OR: 19.3; 95% CI: 6.4–58.0), and Latin America (OR: 9.4; 95% CI: 3.4–25.9), heterosexual women from sub-Saharan Africa (OR: 16.9; 95% CI: 3.5–82.4) and from northern Africa (OR: 15.3; 95% CI: 3.2–73.2). An important proportion of HIV testers from these clinics came from foreign countries and some groups showed a high prevalence of HIV infection (The EPI-VIH Study Group, 2002).



## **2.5 Living Environment of migrant workers in Thailand**

Many health problems are also related to migrants' living conditions. Generally, employers provide migrant workers with living quarters that they must pay rent for as part of the work arrangement. Generally, this arrangement is convenient for migrants, as they do not have to concern themselves with paying for transportation and being exposed in public, however in many cases this arrangement also leads to health problems. Employers who provide residence for their migrant workforce often charge exorbitant rates and skimp on the quality of the facilities provided. The limited accommodation and/or the cost of rent forces migrants, many with families, to live in overcrowded, unsanitary conditions with poor ventilation, where numerous people share a few toilets of poor quality, and may have limited access to clean water.

### **Water and Sanitation**

Of the various occupations where migrants are prominent, construction sites, especially in the north, have some of the worst living conditions. The number of migrants living on construction sites in Chiang Mai, for example, may range anywhere from eight to twenty people on smaller sites, up to one hundred or more at larger sites. One site surveyed had over one hundred people including family members living together on the site with only a handful of toilets available. On many construction sites, the water provided for bathing and washing clothes is unsanitary, and often comes from a shallow well dug on the site that may collect the run-off from construction. A survey done in 2000 showed that 79 percent of respondents working in Chiang Mai, most of who worked on construction sites, had had a skin disease within six months of the interview (Caouette, T, 2001). Migrants working and living on plantations and in orchards, also regularly end up with skin diseases from bathing in streams and other bodies of water where pesticide residual collects (Action Network for Migrants, 2004).

Although there is generally a high level of access to potable water among migrant workers, access is dependent upon the type of work and the location of their

residence. For those who do not have this access, gastro-intestinal problems may be common. Dysentery, for example, is common, especially on construction sites and among agricultural workers. Factories usually have the highest access to potable water, and plantations and construction sites the lowest. Drinking water is often provided when there is not tap water, but the cost is deducted from migrants' pay.

A survey in 2000 showed that 80 percent of adult respondents in Chiang Mai, many working in construction or agriculture, had had a bout of diarrhea or dysentery within six months prior to the interview (Caouette, 2000). In 2001, another survey showed 47 percent of females and 59 percent of males from various Myanmar ethnic groups working in different occupations and locations in Thailand had diarrhea in the past six months (Pinprateep W, 2001). In 2004, during a sample month at the NGO clinic in the industrial area of Mahachai, just eight percent of ailments treated were gastro-intestinal related. Nationally, acute diarrhea was the most common disease reported among migrant workers, with 6,270 cases reported in 2003 and 5,822 cases reported in 2004 (age of patients was not recorded). Provinces along the border of Myanmar that have refugee camps had the highest rates (Bureau of Epidemiology, 2003-4).

### **Environmental Conditions**

At Mahachai, over-crowding is also commonplace. Most rooms made for two people may house up to ten or more. If families stay together, they will often occupy the room with at least one other family; unmarried or single individuals of the same sex will board together, sometimes dividing the room between day and night work shifts. In such close quarters with poor ventilation, there is a greater chance for transmission of communicable diseases. The NGO clinic at Mahachai reported that in a sample month in January 2004, out of 532 clients seeking treatment, 14 percent sought treatment for respiratory tract infections, while another eight percent had ear/nose/throat problems (Raks Thai Foundation/CARE, 2004). The lack of privacy and cramped or dirty living conditions, combined with their general circumstances, also causes stress. At a Mahachai NGO clinic, the primary complaint of those seeking basic services, almost 32 percent of clients (out of 532) reported suffering from

psychological problems or stress, where in some cases this manifested as severe headaches (Raks Thai Foundation/CARE, 2004).

At construction sites, fishing ports, and slums, migrant communities are often exposed to effluent from industry or live over standing water, making them susceptible to flooding and mosquito-borne diseases, especially dengue fever. Agricultural workers live on plantations where they work, usually in ramshackle or makeshift houses located deep in the orchard, adjacent jungle or remote areas. Employers rarely provide migrant workers mosquito nets, leaving agricultural workers responsible for purchasing nets. Although many migrants are aware that sleeping under a net can prevent malaria, conditions of nets vary and may have holes. Many migrant communities are strewn with garbage due to a lack of sanitation services, ignorance on the part of migrants, or because they are located in an area used as a garbage dump. This unsanitary environment can increase the presence of mosquitoes and breed flies, leading to increased rates of disease.

The shelters where migrants stay, especially on construction sites and in slum areas, are often made of corrugated iron or scraps of metal such as garage doors and other discarded materials. These windowless shanties provide little protection from extreme heat and cold or other harsh weather conditions, and during the rainy season, all their clothing remains damp, causing fungal growths and even vaginal candidiasis (Koetsawang, 2001).

## **2.6 Working Environment of migrant workers in Thailand**

In 2006, Myanmar migrant workers formed an integral part of the Thai economy, with demand for cheap labor exceeding supply. Migrants from Myanmar were predominately employed in the agriculture, fishing and manufacturing sectors, with significant numbers also employed as domestic workers. However, Myanmar migrant workers frequently suffered abuse at the hands of their employers including excessive working hours without holiday entitlements, underpayment, withholding of

pay, violence, and restrictions on their freedom of movement- often being effectively imprisoned. Many found themselves in situations which amounted to forced and bonded labor. Thai Labor laws and policies on registration have confounded the issue for this vulnerable group, as have corrupt officials (Mekong Sub regional Project,2006). With the alternative being deportation, these workers often accept high levels of exploitation, and are prevented from forming Trade Unions in any case (Arnold, Dennis,2006). As a result, most migrants are at the mercy of their employers who frequently pay below Thai minimum wage. In 2006, migrant workers in Mae Sot generally earned 70 to 80 baht a day, well below the minimum wage requirement of 139 baht (Mizzima, 13 February 2006). Whilst migrant workers often receive food and board as part of their pay, such in-kind payments are rarely assigned a specific monetary value and, under Thai law, should be regarded as additional to, rather than a substitute for, cash payments. Whilst those in the fishing and manufacturing sectors are generally better paid than those working in the domestic or agriculture sectors, they still only receive about 60% of the minimum wage they are entitled to, once the number of hours worked, overtime and lack of days off are taken into consideration (Mekong Sub regional Project,2006).

Generally, beyond ISO standardization, enforcement of workplace safety standards in Thailand is inconsistent and weak. Thai workers are as susceptible to poor safety standards as migrants; however, migrants are especially prominent in occupations that are dirty, difficult and dangerous, where employers show little concern for occupational safety, and rarely provide proper safety equipment. As a result, migrants regularly suffer job-related health problems ranging from bodily injuries, to health conditions arising from environmental factors associated with the work place, such as high rates of dust, poor ventilation, or exposure to chemicals, heat or sun. The most common work related health condition among migrants, though, is fatigue and related conditions (Raks Thai Foundation, 2004).

A joint study conducted by the ILO and Mahidol University published in 2006 found that almost half of all workers in fishing experienced delayed payment and 40% of fishing industry workers had pay deducted for „mistakes“ made such as

taking a day off (even when ill), damaging stock or equipment or being late to work. In manufacturing, 25% of workers faced delayed payment and 15% had to pay for mistakes made.

### **Fishermen and Related Communities**

Fishing boats have crews ranging in size from 3 to 40 men or more, depending on the type of boat. According to their size and function, boats go out to sea and return to shore either nightly, every three to five nights, ten to fifteen days, or three to six weeks depending on the size of the boat and the location of fishing waters. Some of the largest boats may stay at sea for six months up to a year at a time receiving supplies from transport boats, with some not returning to the port of origin for one to two years (Raks Thai Foundation, 2004).

Fishermen's sleeping quarters are cramped, with men often lying side by side in rows. They eat what the captain provides, and are limited in their use of fresh water beyond drinking, limiting their ability to wash. They go to the toilet over the side of the deck. Although there are first aid kits on the boats, any illness or injury must wait until the boat returns to dock or be transported by another boat before receiving proper treatment. There have even been reports of some boats having cases of dengue fever contracted on board.

Generally, depending on the size of the boat, fishermen are given two days of shore leave every thirty to forty-five days. When boats are docked in their port of origin, single men usually sleep on the boat, whereas married men will sleep on land with their family.

Living conditions at ports vary according to the level of industrialization of the port. In the less developed ports, migrant communities may live in wooden houses above tidal flats or adjacent the port (stilt houses use a hole in the boards as both a toilet and an escape hatch to evade police arrest). These communities are often located in marshy areas or are exposed directly to industrial fumes or effluent, garbage dumped overboard by boats, and refuse from the

community. At more developed ports, ramshackle or dilapidated dormitories are provided where up to ten or more people, either a couple of families or a group of single-sex workers, share cramped, stuffy rooms. Commonly, these dwellings lack sufficient septic systems, which may be cracked and leaking. For these removed communities it is difficult to access health services unless services are in the immediate vicinity.

### **Factory workers**

In factory dormitories at Mae Sot, reports of over-crowding and poor ventilation are common. Migrants have reported that some factories have seven to twenty people living in a three and a half square meter room without windows; whereas other factories have hundreds of people living in rows of bunk beds in a single, open room on an upper floor of a dusty warehouse with only curtains separating them (Asian Research Center on Migration, 2003).

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## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1 Study design

The study design for this thesis is cross sectional descriptive study aiming to access the socio-demographic characteristics, living environment, working environment, safe sex behaviour and sexually transmitted infection of adult Myanmar migrant workers in Muang District, Ranong Province.

#### 3.2 Sample size

According to Cochran's formula

$$n = \frac{Z^2 pq}{d^2} = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = 384$$

n = sample size

Z = standard value for 95% confidence interval = 1.96

d = error allowance = 0.05

p = the proportion of targeted population with safe sex behavior = 50% = 0.5 (estimated prevalence of 50% will be used in order to have the maximum sample sizes)

q = 1-p = 1-0.5 = 0.5

10% of the calculated for missing data = 38

Therefore, sample size will be 384+38 = 422 migrants

#### 3.3 Measurement Tools

Self-administered questionnaires were used and the questionnaires were adapted from previous studies of living and working environment, safe sex behavior and health sexually transmitted infection among adult people. There are 5 main components

1. Socio-demographic characteristics
2. Living environment
3. Working environment
4. Safe sex behavior and

## 5. Sexually transmitted infection

### 3.4 Target area and population

Target area is in Muang District, Ranong province in south of Thailand that has a large Myanmar migrant population.

### 3.5 Study population

The target population for the study is adult Myanmar migrants aged 19-50 years in Muang District, Ranong Province, Thailand.

### 3.6 Sampling Technique

Multi-stage purposive sampling method is used. First stage- Muang district was selected purposively among the 5 districts of Ranong, because this district has highest number of Myanmar migrants.

Second stage- Among the 6 sub-district in Muang district, two sub-districts with the highest population of Myanmar migrants were selected purposively.

#### Inclusion Criteria

- Myanmar migrant workers 19-50 years of age in Ranong province
- Myanmar migrant workers who are willing to participate in the study
- Can read and write well

#### Exclusion criteria

- Myanmar migrant workers who become sick and can't participate until the end of the research.
- Subjects who are refusing to participate in the study

### 3.7 Data collection

The data collection was done by means of self-administered questionnaires. The questionnaires were adapted from existing questionnaires which have been already validated by experts in previous studies (IUPUI Health Services



STI Questionnaire, Kyaw, 2008 and Htoo, 2008). It took about 40 minutes to complete questionnaires. Pretest with 30 respondents was done in one of the factories in Mahar Chai and analyzed using Cronbach alpha in order to standardize the questionnaires prior to data collection. The data collectors were trained for 1 day before the data collection. The number of data collectors was 4 persons. The questionnaires were prepared in English and then they were translated into Myanmar. The places of data collection were their residence and work place both. The questionnaires were confidential and were sealed in envelopes. And the respondents didn't need to identify themselves so they can give true answers without hesitation. First, the researcher chose 4 data collectors who are the peer persons of the migrant workers in that area. The researcher approached to migrant workers via these data collectors. Besides, as the researcher is a Burmese, it was not difficult for him to communicate with Myanmar migrant population.

### **3.8 Data analysis and statistics**

After examination and correction of each questionnaire, some unqualified answers for data analysis. All the questionnaires were coded before entering to the computer. Double entry and SPSS version 17 for windows software was used.

The statistics methods were descriptive statistics (mean, medium and range), Chi-square test and Fisher's exact test, 95% confidence interval and the significant p-value= 0.05.

### **3.9 Ethical Consideration**

Ethical approval was obtained from the Ethical Committee of Chulalongkorn University and clear explanation about the purpose and procedure of the research will be done. Before interviewing the participants, the researcher and data collectors gave clear verbal explanation to each participant on the purposes and procedures of the study. The informed consent which contains information of confidentiality, free participation, freedom to withdraw, and no use of data for other purpose is obtained from the participants who were willing to participate in the study.

### **3.10 Limitation of the study**

This study is limited to adult Myanmar migrant workers in Muang District, Ranong province only. So this study cannot represent the whole Myanmar migrant population in Thailand.

The study design of this study is cross-sectional descriptive study. So the results are not strong enough compare to other good study designs such as cohort study.

The seasonal effects may influence on the data collection. Because some jobs depends on the season, like fishermen.

Some of the respondents may feel uneasy to answer some sensitive questions about safe sex behavior, so some of them may give socially acceptable answers.

### **3.11 Expected benefits and applications**

According to this study, we will get the following outcomes,

1. This thesis provides the sexual behavior among Myanmar migrant population in Muang District, Ranong Province.
2. This thesis provides the living conditions associated with the sexual behavior among Myanmar migrant population in Muang District, Ranong Province.
3. This thesis provides the working environment associated with the sexual behavior among Myanmar migrant population in Muang District, Ranong Province.

## **CHAPTER IV**

### **RESULTS**

This study was conducted to describe the socio-demographic characteristics, Living environment, working environment, safe sex behavior and sexually transmitted infection (STI) of Myanmar Migrant's population in Muang District, Ranong Province, Thailand. The sample size is 406 (203 male and 203 female). The data collection was done from Feb 10 to Feb 28, 2010.

#### **Univariate Analysis**

##### **4.1 Socio-demographic characteristics**

Table 1 showed the socio-demographic characteristics of the respondents in Muang district, Ranong Province, Thailand. The socio-demographic variables include age, sex, religion, marital status, present job, monthly income, staying time in Thailand, monthly expense.

Regarding to the analyzed results, the mean age of the respondents is 31.21 years and standard deviation is 8.042 years.

In this study group, nearly two third (65.3) of the respondents are Buddhism, 23.6 percent are Islam and 11.1 percent are Christianity.

39.4 percent of the respondents finished secondary level, 26.8 percent finished primary level and only 8.1 percent are non-educated. 3.9 percent are University level.

Marital statuses of the respondents are divided into four groups, single, married, divorced/ separated and Widow. Half of the total respondents are married (50.7 percent), 41.1 percent are single, 5.7 percent are divorced and only 2.2 percent are widow.

The current jobs of the respondents are divided into 6 groups, rubber planting, factory, fishing, general, jobless and others. The factory workers and fisherman jobs are the largest group of the total respondents which are 28.3 and 26.4 percent respectively. General workers and rubber planting are only few respondents which are 9.6 and 6.2 percent of total respondents. 27.1 percent of the total study population are other jobs which include nanny, shopkeepers, sea-food processing and etc.

The duration of stay in Thailand is divided into three groups, less than 4 years, 4 to 7 years and above 7 years. Nearly half (43.1 percent) of the respondents have been living under 4 years in Thailand. 24.7 percent have been living 4 to 7 years and nearly one third (32 percent) have been living over 7 years.

The level of economic status is assessed by their monthly family income and monthly expense. They are divided into three groups, less than 5000 bahts(low), 5000-7000 (moderate) bahts and over 7000 bahts (high). 33.3 percent are low income group, 31 percent are moderate and 35.7 percent are high income group. Their monthly expense are also divided into three groups, 2000-4000 bahts (59.6 percent), 4001-7000 bahts (31.0 percent) and more than 7000 bahts (15.5 percent).



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Table 1: Number and Percentage Distribution of Respondents by Socio-Demographic Characteristics (n=406)

Socio-demographic characteristics	Number	Percentage
<b>Age:</b>		
19-28	186	45.8
29-38	155	38.1
< 38	57	14.1
<b>Sex:</b>		
Male	203	50
Female	203	50
<b>Marital Status:</b>		
Single	168	41.4
Married	206	50.7
Divorced/separated	23	5.7
widowed	9	2.2
<b>Religion:</b>		
Buddhism	265	65.3
Islam	96	23.6
Christianity	45	11.1
Others	0	0
<b>Education:</b>		
No education	33	8.1
Primary school	109	26.8
Secondary school	160	39.4
High school	88	21.7
Others (above high school)	16	3.9
<b>Present job:</b>		
Rubber planting	25	6.2
Factory worker	115	28.3
Fisherman	107	26.4
General worker	39	9.6
Jobless	10	2.5
Others (shopkeeper, security, etc)	110	27.1
<b>Family Income:</b>		
<5000	135	33.3
5000-7000	126	31.0
>7000	145	35.7
<b>Duration of stay in Thailand:</b>		
<4	175	43.1
4-7	101	24.9
>7	130	32.0
<b>Monthly expense:</b>		
2000-4000bahts	242	59.6
4001-7000bahts	101	24.9
>7000bahts	63	15.5

## 4.2 Living Environment

The living environment of the respondents are assessed by living place, living condition, water source, waste water, ventilation level and lighting level.

Half of the respondents are living in down town (51 percent), 27.8 percent living in Villages and 4.7 living in country side. 16.5 percent of the respondents are living in other places, most of them are fishermen and they are living in their fishing boats.

Over one third (40.4 percent) of the respondents are living with their families, most of them are married. Half of respondents (50.5) live with roommates of the same gender, and only 9.1 percent live alone.

The water source is divided into 4 groups, indoor tap, shared tap, well and others. Over half of respondents use shared tap water (55.9) and 34.5 percent use well water. Most of the respondents (85.2 percent) answer that the water source is enough for daily use.

Nearly half of the respondents (44.6 percent) said they drink purified drinking water and 41.1 percent drink tap water.

Over half of the total respondents (54.9) said the ventilation level of their dwelling is good. 27.8 percent said it is fair and only 3.9 percent said the ventilation level is poor.

Half of the respondents (49.5) get good lighting, and 7.1 percent get poor lighting.

Table 2: Percentage and distribution of Living Environment

Living Environment	Number	Percentage
<b>Living Place</b>		
Down town	207	51.0
Village	113	27.8
Countryside	19	4.7
Others (unstable, boats)	67	16.5
<b>Living Condition</b>		
With family	164	40.4
Alone	37	9.1
With roommates	205	50.5
<b>Water source</b>		
Indoor tap	27	6.7
Shared tap	227	55.9
Well	140	34.5
Others	12	3.0
<b>Water enough for everyday usage</b>		
Enough	346	85.2
Not enough	60	14.8
<b>Type of drinking water</b>		
Purified drinking water	181	44.6
Tap water	167	41.1
Boiled water	55	13.5
others	3	0.7
<b>Waste water goes to</b>		
Central sewerage system	20	4.9
Road side drain	94	23.2
Nearby water body	209	51.5
others	83	20.4
<b>Ventilation level</b>		
Very good	54	13.3
Good	223	54.9
Fair	113	27.8
poor	16	3.9
<b>Lighting level</b>		
Very good	53	13.1
Good	201	49.5
Fair	123	30.3
Poor	19	7.1

### 4.3 Working environment

The working environment is assessed by working hours, work permit, the location of job, working duration of current job, the job needs to travel or not, the lighting and ventilation level of the working place. Over half (55.7) of the respondents work 10-14 hours per day. Most of them (77.5 percent) possess work permit. Half of total respondents work in down town (50 percent). 43.8 percent of the subjects have been working current job for 1-4 years and 37.3 percent are over 5 years. Over one third (39.6 percent) of the respondents' job needs to travel. Most of them are

fishermen. Among them, over half (54.9 percent) need to travel more than one week for one travel. Over half (52.8 percent) of the respondents are working under good ventilation level and 4.8 percent get poor ventilation. 48.7 percent get good lighting and 11.6 get poor lighting level.

Table 3: Percentage and distribution of working environment

Working environment	number	percentage
<b>Working hours per day (hours)</b>		
6-9	150	37.3
10-14	224	55.7
>14	28	7.0
<b>Work permit</b>		
Have	307	77.5
Doesn't have	89	22.5
<b>Location</b>		
Down town	201	50.0
Village	45	11.2
Country side	57	14.2
Others (unstable, sea, etc)	93	23.1
<b>Working years of current job</b>		
<1year	76	18.9
1-4years	176	43.8
>5years	150	37.3
<b>Job needs to travel</b>		
Yes	157	39.6
No	239	60.4
<b>Duration of travel</b>		
One day	35	21.3
Less than one week	39	23.8
More than one week	90	54.9
<b>Ventilation level of work place</b>		
Very good	81	20.5
Good	209	52.8
Fair	87	22.0
Poor	19	4.8
<b>Lighting level of work place</b>		
Very good	76	19.2
Good	193	48.7
Fair	81	20.5
Poor	46	11.6

#### 4.4 Sexual behavior

**Sexual behavior (male):** The table 4.1 shows the sexual behavior of Myanmar male migrants. The mean age of first sexual encounter is 32.92 and standard deviation is 8.032. Nearly two third (64 percent) of male respondents have 1-5 sexual partners in last three months and 59.1 percent have 1-5 sexual partners in last six months. 42.1 percent of male respondents didn't use condom in last 5 sexual encounters. Only 2.4 percent used condom every time in last 5 sexual encounters. Half (49.7 percent) of



male respondents had oral sex, 85.2 percent had vaginal sex, 39.4 percent had anal sex and 13.8 percent had homo sex. Over half (53.7) percent had sex with sex workers. Among them one third (36.2 percent) always use condom when they had sex with sex worker, only 2.2 percent never use condom.

Nearly half (48.1 percent) of male respondents have causal partners. Among them, only 28.1 percent always use condom when had sex with causal partner and 18.2 percent never use condom.

Over one third (42.4 percent) of male respondents refuse to have sex with unknown partner. Over half (59.8 percent) of male respondents decided to be faithful to their spouse forever. One third (34.1) of male respondents had sex with only one sexual partner in their life time and the rest had sex more than one partner in their life time.

Nearly two third (67.6 percent) of the male respondents use condom when they have sex with partner other than their wife.

Table 4.1: Percentage and distribution of Sexual Behavior (Male)

<b>Sexual behavior</b>	<b>Number</b>	<b>Percentage</b>
<b>Age of first encounter (years)</b>		
Never	28	13.8
13-18	79	38.9
19-24	68	33.5
>25	28	13.8
<b>Last 3months partners</b>		
never	46	22.7
1-5	130	64.0
>5	27	13.3
<b>Last 6months partners</b>		
never	34	16.8
1-5	120	59.1
>5	49	24.1
<b>Condom use times of last 5 sexual encounters</b>		
never	72	42.4
1	2	1.2
2	15	8.8
3	21	12.4
4	4	2.4
5	56	32.9
<b>Oral sex</b>		
ever	101	49.7
never	102	50.3
<b>Vaginal sex</b>		
ever	173	85.2
never	30	14.8
<b>Anal sex</b>		
ever	80	39.4
never	123	60.6
<b>Homo sex</b>		
ever	28	13.8
never	175	86.2
<b>Sex with sex worker</b>		
ever	109	53.7
never	94	46.3
<b>Condom usage when have sex with sex worker</b>		
Always	50	36.2
Often	44	31.9
Sometimes	41	29.7
Never	3	2.2
<b>Have causal sexual partner</b>		
Yes	91	48.1
No	95	59.9

Table 4.1: (continued) Percentage and distribution of Sexual Behavior (Male)

<b>Sexual behavior</b>	<b>Number</b>	<b>Percentage</b>
<b>Where do you have sex with causal sexual partner</b>		
Hotel	46	50.0
Home	25	27.2
Others	21	22.8
<b>Number of male causal partners</b>		
0	176	86.7
1	2	1.0
2	6	3.0
3	13	6.4
6	6	3.0
<b>Number of female causal sexual partners</b>		
0	102	50.2
1	25	12.3
2	8	3.9
3	19	9.4
5	25	12.3
7	24	11.8
<b>Gender of sexual partner</b>		
Male	21	10.3
Female	127	62.6
both	27	13.3
<b>Condom usage when sex with causal sexual partner</b>		
Always	57	28.1
Often	8	3.9
Sometimes	22	10.8
never	37	18.2
<b>Refuse to have sex with unknown partner</b>		
Yes	86	42.4
No	99	48.8
<b>Decided to be faithful to spouse forever</b>		
Yes	61	59.8
No	41	40.2
<b>Sex with only one sexual partner</b>		
Yes	59	34.1
No	114	65.9
<b>Condom usage when have sex other than spouse</b>		
Yes	100	67.6
No	48	32.4

**Sexual behavior (female):** The table 4.2 shows the sexual behavior of males (203 respondents). The mean age of first sexual encounter of females is 29.49 with the standard deviation of 7.697. Over two third (75.8 percent) of females had 1-5 sexual partners in past 3 months and 74.4 percent had 1-5 partners in past 6 months. 61.6 percent of females never use condom in last 5 sexual encounters and only 24.4 percent always condom in last 5 sexual encounters. Over one third (37.4 percent) of females had oral sex and 86.2 percent had vaginal sex, 27.5 percent had anal sex and only 4.2 percent had homo sex. 30.9 percent of females have causal sexual partner.

15.9 percent never use condom. Over two third (78.1 percent) refuse to have sex with unknown partner and 79.1 percent decided to be faithful to their spouse forever. nearly two third (63 percent) had sex with only one sexual partner when 37 percent had sex more than one partner in their life time. 75.2 percent suggest to use condom when have sex other than their husbands and 76.7 percent refuse to have sex without condom when have sex other than their husband.

Table 4.2 Percentage and distribution of Sexual Behavior (female)

Sexual behavior	Number	Percentage
<b>Age of first encounter (years)</b>		
Never	34	16.7
13-18	79	38.9
19-24	77	37.9
>25	13	6.4
<b>Last 3months partners</b>		
never	14	7.9
1-5	135	75.8
>5	29	16.3
<b>Last 6months partners</b>		
never	14	8.0
1-5	131	74.4
>5	31	17.6
<b>Condom use times of last 5 sexual encounters</b>		
never	109	61.6
1	0	0
2	9	5.1
3	13	7.3
4	2	1.1
5	44	24.4
<b>Oral sex</b>		
ever	76	37.4
never	113	55.7
<b>Vaginal sex</b>		
ever	163	86.2
never	26	13.8
<b>Anal sex</b>		
ever	52	27.5
never	137	72.5

Table 4.2 (continued) Percentage and distribution of Sexual Behavior (female)

<b>Sexual behavior</b>	<b>Number</b>	<b>Percentage</b>
<b>Homo sex</b>		
ever	8	4.2
never	181	95.8
<b>Have causal sexual partner</b>		
Yes	54	30.9
No	121	69.1
<b>Where do you have sex with causal sexual partner</b>		
Hotel	29	53.7
Home	6	11.1
Others	19	35.2
<b>Number of male causal partners</b>		
0	137	71.7
1-5	28	14.7
>5	26	13.6
<b>Gender of sexual partner</b>		
Male	152	92.1
Female	13	7.9
both	165	0
<b>Condom usage when sex with causal sexual partner</b>		
Always	3	6.8
Often	8	18.2
Sometimes	26	59.1
never	7	15.9
<b>Refuse to have sex with unknown partner</b>		
Yes	139	78.1
No	39	21.9
<b>Decided to be faithful to spouse forever</b>		
Yes	121	79.1
No	32	20.9
<b>Sex with only one sexual partner</b>		
Yes	104	63.0
No	61	37.0
<b>Condom usage when have sex other than spouse</b>		
Yes	103	76.3
No	32	23.7
<b>Suggest to use condom when have sex other than husband</b>		
Yes	97	75.2
No	32	24.8
<b>Refuse to have sex without condom other than husband</b>		
Yes	99	76.7
No	30	23.3

#### 4.5 Symptoms of sexually transmitted infections

**Symptoms of sexually transmitted infections (male):** Table 5.1 shows the symptoms of sexually transmitted infections during past 6 months of male respondents (203 subjects). 24.1 percent said they had STI before. 28.1 percent suffered single or multiple sores in past 6 months. Among them, 84.1 percent said the sore is painful and over one third (79.7 percent) said it is soft in consistency. Over half (64.4 percent) said the shape is round. One third (33. Percent ) of total male respondents said they had rash over their bodies. Among them half of them said it is itch and the other half said it is not itch. 80.9 percent said the color is red and nearly half (45.2 percent )said they got fever together with rash. Over one third (37.5 percent) of male respondents said they got rectal pain.

Over half (36.9 percent) of male respondents got pus like discharge from the tip of penis. 34 percent got stinging sensation during urination. Over half (61.1 percent) suffered frequent urination. Half (50.2 percent) got blood in urine. 40.4 percent got swelling on the glands in the groin and 30 percent said the head of penis turns red.

Table 5.1 Percentage and distribution of Symptoms of Sexually Transmitted Infections (male)

STI symptoms	Number	Percentage
<b>Have you ever had STI</b>		
Yes	49	24.1
No	154	75.9
<b>Single or multiple sores</b>		
Yes	57	28.1
No	146	71.9
<b>Sore painful</b>		
Yes	53	84.1
No	10	15.9
<b>Consistency of sore</b>		
Firm	12	20.3
soft	47	79.7
<b>Shape of sore</b>		
Round	38	64.4
Abnormal	21	35.6

Table 5.1(continued) Percentage and distribution of Symptoms of Sexually Transmitted Infections (male)

STI symptoms	Number	Percentage
<b>Have you ever had a rash</b>		
Yes	67	33.0
No	134	66.0
<b>Is it itch</b>		
Yes	34	50.0
No	34	50.0
<b>Color of rash</b>		
Red	55	80.9
White	11	16.2
others	2	2.9
<b>Fever with rash</b>		
Yes	56	45.2
No	69	54.8
<b>Rectal pain</b>		
Yes	75	37.5
No	125	62.5
<b>Pus like discharge from the tip of penis</b>		
Yes	75	36.9
No	128	63.1
<b>Stinging sensation during urination</b>		
Yes	69	34.0
No	134	66.0
<b>Frequent urination</b>		
Yes	124	61.1
No	79	38.9
<b>Blood in urine</b>		
Yes	102	50.2
No	101	49.8
<b>Swelling on the of the glands in groin</b>		
Yes	82	40.4
No	121	59.6
<b>Head of penis turns red</b>		
Yes	61	30.0
No	142	70.0

**Symptoms of sexually transmitted infections in last 6months (female):**

Table 5.2 shows the symptoms of sexually transmitted infections in last months of female respondents. 11.8 percent of total female respondents got STI. 16.4 percent said they got single or multiple sores on their body. Among them, 96.9 percent said the sore is painful and 62.5 percent said it is soft, 68.8 percent said the shape is round. In the total female respondents, 27.7 percent got rash in past 6 months. Among them, 77.8 percent said it is itchy and 77.8 percent said the color is red. Over one third (38.4 percent) got fever together with rash. 42.1 percent of female respondents got rectal pain. 15.4 percent got burning sensation during urination. 47.2 percent got abnormal

vaginal discharge. Among them, Half (51.4 percent) said the discharge is foul smelling, and 73.8 percent said it is itch. Half (51.1 percent) of them who got abnormal discharge said the color of discharge is red. In total female respondents, 28.1 percent got irritation of the outer area of vagina. Over one third (34.6 percent) got pelvic pain, 38.8 percent got coital pain and 51.2 percent got spotting after sex.

Table 5.2: Percentage and distribution of Symptoms of sexually transmitted infections (female)

Symptoms of STI	Number	Percentage
<b>Have you ever had STI</b>		
Yes	23	11.8
No	172	88.2
<b>Single or multiple sores</b>		
Yes	32	16.4
No	163	83.6
<b>Sore painful</b>		
Yes	31	96.9
No	1	3.1
<b>Consistency of sore</b>		
Firm	12	37.5
soft	20	62.5
<b>Shape of sore</b>		
Round	22	68.8
Abnormal	10	31.2
<b>Have you ever had rash</b>		
Yes	54	27.7
No	141	72.3
<b>Does it itch</b>		
Yes	30	62.5
No	18	37.5
<b>Color of rash</b>		
Red	42	77.8
White	9	16.7
other	3	5.6
<b>Fever with rash</b>		
Yes	38	38.4
No	61	61.6
<b>Rectal pain</b>		
Yes	82	42.1
No	113	57.9



Table 5.2: (continued) Percentage and distribution of Symptoms of sexually transmitted infections (female)

Symptoms of STI	Number	Percentage
<b>Burning sensation during urination</b>		
Yes	30	15.4
No	165	84.6
<b>Vaginal discharge</b>		
Yes	92	47.2
No	103	52.8
<b>Discharge foul smelling</b>		
Yes	54	51.4
No	51	48.6
<b>Does it itch</b>	76	73.8
Yes	27	26.2
No		
<b>Color of discharge</b>	47	51.1
Red	23	25.0
White	22	23.9
others		
<b>Irritation of the outer area of vagina</b>	47	28.1
Yes	120	71.9
No		
<b>Abdominal pain</b>	64	34.6
Yes	121	65.4
No		
<b>Sex painful</b>	66	38.8
Yes	104	61.2
No		
<b>Spotting after sex</b>	87	51.2
Yes	83	48.8
No		

#### 4.6 Safe Sexual behavior

In the sample population of 406 respondents, 384 respondents are sexually active.

Among them, more than one third (38 percent) have causal sexual partners. Nearly two third (64.6 percent ) of total respondents refuse intercourse with unknown partner. 81.2 percent decided to be faithful to their spouse forever. More than half (54.9 percent) had only one sexual partner in their life time. The consistent condom use rate is (66.7 percent).

Table 6.1: Frequency and percentage distribution of sexually active and inactive respondents

respondents	Number	percentage
Sexually active	384	94.6
Sexually inactive	22	5.4

Table 6.2: Frequency and percentage distribution of the respondents by items analysis of safe sex behavior

Safe sex behavior		Number	Percentage
Do you have causal sexual partner?	Yes	146	38.0
	No	238	62.0
Do you refuse sexual intercourse with unknown partner?	Yes	248	64.6
	No	136	35.4
Have you decided to be faithful to your spouse forever?	Yes	312	81.2
	No	72	18.8
Do you have sex with only one sexual partner	Yes	211	54.9
	No	173	45.1
Do you use condom every time you have sex other than your spouse?	Yes	256	66.7
	No	128	33.3

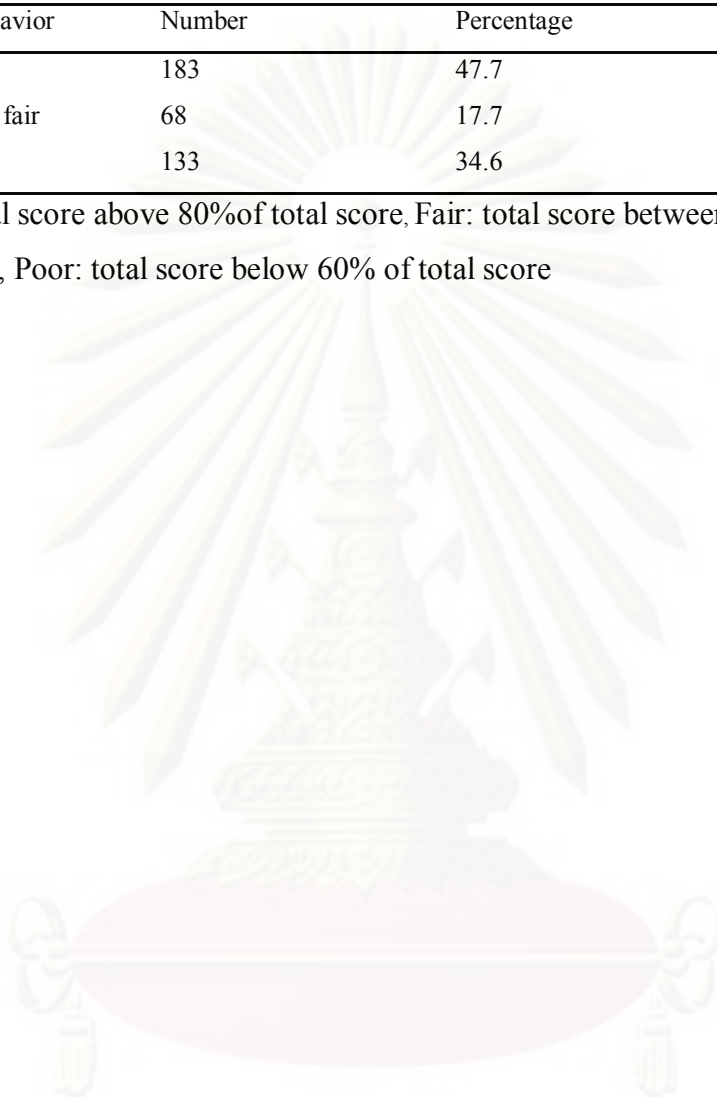
In order to summarize the safe sex behavior, the distribution of attitude level is shown table 6.3. 47.7 percent of the total respondents have poor sexual behavior, 17.7 percent has moderate or fair and 34.6 percent of the total respondents has good sexual behavior.

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Table 6.3: Number and percentage of respondents by level of Safe Sex Behavior

Safe sex behavior	Number	Percentage
Poor	183	47.7
Moderate or fair	68	17.7
Good	133	34.6

Good: total score above 80% of total score, Fair: total score between 60% and 80% of total score, Poor: total score below 60% of total score



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## Bivariate Analysis

Bivariate analysis of Socio-demographic characteristics of the respondents and Safe sexual behavior

The table (7.1) shows that safe sex behavior associated with socio-demographic characteristics. The association between socio-demographic characteristics and safe sex behavior was determined by the chi-square test.

Table 7.1: Association between socio-demographic characteristics and safe sex behavior

Socio-demographic characteristics	Safe sex behavior			Total n(%)	Chi-square	P value
	Poor n(%)	Fair n(%)	Good n(%)			
<b>Age:</b>						
19-28 years	66(37.1%)	37(20.8%)	75(42.1%)	178(100%)	26.458	<0.001
29-38 years	95(65.1%)	19(13.0%)	32(21.9%)	146(100%)		
<38 years	22(42.3%)	11(21.2%)	19(36.5%)	52(100%)		
<b>Gender:</b>						
Male	121(65.8%)	50(27.2%)	13(7.1%)	184(100%)	1.197	<0.001
female	62(31.0%)	18(9.0%)	120(60.0%)	200(100%)		
<b>Marital status:</b>						
Single	72(49.3%)	29(19.9%)	45(30.8%)	146(100%)	26.696	<0.001*
Married	83(40%)	39(18.9)	84(40.8%)	206(100%)		
Divorced/ widowed	28(87.5)	0(0%)	4(12.5%)	32(100%)		
<b>Religion:</b>						
Buddhism	122(48.0%)	24(13.4%)	98(38.6%)	254(100%)	16.902	0.002*
Islam	35(39.8%)	25(28.4%)	28(31.8%)	88(100%)		
Christianity	26(61.9%)	9(21.4%)	7(16.7%)	42(100%)		
<b>Education:</b>						
No	17(60.7%)	11(39.3%)	0(0%)	28(100%)	35.604	<0.001*
Primary	43(40.6%)	16(15.1%)	47(44.3%)	106(100%)		
Secondary	89(58.2%)	21(13.7%)	43(28.1%)	153(100%)		
High school & above	34(35.1%)	20(20.6%)	43(44.3%)	97(100%)		
<b>Present job:</b>						
Rubber planting					1.046	<0.001*
Factory	4(16.7%)	16(66.7%)	4(16.7%)	24(100%)		
Fishing	32(28.1%)	22(19.3%)	60(52.6%)	114(100%)		
General	67(75.3%)	16(18.0%)	6(6.7%)	89(100%)		
Jobless	19(50.0%)	2(5.3%)	17(44.7%)	38(100%)		
others	3(33.3%)	2(22.2)	4(44.4%)	9(100%)		
	58(52.7%)	10(9.1%)	42(38.2)	110(100%)		

Table 7.1: (continued) Association between socio-demographic characteristics and safe sex behavior

Socio-demographic characteristics	Safe sex behavior			Total n(%)	Chi-square	<i>P</i> value
	Poor n(%)	Fair n(%)	Good n(%)			
<b>Duration</b>						
<4years	40(24.1%)	41(24.7%)	85(51.2%)	166(100%)	66.857	<0.001*
4-7years	61(61.6%)	12(12.1%)	26(26.3%)	99(100%)		
>7years	82(68.9%)	15(12.6%)	22(18.5%)	119(100%)		
<b>Income:</b>						
<5000B	58(45.3%)	26(20.3%)	44(34.4%)	128(100%)	19.577	0.001*
5000-7000B	72(62.6%)	18(15.7%)	25(21.7%)	115(100%)		
>7000B	53(37.6%)	24(17.0%)	64(45.4%)	141(100%)		
<b>Expense</b>						
2000-4000B	130(57.5%)	39(17.3%)	57(25.2%)	226(100%)	28.422	<0.001*
4500-7000B	33(34.4%)	21(21.9%)	42(42.8%)	96(100%)		
>7000B	20(32.3%)	8(12.9%)	34(54.8%)	62(100%)		

Table (7.2) shows the association between socio-demographic characteristics and sexually transmitted infection.

Table 7.2: Association between socio-demographic characteristics and sexually transmitted infection (STI)

Socio-demographic characteristics	Sexually transmitted infection		Total n(%)	Chi-square	P value
	Yes	No			
<b>Age:</b>					
19-28 years	18(10.1%)	160(99.9%)	178(100%)		
29-38 years	46(31.5%)	100(68.5%)	146(100%)	32.203	<0.001*
<38years	2(3.8)	50(96.2%)	52(100%)		
<b>Gender:</b>					
Male	42(22.8%)	142(77.2%)	184(100%)		0.007*
female	24(12.0%)	176(88.0%)	200(100%)		
<b>Marital status:</b>					
Single	17(11.6%)	129(88.4%)	146(100%)		
Married	40(19.4%)	166(80.6%)	206(100%)	6.410	0.041*
Divorced/ widowed	9(28.1%)	23(71.9%)	32(100%)		
<b>Religion:</b>					
Buddhism	44(17.3%)	210(82.7%)	254(100%)		
Islam	9(10.2%)	79(89.8%)	88(100%)	8.559	0.014*
Christianity	13(17.3)	29(69.0%)	42(100%)		
<b>Education:</b>					
No	5(17.9%)	23(82.1%)	28(100%)		
Primary	21(19.8%)	85(80.2%)	106(100%)	13.768	0.003*
Secondary	14(9.2%)	139(90.8%)	153(100%)		
High school & above	26(26.8%)	71(73.2%)	97(100%)		
<b>Present job:</b>					
Rubber planting	0(0%)	24(100.0%)	24(100%)		
Factory	11(9.6%)	103(90.4%)	114(100%)		
Fishing	30(33.7%)	59(66.3%)	89(100%)	38.471	<0.001*
General	0(0%)	38(100%)	38(100%)		
Jobless	0(0%)	9(100%)	9(100%)		
others	25(22.7%)	85(77.3%)	110(100%)		
<b>Duration</b>					
<4years	7(4.2%)	159(95.8%)	166(100%)		
4-7years	23(23.2%)	76(76.8%)	99(100%)	36.433	<0.001*
>7years	36(30.3%)	83(69.7%)	119(100%)		
<b>Income:</b>					
<5000B	16(12.5%)	112(87.5%)	128(100%)		
5000-7000B	35(30.4%)	80(69.6%)	115(100%)	19.577	0.001*
>7000B	15(10.6%)	126(89.4%)	141(100%)		
<b>Expense</b>					
2000-4000B	51(22.6%)	175(77.4%)	226(100%)		
4500-7000B	11(11.5%)	85(88.5%)	96(100%)	28.422	0.224
>7000B	4(6.5%)	58(93.5%)	62(100%)		

Table 7.3 shows the relationship between working environment and safe sex behavior.

Table 7.3: Association between working environment and safe sex behavior

Working environment	Safe sexual behavior			Total n(%)	Chi-square	P value
	poor	fair	good			
<b>Working years</b>						
<1year	11(14.7%)	14(18.7%)	50(66.7%)	75(100%)	60.387	<0.001*
1-4years	76(46.3%)	33(20.1%)	55(33.5%)	164(100%)		
>5years	93(66.0%)	21(14.9%)	27(19.1%)	141(100%)		
<b>Working hrs/day</b>						
6-9hours	52(35.9%)	35(24.1%)	58(40.0%)	145(100%)	18.281	0.001*
10-14hours	119(56.9%)	27(12.9%)	63(30.1%)	209(100%)		
>14hours	9(34.6%)	6(23.1%)	11(42.3%)	26(100%)		
<b>Working time of day</b>						
Day	58(30.4%)	26(13.6%)	107(56.0%)	191(100%)	1.187	<0.001*
Night	45(65.2%)	19(27.5%)	5(7.2%)	69(100%)		
Alternate	33(46.5%)	21(29.6%)	17(23.9%)	71(100%)		
others	44(100%)	0(0%)	0(0%)	44(100%)		
<b>Job location</b>						
Down town	77(38.7%)	26(13.1%)	96(48.2%)	199(100%)	68.015	<0.001*
Village	17(38.6%)	7(15.9%)	20(45.5%)	44(100%)		
Countryside	27(48.2%)	20(35.7%)	9(16.1%)	56(100%)		
others	59(77.6%)	13(17.1%)	4(5.3%)	76(100%)		
<b>Job needs to travel or not</b>						
Yes	101(72.7%)	17(12.2%)	21(15.1%)	139(100%)	55.501	<0.001*
No	79(33.5%)	49(20.8%)	108(45.8%)	236(100%)		

Table (7.4) shows the relationship between working environment and STI.

Table 7.4: Association between working environment and sexually transmitted infection

Working environment	Sexually transmitted infection		Total n(%)	Chi-square	P value
	Yes	No			
<b>Working years</b>					
<1year	2(2.7%)	73(97.3%)	75(100%)		
1-4years	21(12.8%)	143(87.2%)	164(100%)		
>5years	43(30.5%)	98(69.5%)	141(100%)	30.329	<0.001*
<b>Working hours per day</b>					
6-9hours	14(9.7%)	131(90.3)	145(100%)		
10-14hours	50(23.9%)	159(76.1%)	209(100%)		
>14hours	2(7.7%)	24(92.3%)	26(100%)	14.517	0.323
<b>Working time of day</b>					
Day	5(2.6%)	186(97.4%)	191(100%)		
Night	19(27.5%)	50(72.5%)	69(100%)		
Alternate	17(23.9%)	54(76.1%)	71(100%)		
others	25(56.8%)	19(43.2)	44(100%)	82.899	0.001*
<b>Job location</b>					
<b>Down town</b>	26(13.1%)	173(86.9%)	199(100%)		
Village	2(4.5%)	42(95.5%)	44(100%)		
Countryside	9(16.1%)	47(83.9%)	56(100%)		
Others	29(38.2%)	47(61.8%)	76(100%)	29.937	0.005*
<b>Job needs to travel</b>					
Yes	46(33.1%)	93(66.9%)	139(100%)		
No	20(8.5%)	216(91.5%)	236(100%)	38.703	0.014*

Table 8 reveals the association between safe sex behavior and sexually transmitted infection.

Table 8. Association between safe sex behavior and sexually transmitted infection

Safe sex behavior	Sexually transmitted infection		Total n(%)	Chi-square	p-value
	Yes	No			
<b>Poor</b>	64(35.0%)	119(65.0%)	183(100%)		
<b>Fair</b>	1(1.47%)	67(98.53%)	68(100%)	78.006	0.003*
<b>Good</b>	2(1.5%)	131(98.5%)	133(100%)		



## CHAPTER V

### DISCUSSION, CONCLUSION AND RECOMMENDATION

#### **Discussion**

Based on the objectives and hypothesis of this study, it was designed as cross sectional study among the 406 Myanmar migrants in Muang District, Ranong Province, Thailand. The quantitative method of information collection and analysis was used by using the self-administered questionnaires and the data collection was done in March, 2010.

The main objectives of this study are (1) to describe the living and working environment and (2) to find the association between socio-demographic characteristics and working environment to safe sexual behavior and prevalence of STI (sexually transmitted infection). Analysis of each variable, chi-square test is used to find the association between the dependent and independent variables.

#### **5.1 Safe sexual behavior**

Among the sample population of 406 respondents, 384 respondents are sexually active. The level of safe sex behavior was categorized into, poor, fair and good. In the total 384 respondents, 183(47.7%) had poor sex behavior, 68 (17.7%) had moderate and 133 (34.6%) had good sexual behavior.

#### **5.2 Living environment**

Living environment is one important protective factor against inappropriate sexual behavior. As empirical suggested that human behavior depends upon the environment they live in. Youth living independently from family has more freedom and environment could lead them to sexual experiences (Galambos and Tilton-Weaver, 1998). Isarabhakdi (2000) also found that young males whose parents were presence in the family were less likely to have premarital sex in comparison with young males who lived with families or relatives. Majority of Myanmar migrants lived in a rent room with spouse or with roommates.

In my study, half of the respondents live in down town and about 15% live in the boats who were fishermen. Only 40.4 % lived with families. Most of the fishermen lived away from their families and they live with other fishermen. Living away from the families is also a risk factor for the unsafe sex behavior. Over half of the respondents used indoor tap water and water was enough for most of them. For the drinking water, nearly half of the subjects drank purified drinking water. Ventilation system and the lighting level were poor for the ones who live near the construction sites and factories. A survey done in 2000 showed that in Chiang Mai, most of them who worked on construction sites, the water provided for bathing and washing clothes was unsanitary, and often came from a shallow well dug on the site that may collect run-off from construction. In 2001, another survey showed 47% of females and 59% of males from various Burmese ethnic groups working in different occupations and locations in Thailand had diarrhea in past six months (Pinprateep, 2001).

There was significant association between living condition and safe sex behavior. The migrants who live alone had poor sexual behavior comparing other groups. The Myanmar migrants who live with families had good sexual behavior. It is reliable with the previous study (Nan, 2008). Respondents who lived in a dormitory or a house were more likely to engage in sexual activity than those who live with parents or families. The respondents who live alone or with the roommates have more chance to do unsafe sex because they don't need care to their families.

### **5.3 Safe sex behavior and sexually transmitted infection**

The association between safe sex behavior and sexually transmitted infection is statistically significant. The respondents with poor sex behavior are more likely to get sexually transmitted infection. In the fair and good sex behavior group, only less than 2% of them had sexually transmitted infection when the 35% of respondents with poor sex behavior had sexually transmitted infection.

### **5.4 Safe sex behavior from socio-demographic characteristics aspect**

Regarding descriptive information, studies in Thailand also suggested that changes in socio-demographic circumstances have a direct influence on the youth's

social and sexual lifestyle (Podhista & Pattaravanich, 1995; Ford & Isarabhakdi, 1996).

The average age of the respondents were 25-35, most of them are Barma, Buddhist, the average monthly income was 4000-5000 bahts and 91.9% of all respondents had attained primary education. Most of male respondents were fishermen and female were factory workers.

In this study, younger age group (19-28 years) are more likely to have good safe sex behavior comparing to the middle age and old age group. Old age group (above 38 years) are not sexually active comparing to younger age groups. For the middle age groups, they are sexually active and have more experience and already have long time of marriage. So they may feel bored to their spouse and want to have sex with other partners. So they have poor sexual behavior. The results are same as the result of the previous study done in Samut Sakhon Province, Thailand, which found that the young age group showed tendency toward intention to use condom compare with the older group. The longer duration of stay in Thailand was negatively associated with the safe sex behavior, with the p-value  $<0.005$ . The finding was consistent with the previous study found among Myanmar migrant fishermen (Paw, 2006). This study showed that earning more income was positively associated with the safe sex behavior. The respondents with more income were more likely to practice safe sex behavior. It was same as the results of previous study (Kyaw, 2008). Majority of respondents are married. The married group had higher in practicing safe sex more than other groups. The reason is that married people have their regular partners and they did not find another extramarital sex and they believe to be faithful to their sexual partners. 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 STI from their spouses and even to their children. Married people can openly discuss each other about sex and they are not too shy about it. For the single group, they have no regular partners and they do not deeply know faithfulness to spouse. So even they use condom from outside sex, they are weak in keeping faithfulness to their spouses or their unusual partners. This is different from the previous studies of 10 years ago and 6 years ago in Thailand, in which the married

groups are not likely to use condoms(Cho C. A, 2002)(Khaing NN, 1998).The results showed that the divorced or widowed people had the worst sexual behavior comparing to the people with other marital status, (p-value <0.005).The educational status was statistically associated with safe sex behavior. Respondents with secondary and higher educational status had better sexual behavior than the respondents with middle and lower educational status. It is same as the previous study in Smut Sakorn (Kyaw, 2008). The higher the educational status, the higher the health knowledge. So the people with high educational status had the better sexual behavior.

The gender is one of the important factors for safe sex behavior. Females had better sexual behavior than the males. It is because of Myanmar culture. The type of job is also statistically associated with the safe sex behavior. Fishermen had the worse sex behavior comparing to the other jobs. Fishermen had to travel due to their job so they were far away from their families and when they want to had sex, they had to make sex with commercial sex workers or causal partners.

### **5.5 Safe sex behavior from the aspect of working environment**

Same as the duration of stay in Thailand, the duration of working of the current job was negatively associated with safe sex behavior. The working year of current job more than 5 years had the worst sexual behavior. The working time of the day had statistically associated with the safe sex behavior (p-value <0.005). The people who work at night had the worst sexual behavior. Commercial sex workers are working at night, so the respondents who are working at night had more chance to have sex with them. According to the job location, respondents who are working in the sea (fishing) had poor sex behavior. They are working far away from their families and spouses, so they had chance to sex with commercial sex workers and causal partners. Besides, as they live in same boat for a long time and they are isolated from the community when they were in the sea, a sexual behavior of one fisherman may easily transmit to other. And this may lead to homo sex. Same as this reason, the respondents who need to travel due to their job had poor sexual behavior comparing to the ones who do not need to travel (p-value <0.005).

### **5.6 Prevalence of STI according to socio-demographic characteristics aspect**

The sexually transmitted infection occurred mostly in 30-40 years age group. As I mentioned above, this age group has the poor sex behavior. So they have more chance to get sexually transmitted infection. STI occurs mostly in males than females. It is because males are more sexually active and had poor sex behavior than females. For the marital status, the divorced and widowed group had the highest prevalence of STI comparing to other marital statuses. It is because as mentioned above, this group has the poor sexual behavior than other groups. The prevalence of STI was highest in the higher education group (26.8%) comparing to no education, primary and secondary educational groups. The reason is that, the respondents with low educational status have low level of health knowledge. So when they suffered the symptoms of sexually transmitted diseases, they didn't go to the STI clinics and they didn't know that they had sexually transmitted infection. So the results were reverse to the real world. The respondents with fishing job had the highest prevalence of sexually transmitted infection because of their poor sexual behavior. The duration of stay in Thailand was statistically associated with the prevalence of STI. The respondents who had been living 7 years and above in Thailand had the poor sexual behavior than other groups. The middle income group (5000- 7000 bahts) had highest prevalence of sexually transmitted infection and it is statistically significant ( $p\text{-value} < 0.001$ ).

### **5.7 Prevalence of STI from the aspect of working environment**

There was statistically significant association between the working years and sexually transmitted infection. It is like duration of stay in Thailand, the longer the duration, the poorer the sexual behavior. Most of the respondents who had been living over 4 years possess work permit. For the respondent who just arrived to Thailand, most of them didn't have work permit, so they were not dare to go anywhere freely because they don't want to be arrested. So, they had less chance to go for outside sex. The people who had been living longer duration in Thailand had more chance to get sexually transmitted infection. As there has significant association between safe sex behavior and sexually transmitted infection, the risk factors for safe sex behavior are also risk factors to get sexually transmitted infection.

## **Conclusion and Recommendation**

This cross-sectional study was aimed to determine the safe sex behavior and sexually transmitted infections among Myanmar migrant workers in Muang District, Ranong Province, Thailand. This study also describes the socio-demographic characteristics, living environment and working environment. The target population is Myanmar migrant workers of aged 19-50 years. Total of 406 migrants were interviewed by self administered questionnaires as a research instrument. Data was analyzed by using statistical methods, chi-square test for association between variables and descriptive statistics for their number, percentage and frequency of respondents.

The safe sexual behavior and sexually transmitted infection are statistically associated with the socio-demographic characteristics and working environment. Type of job is important for safe sex behavior in this study. The fishermen have the worst sex behavior comparing to other job types. It is because most of the fishermen are away from their wives and families for a long time, so they came to commercial sex workers and had casual sexual partners. The consistent condom usage is highest in the high educational group.

Health education and condom promotion program is necessary for the migrant workers in Ranong Province because the result indicated that the consistent condom usage was 66.7%.

Also health education program for sexually transmitted infections and provide more STI clinics. 16.9% of total respondents had STI.

Regarding safe sex behavior, only 34.6% had good level of safe sex behavior. The middle and higher income group had better sexual behavior than the low income group. There was significant relationship between educational level and safe sex behavior, the higher the educational level, the better the sexual behavior. And the

respondents who need to travel had poor sex behavior comparing to the respondents who don't need to travel.

Among the 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 sexually transmitted diseases.

Since the study had limitation by the 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.

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 male only.

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

In future study, knowledge and attitude should be tested and not only objective knowledge but also perceived knowledge as well to be able to explain more about the association between knowledge and STI preventive behavior.

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



**APPENDICES**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

**APPENDIX A**  
**Informed Consent Form**

*Instruction: Please modify this form accordingly*

Address

.....

Date .....

**Code number of participant** .....

I who have signed here below agree to participate in this research project **Title:** “LIVING AND WORKING ENVIRONMENT ASSOCIATED WITH THE SEXUAL BEHAVIOR AND HEALTH STATUS RELATED WITH UNSAFE SEX BEHAVIOR OF MYANMAR MIGRANT WORKERS IN MUANG DISTRICT, RANONG PROVINCE, THAILAND”

**Principle researcher’s name** .....Mr Yan Naing Aung...

**Contact address :** 521/3-4 Soi Sriyuthaya Road, Payathai district ,Rajthavee, Bangkok, Thailand 10400

**Telephone** .....0853448722.....

I have (**read or been informed**) about rationale and objective(s) of the project, what I will be engaged with in details, risk/harm and benefit of this project. The researcher has explained to me and I **clearly understand with satisfaction.** I willingly **agree** to participate in this project and consent the researcher to answer the self-administered questionnaire for approximately 20 minutes.

I have **the right** to withdraw from this research project at any time as I wish with no need to **give any reason.** This withdrawal **will not have any negative impact upon me (eg: still receive the usual services).**

Researcher has guaranteed that procedure(s) acted upon me would be exactly the same as indicated in the information. Any of my personal information will be **kept confidential.** Results of the study will be reported as total picture. Any of personal information which could be able to identify me will not appear in the report.

**If I am not treated as indicated in the information sheet,** I can report to the Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4 Floor, Soi Chulalongkorn 62, Phyat hai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: [eccu@chula.ac.th](mailto:eccu@chula.ac.th),

I also have received a copy of information sheet and informed consent form

Sign .....

(...Mr. Yan Naing Aung...)

Researcher

Sign .....

(.....)

Participant

Sign .....

(.....)

ศูนย์วิจัยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## APPENDIX B

### Questionnaires

LIVING AND WORKING ENVIRONMENT, AND FACTORS ASSOCIATED  
WITH THE SAFE SEX BEHAVIOR AND SEXUALLY TRANSMITTED  
INFECTION OF MYANMAR MIGRANT WORKERS IN  
MUANG DISTRICT, RANONG 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 the blanks, or marking with a X in the box.

1. Please indicate your age,..... years

2. What is your gender

Male female

3. What is your religion?

Buddhism

- Islam
  - Christianity
  - Others (specify) .....
4. What is your level of education?
- No education
  - Primary school
  - Secondary school
  - High school
  - Others (specify).....
5. What is your marital status?
- Single
  - Married
  - Divorced/separated/
  - widowed
6. What is your present job?
- Rubber planting worker
  - Factory worker
  - Fisherman
  - General worker
  - Jobless
  - Others (specify).....

7. What is your family's monthly income?.....(bahts)
8. How long have you been staying in Thailand?
9. How much is your household expense monthly?.....(bahts)

### Part 2.Living Environment

10. Where do you live in?

- Down town      village      countryside      other (specify).....

11.How do you live?

- with family      alone      with room-mates  
other(specify).....

### If you live with room-mate, please answer question no. 12

12. what kind of roommate do you have?

- same gender      opposite gender

13.Where do you get water for everyday use?

- Indoor tap water      Shared tap      Well      other (specify)

14. Is the water source enough for everyone's daily use?

Yes       no

15. What is your drinking water?

- purified drinking water      tap water      boiled water      others(specify)

16.Where does your waste water go?

- central sewerage system      Roadside drain      nearby water  
body      other(specify).....

17.What is the ventilation of your housing?



very good   good   fair   poor

18. What is the lighting of your housing?

very good   good   fair   poor

### Part.3 Working Environment

19. How many working hours per day?

20. What time are you working?

day   night   alternate   other(specify)

21. Do you currently possess a work permit?

yes   no

22. How long have you been working at your current job?

23. What is the location of your job?

Down town   village   countryside   other (specify).....

24. Does your job need to travel?

yes   No

25. If your job needs to travel, how long does it take?

one day   less than one week   more than one week

26. What is the ventilation of your work place?

very good   good   fair   poor

27. What is the lighting of your work place?

very good   good   fair   poor

### Part.4 Sexual Behavior

28. Age at first sexual encounter \_\_\_\_\_

29. Number of sexual partners in last 3 months \_\_\_\_\_ In last 6 months \_\_\_\_\_

30. Number of times a condom was used in your last 5 sexual encounters \_\_\_\_\_

31. Have you ever had oral sex?

Yes  no

32. Have you ever had vaginal sex?

Yes  no

33. Have you ever had anal sex?

Yes  no

34. Have you ever had homosex?

Yes  no

35. When was the last time you had sex of any type with a partner? \_\_\_\_\_

36. Have you ever had sex with male sex worker?

Yes  no

37. Have you ever had sex with female sex workers?(for male only)

Yes  no

38. If yes, do you use condom when you have sex with sex worker? (for male only)

Always  often  sometimes  never

39. Do you have causal sexual partners? (causal sexual partner is somebody you have sex with only, without paying or without having relationship)

Yes  no

40.If yes, where did you have sex?

Hotel  home  other (specify).....

41.Total number of causal sexual partners you had during your life time?

Number of male causal sexual partners.....

Number of female causal sexual partners.....

42.The gender of your sexual partners?

Male  female  both

43.When you have sex with causal partner, how often did you use condom (from the beginning to the end) (for male only)?

Always  often  sometimes  never

44.Do you refuse sexual intercourse with unknown partner?

Yes  no

45.Have you decided to be faithful to your spouse forever?

Yes  no

46.Do you have sex with only one sexual partner?

Yes  no

47.Do you use condom every time when you have sex other than your wife? (for male only)

Yes  no

48.Do you ask your partner to use condom when you have sex other than your husband?(for female only)

Yes  no

49. Do you refuse to have sex if your partner other than your husband wants to have sex without using condom?(for female only)

Yes  no

### **Part. 5 Health Status related to unsafe sexual behavior (STI)**

#### **Sexual history:**

50. Have you had a sexually transmitted infection?

Yes  no

51. If yes, please list the year and type of infection \_\_\_\_\_

#### **Symptoms**

In past six months

52. Did you notice a single sore or multiple sores on your body?

Yes  no

If yes,

53. Is it painful?

Yes  no

54. Is it firm or soft?

firm  soft

55. What's the shape?

round  abnormal

56. Have you noticed rash over your body?

Yes  no

If yes,

57. Does it itch?

Yes  no

58. What is the color of the rash?

59. Have you got fever when you noticed the rash?

Yes  no

60. Have you got rectal pain?

Yes  no

For female only,

61. Have you got abnormal bleeding?

Yes  no

62. Did you get burning sensation during urination?

Yes  no

63. Have you noticed vaginal discharge?

Yes  no

If yes,

64. Is it foul smelling?

Yes  no

65. Does it itch?

Yes  no

66. What's the color of the discharge?

67. Have you got general irritation of the outer area of vagina?

Yes  no

68. Are you having abdominal or pelvic pain?

Yes  no

69. Was the sex painful?

Yes  no

70. Did you get spotting after sex?

Yes  no

Male only

71. Did you notice a yellow pus like discharge from the tip of the penis?

Yes  no

72. Have you got stinging during urination?

Yes  no

73. Have you got frequent urination?

Yes  no

74. Did you notice blood in urine?

Yes  no

75. Did you notice swelling of the glands in groin?

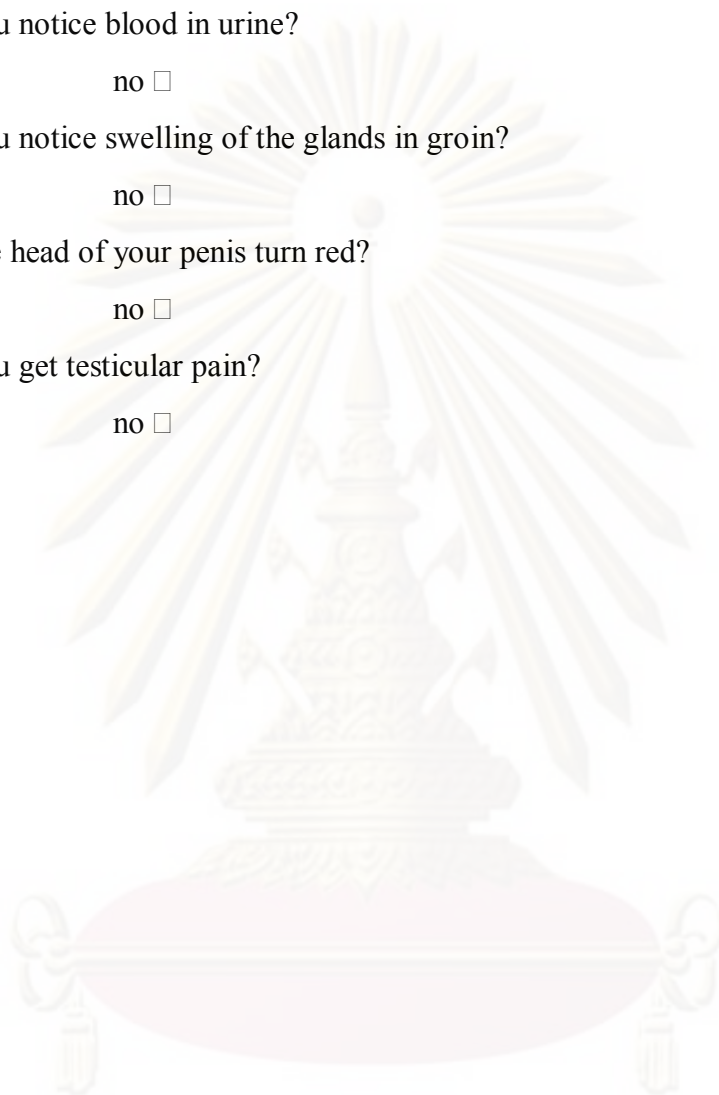
Yes  no

76. Did the head of your penis turn red?

Yes  no

77. Did you get testicular pain?

Yes  no



ศูนย์วิทยุทรัพยากร  
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**APPENDIX C**  
**Schedule of Activities**

Activities	Time frame								
	Sep09	Oct09	Nov09	Dec09	Jan10	Feb10	Mar10	Apr10	May10
1.Consulting advisor									
2.Literature review									
3.Writing proposal									
4.Submission for proposal exam									
5.Take proposal exam									
6.Submit to Ethical committee									
7.Pretest instrument									
8.Data collection									
9.Data analysis									
10.Article writing									
11.Thesis writing									
12.Final defense									
13.Submission of thesis									

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## APPENDIX D

## Budget

No.	Activities	Unit Price (THB)	Number	Total budget
1.	Pretest	8/set	30 sets	240
	Photo copying	20/set	30 sets	600
	Stationeries			
				<b>840</b>
2.	Data collection	3/set	450 sets	1350
	Photocopying	20/set	50 sets	1000
	Stationery	200/person	3 x 14 days	8400
	Interviewers per diem	1000/person/trip	3 persons	3000
		500/night	14 days	7000
	Transportation cost	30/person	422 persons	12660
	Accommodation			
Presents for subjects				
				<b>33,410</b>
3.	Data printing	150/sets	1 set	150
	Paper + printing	75/book	6 books	450
	Photocopying	200/book	2 books	400
	Binding			2000
	Miscellaneous			
				<b>3,000</b>
<b>Grand total (1+2+3)</b>				<b>37,250</b>

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



**VITAE**

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 Education Background - M.B.,B.S(2009)  
 Institute of Medicine II,

Yangon, Myanmar

**Work Experience**

1. House Officer (Internship) - 1.6.2008 to 31.5.2009  
 Hospitals - North-Okkalapa General Hospital, Yangon,  
 Myanmar
2. Volunteer as a Medical Doctor  
 After Nargis in Myanmar - Mobile clinic team of WHO  
 Place - Kyaik Latt, Ayeyarwaddy Division, Myanmar

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