SUBSTANCE USE AND HIV-RELATED SEXUAL RISK BEHAVIORS AMONG MYANMAR MIGRANT WORKERS IN MAE SAI CHIANG RAI PROVINCE THAILAND

Mr. Htet Aung

A Thesis Proposal Submitted in the partial Fulfillment of the Requirements

for the Degree of Master of Public Health Program in Public Health

College of Public Health Sciences

Chulalongkorn University

Academic Year 2012

การใช้สารเสพติด และ พฤติกรรมทางเพศที่เสี่ยงต่อการติดเชื้อเอชไอวี ในแรงงานอพยพชาวพม่า ที่แม่สาย จังหวัดเชียงราย ประเทศไทย

เท็ต อ่อง

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต

สาขาวิชาสาธารณสุขศาสตร์

วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2555

Thesis Title	SUBSTANCE USE AND HIV-RELATED SEXUAL RISK BEHAVIORS AMONG MYANMAR MIGRANT WORKERS IN MAE SAI, CHIANG RAI PROVINCE, THAILAND
By	Mr. Htet Aung
Field of Study	Public Health
Thesis Advisor	Usaneya Perngparn, Ph.D.

Accepted by the College of Public Health Sciences, Chulalongkorn University in Partial Fulfillment of the Requirements for Master's Degree

…… Dean of the College of Public Health Sciences

(Professor Surasak Taneepanichskul, M.D.)

THESIS COMMITTEE

…… Chairperson

(Associate Professor Sathirakorn Pongpanich, Ph.D.)

…… Thesis Advisor

(Usaneya Perngparn, Ph.D.)

…….. External Examiner

(Associate Professor Sompoch Iamsupasit, Ph.D.)

เท็ต อ่อง: การใช้สารเสพติด และพฤติกรรมทางเพศที่เสี่ยงต่อการติดเชื้อเอช ไอ วี ในแรงงานอพยพชาวพม่า ที่แม่สาย จังหวัดเชียงราย ประเทศไทย (SUBSTANCE USE AND HIV-RELATED SEXUAL RISK BEHAVIORS AMONG MYANMAR MIGRANT WORKERS IN MAE SAI CHAINGRAI PROVINCE) อาจารย์ที่ปรึกษาวิทยานิพนธ์: อาจารย์ ดร.อุษณีย์ พึ่งปาน 80 หน้า

การย้ายถิ่นจากประเทศพม่ามาประเทศไทยเป็นที่ทราบกันดีตั้งแต่ต้นทศวรรษ 1990 แต่สิ่งที่ไม่ทราบคือเรื่องการใช้สารเสพติดและพฤติกรรมทางเพศในกลุ่มประชากรชาวพม่าที่แม่สาย ดังนั้นการศึกษาครั้งนี้จึงเป็นการศึกษาในกลุ่มแรงงานอพยพชาวพม่าที่แม่สาย จังหวัดเชียงราย ด้วยการสัมภาษณ์ เมื่อเดือนกุมภาพันธ์ 2556 วัตถุประสงค์ของการศึกษาครั้งนี้ เพื่อจะประเมินสถานการณ์การใช้สารเสพติดและพฤติกรรมเสี่ยงทางเพศในพื้นที่ดังกล่าว สุ่มตัวอย่างแบบเจาะจงจำนวน 308 คนที่มีอายุระหว่าง 18-56 ปี เป็นชายร้อยละ 53.9 และหญิงร้อยละ 46.1

ประชากรตัวอย่างรายงานว่า มีประสบการณ์สูบบุหรี่ (ชาย ร้อยละ 52.4 หญิงร้อยละ 2.1) และดื่มเครื่องแอลกอฮอล์ (ชาย ร้อยละ 81 หญิงร้อยละ 10.6) มีเพียงรายเดียวที่รายงานว่าเคยใช้สารเสพติดเมทแอมเฟตามีน ไม่มีผู้ที่รายงานว่าเคยฉีดสารเสพติด ผู้ตอบมีความรู้เรื่องเอช ไอ วี ไม่มาก ทั้งนี้มีความสัมพันธ์กับเพศ กลุ่มผู้หญิง ร้อยละ 59.2 ($p=0.008$) และผู้ที่มีการศึกษาต่ำ ร้อยละ 60.7 ($p<0.000$) การดื่มเครื่องดื่มแอลกอฮอล์ในปัจจุบันมีความสัมพันธ์กับกลุ่มผู้ชาย (ร้อยละ 77.7) ผู้ที่มีการศึกษาสูง (ร้อยละ 63.4) และเคยสูบบุหรี่ (รอยละ 76.7) อย่างมีนัยสำคัญ $p<0.001$ ส่วนการมีเพศสัมพันธ์หลังการดื่มฯ มีความสัมพันธ์กับอายุ ร้อยละ 40 ($p=0.001$) และผู้ที่มีคู่หรือสมรสแล้ว ร้อยละ 42 ($p<0.000$)

จากการศึกษาครั้งนี้นับเป็นการศึกษาเบื้องต้นที่จะนำไปสู่การศึกษาอื่นๆ ในเรื่องเกี่ยวกับพฤติกรรมทางสังคมที่เกี่ยวข้องกับการใช้สารเสพติด รวมถึงการดื่มเครื่องดื่มแอลกอฮอล์ และพฤติกรรมทางเพศ การให้ความรู้หรือการแทรกแซงจำเป็นจะต้อให้กับกลุ่มผู้หญิง และวัยรุ่นชาย เพื่อป้องกันการดื่มเครื่องดื่มแอลกอฮอล์ที่เสี่ยงตลอดไป

สาขาวิชา: สาธารณสุขศาสตร์ ลายมือชื่อนิสิต: .....

ปีการศึกษา 2555 ลายมือชื่ออาจารย์ที่ปรึกษา: .....

##5578808653: MAJOR PUBLIC HEALTH

KEY WORDS: SUBSTANCE USE / SEXUAL RISK BEHAVIOUR/ MYANMAR MIGRANT / CHIANG RAI / THAILAND

HTET AUNG: SUBSTANCE USE AND HIV-RELATED SEXUAL RISK BEHAVIORS AMONG MYANMAR MIGRANT WORKERS IN MAE SAI, CHAING RAI PROVINCE, THAILAND. ADVISOR: USANEYA PERNGPARN, Ph.D., 80 pp.

The migration from Myanmar to Thailand was already known since the early 1990's. But little is known about the substances use and sexual behavior in the migrants' population in Mae Sai, Chiang Rai Province, Thailand. Thus, a cross-sectional study with the use of an interview questionnaire was carried out to Myanmar migrant workers in February 2013. The main purpose of this study was to access current situation of substances use and sexual risk behaviors. The purposively selected 308 participants of the study were 18-56 years of age with 53.9% males and 46.1% females.

Among the respondents, ever smoking was found 52.4% in the males and 2.1% in the females. Ever alcohol drinking was found 80.7% in males and 10.6% in females and only one male methamphetamine user with no injection drug user was found. The low level of knowledge of HIV/AIDS was associated with being females (59.2%) (p=0.008) and low level of education (60.7%) (p<0.000). The current drinking status was associated with being males (77.7%), higher income (63.4%) and ever tobacco use (76.7%) with the p-value of <0.000. Sex after alcohol use was associated with older age (40%) (p= 0.001) and being married (42%) (p<0.000).

This study acted as a baseline for further studies as there still need to be studied on the social behaviors on the substances use including hazardous drinking and the sexual behaviors. Interventions are needed to focus the special consideration to include females in the HIV/AIDS knowledge promotion program and to give the early education to the young males to prevent alcohol drinking throughout their lives.

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

Academic Year : 2012 Advisor's Signature: …….

ACKNOWLEDGEMENTS

Firstly, I would like to thanks to my beloved parents and families for supporting and encouragement while I was studying. I would like to say special thanks to my elder sister who gave the funding support for my studies.

Furthermore, I would like to thanks to my respected advisor, Useanya Perngparn, Ph.D., for her kindly supporting, valuable guidance and thorough discussion throughout the study period. This will be unforgettable memories throughout my whole life.

I am also like to express my thanks to all my advisory committee Assoc. Prof. Sathirakorn Pongpanich, Ph.D. and Assoc. Prof. Sompoch Iamsupasit, Ph.D. for their valuable advices and opinions for my thesis. My great gratitude also goes to Assist. Prof. Apinum Aramratana, MD, Ph.D. for his kindly checking of my questionnaires and valuable comments. Moreover, I would like to thanks to all the staffs from the college of public health sciences for their patience and help during my study period.

I would also like to thank to the Director from Mae Sai Hospital and Mrs. Nutchira Pintha, the public health worker for her help and support during my study period. I am also great appreciation to the staffs and volunteers from Mae Sai Hospital.

I would like to thanks to all Myanmar migrant workers those shared their experiences, kindly contribution with patient and hearty help during my data collection.

Finally, but not the least, I would like to thanks to the Higher Education Research Promotion and National Research University Project of Thailand, Office of the Higher Education Commission with the account number (AS1148A-55) for the funding support for my thesis.

CONTENTS

Page

Page

LIST OF TABLES

Page

Page

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

AIDS	-	Acquired Immunodeficiency Syndromes
ATS	-	Amphetamine-type stimulants
ASEAN	-	Association of South East Asia Nations
CSW	-	Commercial sex worker
DALY	-	Disability - adjusted Life Years
FSW	-	Female sex workers
IBBS	-	Integrated Biological and Behavioral Surveillance
IDU	-	Injection drug users
INGO	-	International Nongovernmental Organization
IOM	-	International Organization for Migration
HIV	-	Human Immunodeficiency Virus
MSM	-	Man who sex with man
MSW	-	Male sex workers
NCD	-	Non- communicable Diseases
PWID	-	People who inject drugs
PMCT	-	Prevention of mother to child transmission of HIV
STI	-	Sexually transmitted infections
UNODC	-	United Nations Office on Drugs and Crime
UNAIDS	-	Joint United Nations Programme on HIV/AIDS
UNGASS	-	United Nations General Assembly Special Session on HIV/AIDS
UNHCR	-	United Nations High Commissioner for Refugees
WHO	-	World Health Organization

CHAPTER I

INTRODUCTION

1.1Background

HIV/AIDS will become the world leading cause of DALY in 2030 which increased from 3rd rank in 2002(Mathers & Loncar, 2006). Moreover, there were 34 millions of people with HIV including 2.7 million of people of acquired HIV infection in 2010(World Health Organization, 2011). Thus, it remains one of the most serious infections to public health. As a disease transmitted by contact between individuals, the movement of people becomes important role in the spread of HIV infection.

Nowadays, due to the effect of globalization and urbanization, migration has been increasing throughout the World and it becomes an important issue especially in public health. More people travel and migrate from one place to another to search for better income, settlement and education. Then the behaviors of the migrant people become sensitive and potential risk both for the host communities and also to themselves. Although migration plays a main role in stimulating and facilitation social, economic and development, irregular migration can increase the vulnerability to illness and infection. In that situation, the environments and their behavior become important role.

Migration increases vulnerable and tend to engage with the sexual risk behavior as the migrants have been separated from families, lack of support from the relatives and loneliness, social and cultural difference; become higher income, lack of a stable partner and language barriers. Moreover, sometimes, there has been poor knowledge and improper access to health care services including health education, care and treatment of STI, condom accessibility, HIV counseling and testing services.

Sexual risk behaviors include high number of sexual partner, inconsistent and improper use of condoms. Having multiple sexual partners in the migrant's area is assumed that the role of migration in the spread of HIV. (Lurie, Wilkinson, Harrison, & Abdool Karim, 1997).

Furthermore, migrants acquire infection and spread to their partners when they return to their native and spread of infection from one place to another and vice versa.

Another risk factor for migrants is the use of substances including alcohol and illicit drugs. Facing the new risk environment of easily accessible alcohol and drug in migrants are associate with increased the desire of sexual intercourse, having multiple partners and low rate of condoms uses especially with the illicit drug use (Lowry et al., 1994). Substance use can increase the risk of sexual risk behavior especially if they are being intoxicated. A study done in rural-to-urban migrants in China found that alcohol intoxicated people were more likely to engage with premarital sex, have multiple sexual partners and purchase sex (Lin et al., 2005).

1.1.1 HIV/AIDS situation in Thailand and Myanmar

With nearly 520,000 people (ages 15-49) living with HIV and AIDS, Thailand has the highest adult HIV prevalence in the South East Asia region (UNAIDS website). After 30 years of diagnosed the first case, HIV transmission still continues. From UNGASS 2012 Thailand report, HIV prevalence among FSW was 1.8% in 2011 and in 2010, MSM was 20.0%, followed by 17.7% among MSW and 10.4% among TG. IBBS conducted in Bangkok, Chiang Mai and Songkla in 2010 found that HIV prevalence among people who inject drugs (PWID) was 21.9%.

In Myanmar, the HIV epidemic is concentrated in nature and transmission is primarily occurring in high risk sexual contacts between sex workers and their clients, men who have sex with men. But a high level of transmission among injecting drug users is found through sharing of contaminated needles and syringe and with transmission to sexual partners. It was estimated that the HIV prevalence in the adult population (aged 15 and more) at 0.53% in 2011(National AIDS Programme, 2012a). From National HIV sentinel surveillance data from 2011 showed that male injecting drug users was 21.9% and the highest among the most at risk group followed by HIV prevalence female sex workers was 9.6% and men who have sex with men was 7.8%. It is estimated that around 216,000 people were living with HIV in Myanmar in 2011 and was estimated 18,000 people died of AIDS related illness. It was estimated that there were above 8,000 new infections in 2011.

1.1.2 HIV/AIDS situation in Myanmar Migrants in Thailand

As the increasing economic growth in Thailand has a greater demand for labor in nearby countries. There are 131,549 Myanmar migrants as registered by UNHCR, in 2006 to 95,330 displaced person registered in nine shelters along the Thailand – Myanmar border at the end of 2010. According to Bangkok Ministry of Labour 2010, there are total 1,078,767 (591,370 male and 487,397 female) registered migrant workers in Thailand from Myanmar.

In HIV & Migrants: Myanmar report by Asiadatahub in 2009 cited that HIV prevalence among migrants (the majority are from Myanmar), are higher than in the general population (World vision unpublished report). The IBBS found that HIV prevalence in Myanmar migrants was 1.16% (National AIDS Programme, 2012b).

1.2 Rationale

Mae Sai district in Chiang Rai province is included in the area of the Golden Triangle, the world notorious for opium cultivation, production and trafficking, and labor migration has been occurred in that area especially from Myanmar to Thailand. Thus understanding of the sexual behavior and substance use in the migrant workers are important for the policy makers to aware and design in the drug abuse controlled program.

Moreover, there is no study had been done for substance use and the sexual risk behaviors among the Myanmar migrant workers in Mae Sai, Chaing Rai Province, Thailand. An understanding of the risk behaviors among them will help for better outcomes and strategic approach to risk reduction activities for migrant population to the program planners.

1.3 Research Questions

1. What is the situation relation to the substance use (alcohol and illicit drug use) and HIV risk behavior in Myanmar Migrant workers in Mae Sai, Chiang Rai province, Thailand?

1.4 Research Objectives

1.4.1 General Objectives

To assess the current situation regarding substances use and sexual risk behavior in Myanmar Migrant workers in Mae Sai, Chiang Rai Province.

1.4.2 Specific Objectives

To describe the HIV/AIDS knowledge of Myanmar Migrants in Mae Sai

To identify the conditions of substance use in Myanmar Migrant workers in Mae Sai

To identify the sexual risk behaviors in Myanmar Migrants workers in Mae Sai

To identify the relationships between substance use (alcohol and illicit drug use) and sexual behaviors in Myanmar Migrant workers in Mae Sai

1.5 Research hypothesis

There is an association between socio-demographic characteristics of Myanmar migrant workers and substance use (alcohol, illicit drug use and tobacco smoking).

1.6 Conceptual Framework

1.6.1 Theoretical Framework

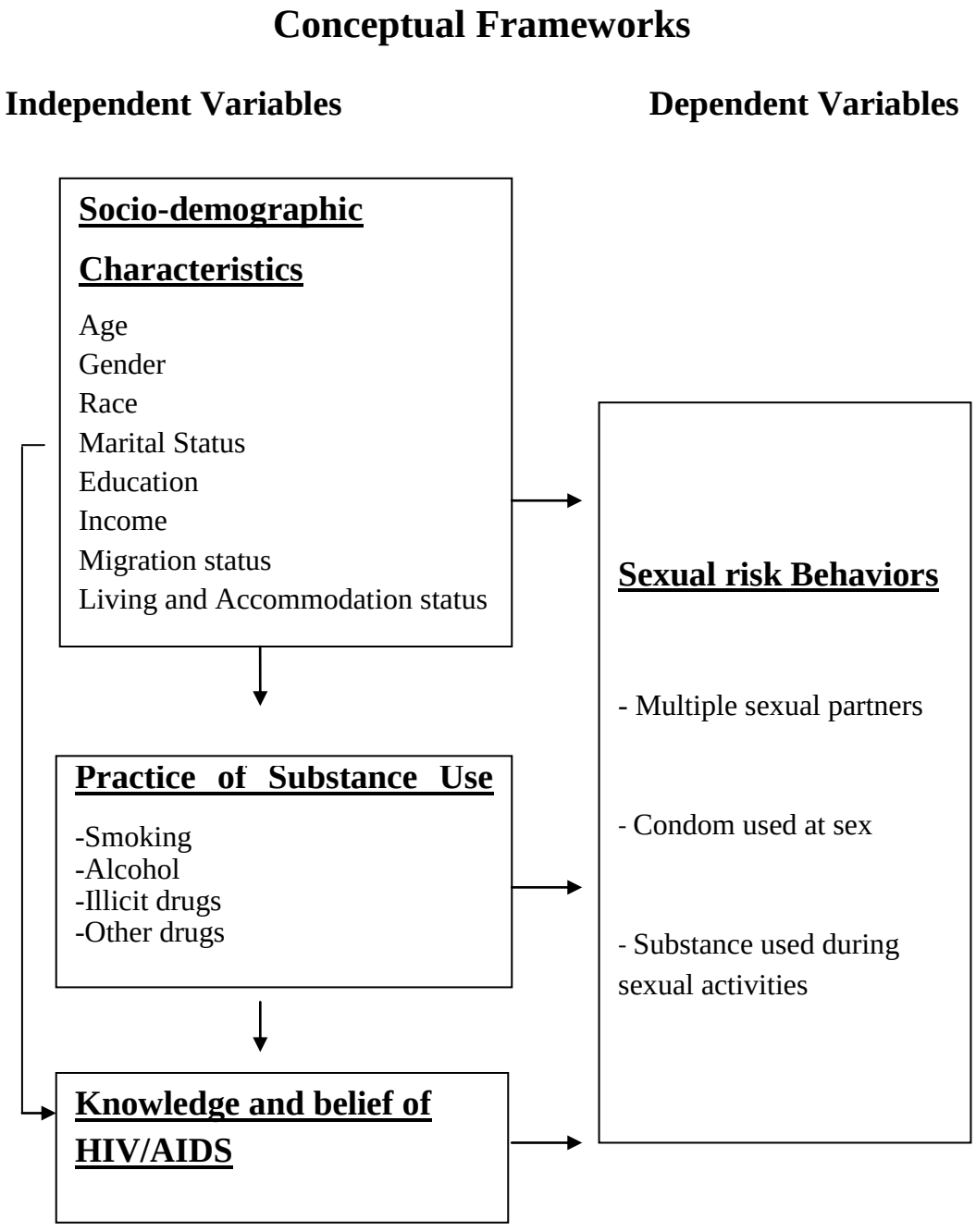
According to social control theory (Black, 1984; Gibbs,1982), the individual behaves with social norms and in a normal and stable community, it is difficult to avoid by the social norms. But being a migrant and away from the social support, this factor can lead to the occurrence of the risk behaviors and which can lead to the transmission of HIV.

Sexual behavior is based on the knowledge, perception and consequences of their attitude of behaviors. Those knowledge and perception are also determined by the individual pre- characteristics and effect of migration. Pre-characteristics include gender, marital status and education attainment. Effect of migration include that the individual characteristic of post-migration behavior (coping) i.e., management on peer pressure and stress and the effect of new environment nature i.e., accommodation, income and working environment based on (Brockerhoff and Biddlecom (1999) and Hugo,G (2001), the conceptual model of the influence of Migration on sexual behavior is mentioned in *Migration, Mobility and HIV: A rapid assessment of risks and vulnerabilities in the Pacific*.

Separation from spouse/partners can affect to post-migration characteristics and also the new environment. Substance use behavior can also be superimposed by the effect of separation, loneness and also the accessibility of the substances in the new environment. Substances include especially drugs and alcohol. But smoking can also contribute to the initiation of the use of alcohol and drugs. If a person is intoxicated with substances, their perceptions of risk behavior become alter and lead to the high risk behaviors.

Based on the above theoretical framework, the following conceptual framework has been developed for the study.

Figure 1.1 : Conceptual Framework



1.7 Operational definition

- Substance use

The substance use includes tobacco, alcohol, illicit drugs and other substance use (e.g glue) in relation to their first experience, reason for the usage and the current situation among the study population.

- Risks of substance use

Risks of substance use include the risks related to the transmission of HIV by having multiple sexual partners, condom used, having sex under the influence of substances (alcohol or illicit drugs) and injection of those substances.

-Myanmar migrants

In this study, Myanmar migrant refers to the person over 18 years of age who working and living in Mae Sai, Chiang Rai Province.

Socio-demographic characteristics

-Age

In this study, age refers to the last completed birthday at the time of the interview.

-Gender

This refers to the gender of the respondents.

-Race

Race means the original ethnic group of the respondents that the respondent belongs to.

-Marital status

Marital status refers to the current marital status of the respondents. It is classified into “single or unmarried”, “married”, “divorced” and “ widows”.

-Education level

Education Level refers to the school grade attended at the highest attained level of education of the respondents and it is measured in five categories, “(No

Education) illiterate , “Primary education/school (grade 1-4)”, “Middle school” (grade 5-8) , “High school ” (grade 9-10) and “University education or higher”.

-Income

Income refers to the current respondent income in Baht per month.

-Migration status

Migration status refers to that respondent has legal permission to work and stay in Thailand and it is divided into “registered” and “non-registered” as a migrant worker in Thailand.

- Accommodation status

Accommodation refers to the place where the respondent lives in and it is categorized into “rent house/room”, “hostel” and “room given by factory”.

- Living status

Living status refers to anyone who staying together with the respondent and it is categorized into “spouse”, “family”, “relatives” and “alone”.

-Duration of stay

Duration of stay refers to the length of the respondent’s stay in term of years and months and it is separated into arrival to Thailand and arrival to present resident.

-Knowledge and belief of HIV/AIDS

This part will access the knowledge and belief of participants regarding HIV/AIDS and those will be answered as yes, no and don’t know. Those questionnaires are from the Center for AIDS Prevention Studies (CAPS), University of California, San Francisco, USA. In this part, there score for the correct answer is 1 and for incorrect answer is 0. Therefore, the highest score is 15 and the lowest score is 0 among the 15 total knowledge questions. The total score will be converted into low moderate and high according to mean ± standard deviation.

.

-Sexual risk behavior

This includes the sexual behaviors including substance use during sex. In this study, the sexual behaviors focus on multiple sexual partner and condom use as measure in always, sometimes, often and never. The multiple sexual partners will be account if they have sex with more than one type of partner in the past 12 months (spouse, lover or sex worker). If the respondent has history of substance use during sex, condom use will be asked for last time.

CHAPTER II

LITERATURE REVIEW

2.1 Migration and HIV/AIDS

Many people migrate according to economic, political and social reasons. In general, this can create mixing of people creating environment for transmission of diseases, subsequent transmission. Transmission of HIV can only be transmitted by the exchange of body fluids. Thus migration itself cannot occur the spread of HIV but it increase the risk of HIV risk behaviors.

In South-East Asia, Thailand becomes a regional hub for migration over a decade and has been attracting low-wage workers since the early 1990s. There were more than 3.5 million persons without Thai nationality (International Organization for Migration, 2011a). About 45 percents of the low-skilled migrants are women. In Thailand, the deployment of migrants is fluctuated in nature. It went up to 202,000 in 2002 from 63,000 in 1990 but declined to 143,795 in 2010 (International Organization for Migration, 2011a). Moreover, there were 95330 displaced persons registered along the Thailand-Myanmar border. From public health point of views, the health care/system should not be excluded as they are unstable in nature and could contract diseases and transmit them to the wider community.

Movement from Myanmar to Thailand began since 1984. According to IOM's Migration report based on Thailand, Ministry labor 2010, there are total 1,078,767 Myanmar migrants registered in December 2009 that includes 591,370 male and 487,397 females (International Organization for Migration, 2011a).

2.2 Substance Use

Substance abuse means the harmful or adverse use of psychoactive substances that include illicit drugs and alcohol and it was defined in1969 by the WHO Expert Committee on Drug Dependence as 'persistent or sporadic excessive drug use with or unrelated to acceptable medical practice'. Substance abuse has been a problem since people known how to produce the products of fermented fruits. There after people used it according to their desire throughout the World. Among the

psychoactive substances, alcohol is the most widely use legal substance and followed by the others.

2.2.1 Illicit drug use

According to UNODC's World Drug Report 2011, 3.3% to 6.1% of the population aged between 15-64 years i.e., 149 to 272 million people used the substances in the previous year. About half are estimated as current drug users. While the total number of illicit drug users has increased since the late 1990s, the prevalence rates is estimated at between 15 and 39 million that remain stable which indicates that there is not much declining. Moreover, WHO estimated that 5.4% of the total global burden of attributable to alcohol and illicit drug use and the tobacco use attribute to 3.7% of the global burden of diseases (World Health Organization, 2010a).

Cannabis was by far the most commonly used illicit drug (3.3–4.4% of the population aged 15–64 years). Some 16–53 million people aged 15–64 years were estimated to have used amphetamines (0.4–1.2%), with the highest levels in South-East Asia. The number of opiate users was estimated at 16–20 million; with the main drug trafficking routes out of Afghanistan having the highest levels of use according to UNODC, 2009. Those who use drugs once or twice have, at most, a very small increase in morbidity and mortality, with the concentration of harms occurring among those who use drugs regularly.

According to UNODC, the estimated number of problem with drug users (i.e injecting drug users or problem users of opiates, cocaine or amphetamine) were between 18 and 38 millions (World Health Organization, 2010a). There are approximately 13.2 million PWID globally and in South and South-east Asia estimated that between 1.3 and 5.3 million (25.36%) IDU live in the region (Aceijas, Stimson, Hickman, & Rhodes, 2004). According to WHO 2010, there are more than half a million of people who inject drugs present in South-East Asian Regions. Among them, Indonesia, Myanmar, Nepal, Thailand and some regions of India have a significant problems and high national prevalence rates of HIV among the injection drug users.

In Asia and Pacific Region, ATS, opiates, and cannabis are reported as the most prevalent and problematic drugs. Methamphetamine is the leading drug of concern in Brunei, Cambodia, Lao PDR, the Philippines and Thailand. Yaba or Yama, the methamphetamine pill, is the common form in Cambodia, Lao PDR, and Thailand. According to UNODC, abuse of both the pill and crystal forms of methamphetamine presents only in Thailand among the ASEAN countries. Ecstasy, the ATS drug is a drug of concern especially in Brunei, Indonesia, and Vietnam. But China, Malaysia, Myanmar and Vietnam have heroin as the number one problem. Another major drug of abuse, cannabis is also one with the highest abuse prevalence in many countries of the world. A narcotic analgesic, Buprenorphine, has been a leading drug of concern in Singapore. Moreover, the abuse of volatile substances such as glue becomes attention in the Philippines, Thailand and Lao PDR. This type of inhalant abuse is becoming a gateway to the abuse especially for amphetamine-type stimulants (ATS) and heroin.

According to ATLAS on substance use 2010 by WHO, only 4 deaths per 100000 populations contribute to illicit drug use. This will contribute to poor social and economic development and also to crime, insecurity and the spread of HIV. Among the substance abusers, youths are the most common groups of illicit drug use and age between 18-25 years of age are the peak and initiation of the substance use starts in the teens or early adult ages.

2.2.2 Alcohol

People first used alcohol among the psychoactive substance. As a legal recreation drug, it is widely used in recreation and relaxation activities. The patterns of alcohol consumption vary individually and it was clearly known that alcohol use can lead to harmful effect on health and it lead to the highest demand for the treatment among the substance use disorders in the world.

Around 2.3 million die each year from the harmful use of alcohol, accounting for about 3.8% of all deaths in the world. More than half of these deaths occur from NCDs including cancers, cardiovascular disease and liver cirrhosis (World Health Organization, 2010b). The effect produced by alcohol is not only due the level of consumption but also due to the pattern of drinking (heavy drinker or light drinkers)

(e.g. by heavy drinking occasions). But both of them are associated with many diseases i.e, cancer and cirrhosis of liver, cardiovascular, neuropsychiatric disorders.

It effect of alcohol to human has been studied for a long time and it can lead to forms of health problems, i.e physical, mental, social and environmental. The moderate consumption of alcohol may produce weakening of speech and behavior, development of euphoria and an increase in self-confidence. (Winger, Woods, & Hofmann, 2004). This can also lead to the attitude toward sexual risk behavior and increase the risks mainly social and it related health consequences such as violence, sexual abuse and absence in their work (Soe, 2011).

According to ATLAS on substance use 2010 by WHO, 35 deaths per 100000 populations attribute to alcohol use. Binge drinking was also associated with variety of risk behaviors including risky sexual behaviors, smoking and illicit substances use.(Miller, Naimi, Brewer, & Jones, 2007)

Among the substance abuse problems, the alcohol use disorders is significantly higher than the other drug use disorders and male are more common than females in alcohol and drug use disorders (United Nations Office on Drugs and Crime, 2012b). Moreover, active young people are sexually active and they may also combine alcohol, drugs and sex although not being thought as a risk behavior.

2.2.3 Tobacco use

Cigarette smoke is also higher in the illicit drugs. According to WHO's Global status report on non-communicable report 2010, there are nearly 6 million people die from tobacco use in each year and this will increase to 7.5 million in 2020 contributing to for 10% of all deaths. Moreover, about 71% of lung cancer, 42% of chronic respiratory disease and nearly10% of cardiovascular disease is being estimated by the cause of smoking.

Tobacco was smoked as in cigars, in pipe or inhaled as snuff. After inventing of cigarette-making machine, cigarettes become the most popular method of using tobacco throughout the world. The main content of cigarette, nicotine is released when the cigarette is burned. After inhaled to the lungs and it dissolved into the plasma and then carried and arrived to the brain.

The effect of smoking is also depend upon the individuals and nature of smoker that how he smoked. Cigarette smoking can also lead to a health risk and well known by an increased risk of lung cancer, bronchitis and coronary heart diseases. Moreover, maternal smoking can also lead to the low birth weight weigh babies causing retarding in fetal growth.

Not only active smoking, but also indirect smoking can also lead to the adverse effect on health. But the main difference is between active and passive is only the dose that they exposed and the long term effects are mostly similar. But infants and young children are more vulnerable than adults. As a result of being lonely and living in new environment, most of the migrants want to smoke in their free time and this is the initiator to start the use of other substances. There was overall 35.2% prevalence of cigarette smoking found with the involvement of current 59.2% male smokers and 8% of female smoker (S. T. Zaw, 2008).

2.3 Situation of substance use in Thailand

Thailand becomes a major destination for migrants from neighboring countries i.e., Cambodia, the Lao People's Democratic Republic and Myanmar. (International Organization for Migration, 2011b). Furthermore, this golden triangle of Thai, Lao PDR and Myanmar, the substance production, trafficking and usage are common. Since the mid-1990s, methamphetamine has been the most significant illicit drug of concern in Thailand. Thailand has one of the largest markets of methamphetamine users in the region. In 2009 methamphetamine in pill form ranked as the most commonly used drug in the country.

However, recent increases in the use of high purity crystalline methamphetamine, cannabis, and kratom are also serious problems. Crystalline methamphetamine use is increasing in Thailand and there are indications that transnational drug trafficking networks are targeting Thailand both as a destination and transit country for the drug. There has also been an increase in the use of ecstasy, cocaine and ketamine, although users of these drugs tend to be wealthy and concentrated in major cities. There has been an increasing trend in the number of

drug-related arrests and the estimated number of drug users. This trend continued in 2009.

Cannabis cultivation has declined significantly in Thailand over the past two decades. However, cannabis continues to be widely used and Thailand is also a transit country for cannabis trafficked to third countries, particularly Malaysia. Opium poppy cultivation and use also continue, particularly in the northern part of the country although at far lower levels than two decades ago. Heroin use has steadily decreased since 2003, but Thailand remains a transit country for heroin trafficking from the Golden Triangle to the global market.

Nowadays, there have been problems of narcotics abuse, trafficking, and crime related to narcotic in Thailand. According to office of narcotic control board, there are 163,909 cases of narcotics offences and 177,523 offenders in 2010. Methamphetamine is the main one among the illicit drugs and also the others which include such as opium, heroin and ATS. Moreover, UNODC estimated that both of the annual prevalence of opiates and opioids use are 0.2 percent of the population of age between 15-64 years of age but the cocaine and cannabis use are more than 1 percents (UNODC world drug report, 2011).

Past-year drinking students were about 1.5 to 7 times likely to engage to risk behaviors compared to non-drinkers. (Assanangkornchai, Mukthong, & Intanont, 2009) Moreover, according to assessment done in migrant factory workers in Mae Sot, Thailand found that male have more experience to the drugs and alcohol to a greater degree especially in holidays and weekends. The study done among Myanmar youth working in Samut Sakhon Province found that about 21.5% were current smokers and 25.4% were alcohol drinkers and married status was associated with alcohol drinking. (N Howteerakul, N Suwannapong, & M Than, 2005).

2.3 Situation of substance use in Myanmar

Myanmar is one of the manufacturers of the substances especially methamphetamine in the South East Asia region. Opium and heroin are the most common drugs in Myanmar followed by methamphetamine (United Nations Office on Drugs and Crime, 2010). Furthermore, the majority of methamphetamine pills were seized in Myanmar was from North Shan and East Shan states which are areas close to the border area of the Chiang Rai Province, Thailand.

An estimation of the total area under opium poppy cultivation in Myanmar was increased from 28,500 hectares in 2011 to 31,700 hectares in 2012 (United Nations Office on Drugs and Crime, 2012a). Although heroin and opium have declined, the use of methamphetamine pills has increased, especially in border areas located close to methamphetamine manufacturing centers. Moreover, the authorities from Myanmar and Thailand confirmed that crystalline methamphetamine manufacture in the Golden Triangle area, Myanmar, Lao PDR and Thailand. During 2009, over 10 millions of methamphetamine pills were seized in Shan East State in Myanmar (United Nations Office on Drugs and Crime, 2010).

As the availability is increased, the domestic use of the substance is also increasing even though there has no comprehensive household or school survey in Myanmar. UNODC estimated that both of the annual prevalence of opiates and opioids use are 0.8 (0.7-0.9) percents of the population of age between 15-64 years of age (UNODC world drug report, 2011).

The drug use in Myanmar has shifted markedly from traditional use of opium to heroin over recent decades and heroin is mainly administered through injection, while opium and methamphetamine are mostly smoked / inhaled. Although heroin is still widely used in Myanmar, amphetamine-type stimulants (ATS), particularly methamphetamine currently has become popular. The increase risk of overlapping unprotected sexual behavior and injection behavior by using stimulants drugs are the emerging concerns to the policy makers. Evidence suggests that ATS uses become higher among young adult males and also associated with special employment such as high-way drivers.

A cross-sectional study among 400 medical students and 410 community youths in Myanmar found that 34.5% consumed alcohol among medical students and 32.1% among community youths. (Htay, Oo, Yoshida, Harun-Or-Rashid, & Sakamoto, 2010)

2.5 Sexual risk behaviors with substance use

Substance use and sexual risk behaviors become a great concern in the area of public health and are also a main health concern. A study done for HIV risk behavior in the adolescent substance abuser in South Carolina, found that the risk behaviors revealed significant differences between the substance use disorder group and the controls (Deas-Nesmith, Brady, White, & Campbell, 1999). Moreover, a study done in the middles school students of public schools in rural Tennessee found that the average 35- 40% of students had tried cigarettes, alcohol and inhalants. Among the students who reported ever having had sexual intercourse, 75% are the cigarettes and alcohol users and marijuana and inhalant users include nearly 50% (Dunn et al., 2008).

A study done in young migrant worker in Nepal found that few young people considered themselves as a risk of getting HIV or STI despite high-risk behavior (Puri & Cleland, 2006). Moreover, more males have been drank before engaging sex than females. A study done in China found that the risky sexual behaviors were strongly associated in temporary migrants. Moreover, family and peer were found to be influenced to the risky sexual behaviors (Yang, Derlega, & Luo, 2007).

Assessment done by IOM in 2005 showed that there were the misconceptions that HIV can be transmitted by a bite of mosquito, a healthy-looking person cannot transmit HIV and there is a medicine that can cure HIV/AIDs. Both of the knowledge, belief and accessible to health education services, can promote better understanding of HIV and can reduce it related sexual behavior. A study done in Tak province, Thailand found that only 12 percent can identify that HIV was not transmitted by casual contacts (Mullany, Maung, & Beyrer, 2003). Moreover, 23 percent of married male and 17 percents of single male had never heard of HIV or AIDS prior to their arrival to Thailand (IOM 2005).

There is well known that having multiple sexual partners and inconsistent use of condoms, intoxicated with the substances during sex can lead to the higher transmission of HIV. A study done by IOM found that 26 percent of single female, 22 percents of married female, and nearly 10 percent of single male were not heard about the condom. Condom used among Myanmar Migrants was low and it was only 17% of migrants with sexual experience regularly used condoms (M. M. Zaw, 2002). Another study done in China found that intoxicated persons with alcohol were more likely to have multiple sexual partners, purchase or sell sex (Lin et al., 2005)

A cross-sectional study was conducted from December 2007 to February 2008 in among male high school students in Thailand found that the current alcohol consumption was associated with ever had sexual intercourse and alcohol or drug use before last sexual intercourse.(Wisit Chaveepojnkamjorn & Pichainarong, 2011)

Methamphetamine use was strongly associated with decrease condom use during intercourse, sex with a prostitute, received money or drugs for sex and sex with injection drug users (Molitor, Truax, Ruiz, & Sun, 1998).

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research design

A cross-sectional descriptive study with a purposive sampling was used. Since differences in risk of HIV seropositivity and behavior can be based on where migrants were recruited, mainly factories were recruited because others are only temporary and unstable in nature. Thus, the factories were purposively selected with the advices from the Mae Sai Hospital.

3.2 Study area

Mae Sai was chosen by purposive sampling due to its high prevalence of Migrants and also includes in the Golden Triangle which is notorious for drug production, smuggling and usage. Mae Sai is located in Chiang Rai Province in the northern part of Thailand. It is also a major cross border area between Thailand and Myanmar separated by Mae Sai River.

3.3 Study population

The target population for this study was the Myanmar migrant workers who working and Living in Mae Sai, Chiang Rai Province Thailand. In Mae Sai, there are temporary or day-return migrants and living migrants. According to the different behaviors among these two types of migrants, the study was mainly focus on the migrants who were living or staying in Mae Sai. Among the 1.3 millions of registered migrant workers, about 1.08 millions, the majorities, were from Myanmar. But there were nearly 1.5 millions of people were unregistered and family members among Cambodia, Lao PDR and Myanmar according to IOM's Thailand Migration report 2011. [13]

According to the Migrants health examination for the health insurance at Mae Sai Hospital, there were nearly 2,284 from January to October 2012 but the number

can be more than that because this was only the registered number and only for health insurances schemes.

3.4 Research criteria

Inclusion criteria

The study population was composed of who had: (1) working and living in Mae Sai (registered or unregistered) aged over 18 years (2) voluntary participation in the study after being informed and (3) given their consents to be interviewed.

Exclusion criteria

The migrants who refuse to participate and those who have psychological problems.

3.5 Sampling technique

As there is a great mobility among Myanmar Migrants according to their different workplace and accommodation, they are scattered and also unregistered population also presented. Therefore, Chaing Rai province was selected for purposive sampling as there were a very few studies had been carried out in that area compared to the others area. Then, Mae Sai District was selected as it is situated in Golden triangle between Myanmar and Lao.

After that the sample 5 factories were selected purposively from the Mae Sai Hospital. In each factory, the samples were chosen according to inclusion and exclusion criteria. The interview was asked till the sample size was reached. But the sample population was not enough due to various constraints. Therefore, the construction workers had been enrolled with the help of key informants from Mae Sai Hospital. The research assistants (the volunteers, one male and one female from Mae Sai Hospital) informed and contacted about the research to the factory's owners or managers. After getting permission, the participants were invited for interview till the sample size. The interview was done during their free times such as in their lunch times, in the evening and at night, even in the holidays.

3.6 Sample and sample size

According the Cochran formula with the p value of 50% was used to calculate the sample size for this study. The sample size was.

$n = Z^2P (1-P) / (a)^2$

Where, n = sample size,

p = 50%=0.5 (estimated prevalence of 50% was used in order to have the maximum sample size)

a = desired level of precision (0.056)

z= value from normal distribution associated with 95% confidence interval of 1.96.

Sample collected = (306)

3.7 Measurement Tools

Face-to-face interviews were conducted by trained personals, using a structured questionnaire. Data was collected on socio-demographic, practice of substance use, knowledge and belief on HIV/AIDS, education to HIV/AIDS care services and HIV/AIDS risk behavior outcomes. Questionnaires were coded to ensure the confidentiality of the study participants. Participants were informed about the background objectives and procedures of the study and their participation was entirely voluntary.

Interview questionnaire for this study consisted five parts:

-Part I Socio-Demographic Characteristics

These section included age, gender, race, marital status, income, migrant status, arrival to Thailand and Mae Sai, living and accommodation status are included.

-Part II. Access to HIV/AIDS health care services

This part included regarding HIV/AIDS education sessions and situation regarding HIV testing.

-Part III. Knowledge and belief of HIV/AIDS

This also included the questions based on the knowledge and belief regarding HIV/AIDS and those were answered as yes, no and don't know. The questionnaire was adapted from the center for AIDS Prevention Studies (CAPS), University of California, San Francisco, USA.

-Part IV. Practices of substance use

This included the practices of substance use including smoking, alcohol, illicit drug use and other substances use. Those included age of first experienced, the reason for first use of the first use substance and current status of usage.

-Part V. Sexual risk behaviors

This part included sexual behaviors and substance use related behaviors. Sexual behavior includes regarding multiple sexual partners and condom usage. Substance related behaviors included the situation of substance use during sexual activities.

3.8 Data collection

The data collection tool was a semi-structured questionnaire consisting of both structured as well as unstructured questions which was prepared in English language, then translated into Myanmar language by one who was expert in English and Myanmar language related to migrants to ensure correspondence between English and Myanmar words. And then, back translation from Myanmar to English was done by a second expert in case of discrepancies between the translation of two experts and came together to agree on a common translation.

Data was collected by face to face interview with the respondents by the researcher and two other research assistants who understand Myanmar language very well. The research assistants were the volunteers from Mae Sai Hospital who have had experience in conducting interview by using questionnaires previously. One volunteer has been working for TB – project for Migrant population in Mae Sai Hosptial. The interviewers were trained by the researcher two days prior to the data

collection on how to ask questions to get appropriate answers and making them willing to participate and to build trust before interview.

Due to the scattered distribution of the migrant workers, working time, working nature and their free time, it was very difficult to arrange the time for interview for data collection. At first, introduction regarding the research to the factories' owners and Managers is done by the Public Health Worker from Mae Sai Hospital. After getting agreements, participants were invited for interview. Before inviting, inquiry about the number of Myanmar migrant workers in those factories and asking to ensure to exclude any worker with psychological problems by asking whether there was a person will illness or taking leave during the working period. If present, asking about the reason for taking leave and it was related to illness, request the medical record to ensure that it was not the psychological problems. According to the list, the selection was done with the help of manger or supervisor and they were invited and requested for interview.

Depend on the nature of their work and working hour, most of the interview had been done in their free time especially in the lunch time, in the evening, at night as well as in the weekends in their residences.

Before conducting the interview, the respondents had been explained about anonymity, confidentiality, free participation, freedom to withdraw, access to final report and no use of data for other purposes. They had been shown that there was no name on the answered questionnaire. All data was presented with consolidated tables which did not make it possible to identify the persons who provide the information.

The place of conducting interview was done in suitable place at in their compound or residence during their free time apart from working hours and also this will ensure to keep the respondent's confidentiality and privacy. This was only take about 25-30 minutes to complete. Only in some cases, it was extended a few minutes for more information. As the researcher gave priority to their free time with their wiliness to answer the questions, the data collection took place nearly a month to complete the sample size.

3.9 Reliability and Validity

The following activities were carried out to maintain the reliability and validity. The content validity had been made by question consultation with three experts from the field. The content validity had been made and requested according to their opinions, (+1), (0) and (-1) for each question. Then index of item-objective congruence (IOC) were calculated to each questions by total scores of professional by total number of professional i.e (3). If the result is less than 0.5, changes had been done according to their opinions.

A pretest was done at Koh San Road, Bangkok where a lot of Myanmar migrants were working. A 30 number of population was used for the pretest (pilot test) to maintain the reliability. Then, the Conbach's Alpha was calculated and got 0.791 in the knowledge and belief of HIV/AIDS.

3.10 Data entry and data analysis process

The researcher involved in data collection, data editing, data entry, and data analysis and data interpretation. The data entry was done with the use of Epidata software. After the data had been converted into SPSS version 16, checking and cleaning was done. The interpretation of the collected data was presented by following way; descriptive statistics to the factors including the socio-demo characteristics which were influencing in substance use and sexual behavior, mean and standard deviation with the help of percentage is calculated for the continuous data and percentage and frequencies were calculated for categorical data and described by tables. Chi square test was adopted for the analysis of the relation between the independent and dependent variables.

3.11 Ethical consideration

The approval of research was taken from the Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University. The researcher explained to the participants the reasons, the benefits and the risks linked to this research. Participants were invited to ask for any additional information and clarification they need and then be invited to decide whether they want to participate to the research or not. It was clearly explained to them that if they

refuse to participate they would not suffer any adverse event. After accepting to participate, the interview was started. They could also interrupt participating to the research at any moment and no questions were asked about the reasons for their interruption. Researcher assured them that the findings of this research helped them to address their needs and help to strengthen their behavior related to HIV and substance use. The response given by the migrants and name of the responder will be kept confidential.

3.12 Limitation of the study

There were some limitations which influenced the result of this study. At first, this study was in a few months to complete the whole thesis including data collection, entry, interpretation and presentation. Due to the purposive selection of workers among the Myanmar migrants with the information from Mae Sai Hospital, this cannot be representing as a whole of Myanmar migrants in Mae Sai and also in Thailand. Moreover, this study was a cross-sectional study; it was not possible to describe the true causality between the exposure and the outcome. Random sampling could not be used and therefore, there will be a problem of selection bias.

3.13 Expected outcomes

This study will also provide the basic of knowledge regarding the substance use and sexual behavior in Myanmar Migrants population and its determinants which will also contribute to better planning for health education among the migrants population regarding the substance use and sexual behavior in relation to HIV/AIDS.

CHAPTER IV

RESULT

The result of the study was conducted among the Myanmar migrant who resided and worked in Mae Sai, Chaing Rai Province, Thailand during the 4th to 25th February 2012. After introduction and getting approval from Mae Sai Hospital, each of the factories and places had been introduced by the staff and volunteers from the Hospital. After getting agreements with the Managers, the study was done at the office hours, lunch time or in the evening and also to their living places during the holidays according to their free times. Total 308 adult Myanmar migrant workers were conducted face to face interview.

It was found that most of the participants lives together as a cluster near to the work place or given by the factories. Moreover, most of the respondents came from the same district from Myanmar in each cluster. So, they had been friendly each other and living together like a family even they are not being relatives. After working hours, they play together the cane-ball or Zwel Tauk in the same compound. Sometime, they made appointment with each cluster to play a football match especially in the weekend.

One of the interesting was most of them were hard working to earn money. They said because of coming to earn the money we had to earn as much as we can. They work even in the weekend that was given as a part-time from their factories. Even in the night time, they gathered and worked together and discussion had been done.

It is composed of 5 parts. The data will be presented the descriptive characteristics of (1) socio-demographic characteristic, (2) access to health care services (3) knowledge and belief of HIV/AIDS (4) Substance use (smoking, alcohol and others) and (5) sexual risk behavior among the respondents. Finally, the relationship between socio-demographic characteristic, knowledge of HIV/AIDS, substance use and sexual risk behavior is determined.

4.1 Socio-demographic characteristics of adult Myanmar migrant workers

The socio-demographic of the respondents were described into gender, age, ethnics, marital status, education, income, migration status, accommodation and living status. According to gender, 53.9 % of the respondents are male and the majority of the respondents (about 35%) were between the age of 18-24 years of age followed by 25-29 year of age. Although there were Shan, Karen, Rakhine, Chin and Lar hu, the majority of the respondents were Burma (about 80%). Moreover, the majority of the people were married (about 58%). The widows and the divorced people were only included in 10 and 4 people respectively. Furthermore, over 33 % of people have primary education followed by middle and higher. Only 3 people have no education in Myanmar.

Moreover, most of the people are living in their rent rooms and lodge at their work place, i.e 49.36% and 47.40 % respectively. Only 1 people said live alone and the others lived with the spouse, the family, the relatives and with friends. It was found that nearly 26% of the people lived with their spouses and about 29% of the population lived together with spouse and others as about 58% were the married people. The mean duration of living in Thailand was 56 months and in Mae Sai was 43 months.

Among the respondents, about 54 % of the people got the income between 5000-7500 bahts. About one third (35%) of the people were unregistered. Table 4.1 showed the socio-demographic characteristics of the respondents with age, gender, ethnics, marital status, education, monthly income, registration status, migration to Thailand and Mae Sai, living and accommodation.

Table 4.1 : Frequency and percentage distribution of adult Myanmar Migrant workers according to the socio-demographic characteristics (n=308)

Socio-demographic Characteristics		Frequency (n=308)	Percent (%)
Gender			
	Male	166	53.9
	Female	142	46.1
	Total	308	100
Age			
	18-24 years	109	35.4
	25-29 years	74	24.0
	30-34 years	64	20.8
	35 and above	61	19.8
	Total	308	100.0
	Mean = 28.34	SD= 7.406	Range= 18-56
Ethnics			
	Burma	247	80.2
	Shan	29	9.4
	Karen	10	3.3
	Rakhine	6	2.0
	Others	16	5.2
	Total	308	100.0
Marital Status			
	Single	114	37.0
	Married	180	58.4
	Divorces/Widow	14	4.5
	Total	308	100.0
Education			
	Illiterate	3	1.0
	Primary	116	37.7
	Middle	95	30.8
	High school or higher	94	30.5
	Total	308	100.0
Migration Status			
	Registered	199	64.6
	Unregistered	109	35.4
	Total	308	100.0

Table 4.1(continue) :

Soio-demographic Characteristics	Frequency	Percent (%)
Duration of staying in Thailand		
Less than 1 year	69	22.4
1-4 years	87	28.3
5-7 years	66	21.4
More than 7 years	86	27.9
Total	308	100.0
Mean= 4.67	SD = 2.25	Range= 0.4 -20 years
Duration of staying in Mae Sai		
Less than 1 year	92	29.9
1-4 years	99	32.1
5-7 years	58	18.8
More than 7 years	59	19.2
Total	308	100.0
Mean=3.65	SD=4.05	Range=0.4-20 years
Accommodation		
Rent House	5	1.6
Rent Room	152	49.4
Lodge in work	146	47.4
Others (Own house, etc)	5	1.6
Total	308	100.0
Type of Living		
Alone	1	0.3
With Spouse Only	79	25.6
With Family Only	29	9.4
With Relatives Only	16	5.2
With Friends Only	83	26.9
Spouse and others	90	29.2
Family and others	5	1.6
Relative and others	5	1.6
Total	308	100.0
Monthly Income		
$\leq$ 5000 Bahts	58	18.8
5001 - 7500 Bahts	168	54.6
> 75000 Bahts	82	26.6
Total	308	100.0
Mean= 6467.21	SD= 1490.92	Range = 3000 -12000 Bahts

4.2 Access to health care services including health education

Table 4.2: Frequency and percentage distribution of health care seeking in Myanmar Migrants

	Frequency	Percent (%)
Have you ever seek for health care?		
Never	96	31.2
Ever*	212	68.8
Total	308	100.0
Where you usually go?		
District hospital/ Gov. health center	66	31.1
Private Hospital/Clinic Only	83	39.2
Pharmacy shop Only	6	2.8
Factory clinic Only	7	3.3
Traditional Medicine Only	1	0.5
District hospital and others	28	13.2
Private and others	11	5.2
Others	10	4.7
Total	212	100.0

* Multiple response answer

Accessibility to the health care services is also one of the important factors for the HIV knowledge and its related sexual behavior. Two hundred and twelve of the respondents were seeking health care in Mae Sai during the last 12 months and it was about 69% of the respondents. Although about 32% said they went to government hospital or clinic only, about 40% said they went to private hospital/clinic only. About 23% said they went to more than one source during the last 12 months.

Table 4.3: Frequency and percentage distribution of HIV-related health education services during the past 12 months

	Frequency	Percent (%)
Have you received during the past 12 months?		
Never	247	80.2
Ever *	61	19.8
Total	308	100.0
What did you receive in the past 12 months?*		
Health talk Only	19	31.1
Health talk and Pamphlets	17	27.9
Health talk and Booklets	3	4.9
Health talk and incentives	6	9.8
More than two things	16	26.2
Total	61	100.0

* Multiple response answer

Furthermore, HIV-related health education had also been asked to the respondents. According to the table 4.3 regarding HIV-related health education services in the last 12 months, 61 people said they had got HIV related health education. Among them, about 31% said they got health talk only and about 43% said they got health talk with the others, i.e, pamphlets, booklets and incentives which include condoms and small gifts. About 26% said they received more than two materials in health education.

Table 4.4 showed about the knowledge regarding where the condoms can get in Mae Sai. About 63 % said they knew where the condoms can get in Mae Sai. Among them, about 36% talked they can get the condoms at their work place, about 18.6% said they can buy condoms at the pharmacy shop. Moreover, about 40% of the respondents can mention more than one source of the place where the condoms can get. Only 3 people said that condoms can get from their friends and from commercial sex worker.

Table 4.4: Frequency and percentage distribution of knowledge regarding where the condoms can get

	Frequency	Percent (%)
Do you know where the condoms can get?		
No	114	37.0
Yes	194	63.0
Total	308	100
Mention where the condoms can get? *		
At wok only	70	36.1
Pharmacy only	36	18.6
Hospital/Clinic Only	13	6.7
Shop Only	8	4.1
NGO Only	8	4.1
Can mention two sources	52	26.8
More than two sources	7	3.6
Total	194	100.0

* Multiple response answer

4.3 Knowledge and beliefs of HIV/AIDS

4.3.1 Knowledge and belief scoring of HIV/AIDS

All the participants had been asked 15 questions regarding the knowledge and belief of HIV/AIDS. Table 4.5 showed that the frequency and percentage of HIV/AIDS knowledge of migrant workers who answered the question correctly. Among the knowledge questions, about 75% thought that a person can get HIV from receiving blood in the hospital. Another question that a blood test for HIV is a very good way to find out if they have HIV was got about 97%. Regarding both of the above two questions, the females and male percentage of the respondents who answered correctly were nearly the same and not much different.

Regarding the using condoms during sex, about 85% of the total population thought that it can reduce the transmission of HIV. It was only account for 79% of the female population but about 90% in the male population. The gender difference had also found in the question regarding HIV can be get by kissing. Although the total

population was 74%, it only represented for about 81% of male population and about 66% of female population.

Moreover, about 26% thought that HIV is not only a problem of gay men and the male percentage was about 30% and the female percentage was about 21%. About 81% of the total population thought wife may not get HIV although husband get HIV and the male percentage was more than the female and it was about 13% and about 22% respectively.

Fig 4.1 showed that the gender difference between the knowledge and belief of HIV/AIDS among the study population. It was found that both group got the high score in a blood test for HIV is a very good way and using the condoms can reduce the transmission followed by a person can get HIV from receiving blood. But it was found that both of the groups got less in the questions of if the husband had HIV, wife may not get HIV and HIV is only a problem of gay men and a positive blood test for HIV means a person had AIDS. For the other questions, both of the groups got the score between 40-60%.

For gender, it was found that the difference was wide in the questions regarding using condoms can reduce transmission and unlikely to get HIV by kissing. For both questions, male group got the higher scores. For the other questions, there was no much difference.

4.3.2 Level of Knowledge and belief of HIV/AIDS by grouping

The knowledge score was given to (1) if the answer was the correct one while the other was given to (0). After that the score for each participant was combined into total scores and then, it was grouped into low level of knowledge (below the average level) and high level of knowledge (above the average level) according to mean, (8.37).

According to table 4.6, 44% of male population got the low level of knowledge and about 60% of female population got the low level of knowledge. Moreover, 56% of the male population got the level of above the average and only about 40% of females population got the above the average level of knowledge.

Table 4.5: Knowledge and beliefs of HIV/AIDS among the Myanmar Migrant workers who answered the correct answer

		Male(n=166)		Female(n=142)		Total(n=308)	
	Item	**Freq**	**Percent**	**Freq**	**Percent**	**Freq**	**Percent**
(1)	A person can get HIV from receiving blood in the hospital.	123	74.1	108	76.1	231	75.0
(2)	A blood test for HIV is a very good way to find out if you have HIV.	159	95.8	139	97.9	298	96.8
(3)	A positive blood test for HIV means that a person has AIDS.*	48	28.9	31	21.8	79	25.7
(4)	Having sex during menstruation increases the chances of getting HIV.	119	71.7	86	60.6	205	66.6
(5)	HIV is only a problem of gay men.*	49	29.5	30	21.1	79	25.7
(6)	HIV is only a problem of injecting drug users.*	60	36.1	40	28.2	100	32.5
(7)	It is unlikely that someone can get HIV by kissing someone who has the virus.	134	80.7	94	66.2	228	74.0
(8)	Using condoms during sex can reduced the transmission of HIV.	150	90.4	112	78.9	262	85.1
(9)	A person can be infected with HIV and have no symptoms of the disease.	67	40.4	57	40.1	124	40.3
(10)	A person can get HIV through a mosquito bite.*	70	42.2	56	39.4	126	40.9
(11)	If you have a sexually transmitted disease, your chance of getting HIV is higher.	102	61.4	75	52.8	177	57.5
(12)	HIV/AIDS cannot be cured.	111	66.9	101	71.1	212	68.8
(13)	At present, there are drugs to treat HIV/AIDS.	114	68.7	89	62.7	203	65.9
(14)	If you get HIV and do not receive more viruses, you may live longer.	102	61.4	95	66.9	197	64.0
(15)	If husband get HIV, wife may not get HIV.	37	22.3	19	13.3	56	18.2

* Negative answer

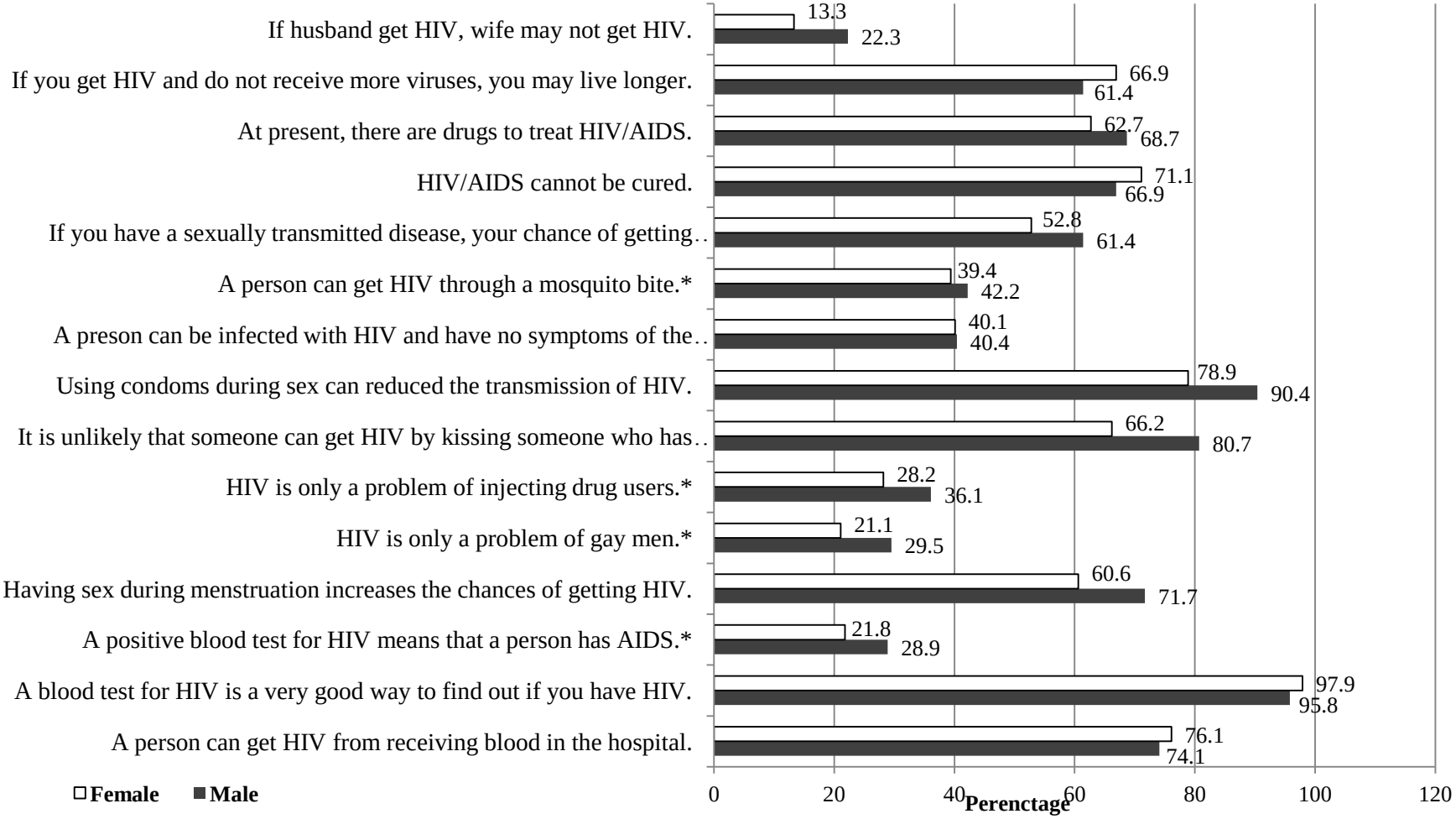


Figure 4.1: Knowledge and beliefs of HIV/AIDS among the Myanmar Migrant workers who answered the correct answer

Table 4.6 : Knowledge level among the Myanmar migrant workers who answered the correct answer

Level of Knowledge and beliefs of HIV/AIDS	Male		Female		Total	
	Freq	%	Freq	%	Freq	%
Low level (<8.37)	73	44.0%	84	59.2%	157	51.0%
High level (>8.37)	93	56.0%	58	40.8%	151	49.0%
Total	166	100.0%	142	100.0%	308	100.0%

4.4 Substance use

To know the situation of the substance use among the Myanmar migrant, all the participants had been asked the questions regarding the substance use which included tobacco use, alcohol drinking and other substance use including glue sniffing. To describe the substance use, it was asked whether they had had experience in life time or not, within 12 months or not and within 30 days.

4.4.1 Frequency and percentage of substance use

The following table 4.7 showed that the frequency and percentage of substance use among the Myanmar migrants in Mae Sai, Chiang Rai Province according to gender into ever use, use within 1year and used within 30days. As usual, it was found that more males use the substance than females.

For male, it was found that more alcohol used than tobacco use. For tobacco, about 52% had ever experience and 50% used within the last 12 months and about 49% used within 30 days. For alcohol use, 80% had ever use alcohol and about 78% were use within the last 1 year and about 68% used within the last 30 days. For tobacco use, it was found that there was not much difference in ever use and used within 30 days, i.e. about 53% and 49% respectively. But for alcohol use, the percentage was reduced in the ever use and used within 30 days, i.e. about 80% to about 68%.

For females, only 3% used tobacco and 0.7% was using in the last 30 days. For alcohol, 10.6% had ever and currently using alcohol (used within the last 1 year)

and only about 2% of females were used alcohol within 30 days. Similar to males, it was found that less female used within 30 days than ever use.

There was only one male who said he had ever use methamphetamine and there was no respondent for the other type of substance use as shown in the table 4.7.

Table 4.7: Frequency and percentage distribution of substance use

	Substance	Ever use		Use within 1 year		Use within 30 days	
		Freq	**Percent**	**Freq**	**Percent**	**Freq**	**Percent**
Male	Tobacco	87	52.4	83	50.0	81	48.8
(n=166)	Alcohol	134	80.7	129	77.7	112	67.5
	Methamphetamine	1	0.6	0	0	0	0
	Others	0	0	0	0	0	0
Female	Tobacco	3	2.1	1	0.7	1	0.7
(n=142)	Alcohol	15	10.6	15	10.6	3	2.1
	Methamphetamine	0	0	0	0	0	0
	Others	0	0	0	0	0	0

4.4.2 Reason for first used of substance use

The reasons for first used of substance were shown in the table 4.8. The reason for first use in the substance users was mainly due to peer pressure and it was about 48% followed by relaxation which means to release stress or happiness. According to gender, the more percentage of males had been first fuse of substance for curiosity than females and it was about 14% in male and 7% in females. But the more percentage for social reason in females than in males for first use of substance and it was 17% in females and 5% in males respectively. As shown in the table, male used the substance more than females with the reason for peer pressure for both gender. But for relaxation, the male percentage was more than the female, i.e. about 35% in male and about 28% in females.

Table 4.8 Frequency and percentage of the reason for first used of substance

	Male		Female		Total	
Reason	**Freq**	**Percent**	**Freq**	**Percent**	**Freq**	**Percent**
Curious	20	13.5	1	5.6	21	12.7
Peer Pressure	70	47.3	9	50.0	79	47.6
Relaxation	51	34.5	5	27.8	56	33.7
Health and social	7	4.7	3	16.7	10	6.0
Missing	(18)	-	(124)	-	(142)	-
Total	148	100.0	18	100.0	166	100.0

4.4.3 Tobacco

Tobacco is also one to the substance use in the study population although it not directly related to the HIV risk. The following table 4.9 showed that that starting age of tobacco use among the population according to gender.

Table 4.9: Frequency and percentage distribution of starting age of tobacco

	Male		Female		Total	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Starting age of tobacco use						
<15 years	14	16.1	0	0.0	14	15.6
15-19 years	46	52.9	0	0.0	46	51.1
20-24 years	18	20.7	1	33.3	19	21.1
25 years and above	9	10.3	2	66.7	11	12.2
Total	87	100.0	3	100.0	90	100.0
Mean	17.94 yr		25 yr		18.29 yr	
SD	4.356		5		4.543	

Among the 90 participants who ever had a habit of tobacco use, the mean age for tobacco use was 18.29 yr with the standard deviation of 4.543. Among the tobacco use, the male had started to use younger than females and they started to use before the age of 15 and it was about 16% of the male population. Only 3 females had experienced in smoking and they started to use above 20 years of their age.

About the half of the male population who ever use tobacco started to use the age between 15-19 years within the mean age of 17.94 year with SD 4.356.

4.4.4 Alcohol

Table 4.10: Frequency and percentage distribution of starting age of alcohol

	Male		Female		Total	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Starting age of Alcohol						
<15years	8	6.0	0	0.0	8	5.4
15-19 years	60	44.8	6	40.0	66	44.3
20-24 years	41	30.6	2	13.3	43	28.9
25 years and above	25	18.7	7	46.7	32	21.5
Total	134	100.0	15	100.0	149	100.0
Mean	20.15 yr		23.80 yr		20.64 yr	
SD	4.354		6.097		4.799	

According to table 4.11, the mean age to start use of alcohol was 20.64 year with the standard deviation of 4.779 among the 149 participants who used alcohol and the mean age in male is younger than females. The majorities who started to use alcohol are between the age of 15-19 years of age and it was about 44% of who ever drink. The starting age was also younger in male than female.

4.4.5 Methamphetamine use

Methamphetamine is also one of the substances used. In this study, there is only one person who said he had ever used for methamphetamine. He is 47 years old married man and he has been living for nearly 20 years in Mae Sai. He had been experienced in last 14 years ago (1997) when he was 23 year old. At that time he used with one of his friend. According to his saying, it was easily available at that time and he just wanted to know and had been tested. He bought from Myanmar at that time as the border can easily pass and it was only 6 Baht for one tablet.

According to his experience, the bitter taste present in the throat when sniff by using the wide opening bottle as a lot of drug arrived directly. If using with water, the drug arrive less and not bitter taste. He bought a bottle for 3 baht and put the water into the bottle and he sniffed the drug but he did not answer where he used that drug. "*I don't know about the different or desire as I haven't gone for sex ("A pyaw") after using the drug*", he said.

He answered as the following when he was being asked whether there are more users or not. Before 1998, if the illegal migrants caught, he was only deported back within 24 hours. Only after 1998, the border pass issued and if the illegal migrants caught, he had been in prison. So, the availability become less and less. When there is less available, the price was increased in Mae Sai and he had not been effort and it was only being tested for one to two times. He said that he thought it will become nearly 200 Baht per tablets. Moreover, another reason was a person can be surprised check for methamphetamine in his/her urine by the police when motorcycling or walking on the road. As conclusion, there will be so much reduced than before. Regarding his friends he said, "*As I used only for a short time and I have not many friends. As I have been moved from one place to another and also the same to my friend, I don't know about him and we haven't met for a long time*".

4.4.6 Substance use in Friends

Substance used in friends also important factors for starting to use the substance as peer pressure. According to table 4.8, about 48% of substance users became first used due to peer pressure. So, whether they had substance used friends or not also asked.

According to table 4.7, even though there was only one methamphetamine user, nearly 10% of the population had Myanmar friends of using methamphetamine and nine people had methamphetamine use Thai friends. There only one people who had a Thai friend of using opium and there also one people who had heroin using Myanmar friends. There were 4 people who ever had marijuana using Myanmar friends. There were 12 people who had Myanmar friends of using glue sniffing and there only 1 people who ever had a Thai friend of using the glue.

Table 4.11: Number and percentage of alcohol and methamphetamine use in Myanmar Friends and Thai Friends

	Myanmar Friends		Thai Friends	
	Frequency	**Percent**	**Frequency**	**Percent**
Ever friend of illegal substance use (n=308)				
Methamphetamine	30	9.7	9	2.9
Ecstasy	0	0	0	0
ICE	0	0	0	0
Opium	0	0	1	0.3
Heroinwww	1	0.3	0	0
Marijuana	4	1.3	0	0
Glue	12	3.9	1	0.3

4.5 Sexual risk behaviors

Sexual risk behavior is also a sensitive issue to the respondents. Thus starting from whether they had been sex in the past 12 months. Then if they answer yes, they had been asked with whom to have with.

Among the study population, 119 people had history of sex in the past 12 months and among them, 19 singles had included. Among the people who had history of sex within the past 12 months, about 78% of male had sex with spouse. It was found that only males said they had sex with other than housewives, i.e, lover, sex workers and the same sex. Only one male said he had experienced with the same sex. But the data for sex with spouse was not consistent with their marital status because one of the spouses died before the study had done.

The following table 4.14 showed that the frequency and percentage distribution of history of sex in the past 12 months.

Table 4.12 : Frequency and percentage distribution of history of sex in the past 12 months

	Male		Female		Total	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
Do you have sex in the past 12 months?						
Never	47	28.3	61	43.0	108	35.1
Ever	119	71.7	81	57.0	200	64.9
Total	166	100.0	142	100.0	308	100.0
With whom did you have with?						
Spouse only	93	78.2	81	100	174	87.0
Lover only	8	6.7	0	0.0	8	4.0
Sex worker only	8	6.7	n.a	n.a	8	4.0
Spouse and sex workers	7	5.9	n.a	n.a	7	3.5
Lover and sex workers	2	1.7	n.a	n.a	2	1.0
MSM only	1	0.6	n.a	n.a	1	0.5
Total	119	100.0	81	100.0	200	100.0

4.5.1 Alcohol use with sex

Alcohol can prevent sexual inhibition and thus alcohol use before or during sexual activity had been asked. Alcohol use with sex means that the alcohol used before or during sexual activity among the current drinkers.

According to the table 4.7, there were 44 respondents had ever use alcohol with sex among the 144 current alcohol drinkers and it was nearly 30% of current alcohol drinkers. For male current drinkers, about 32% had experienced with using alcohol and about 13% of female current drinkers had experienced with using alcohol with sex.

Among the participant who had experienced with the use of alcohol with sex, the frequency of condoms used had been asked in their last time use. The table 4.16 showed the frequency and percentage distribution of condom used with last time alcohol use with sex.

Table 4.13 : Frequency and percentage distribution of alcohol use before/during sex among the current drinkers (n=144)

	Male		Female		Total	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Never	88	68.2	13	86.7	101	70.1
Ever	41	31.8	2	13.3	43	29.9
Never drink during last 12 month	(37)	-	(127)	-	(164)	-
Total	129	100	2	100	144	100

About 12% of the people used condoms in their last time sex and they were only males. The others did not use condoms in their last time and only 2 women said they used alcohol with sex and they did not used condoms at their last time alcohol use with sex.

Table 4.14: Frequency and percentage distribution of condom used with last time sex with alcohol use (n=43)

	Male		Female		Total	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
No	36	87.8	2	100.0	38	88.4
Yes	5	12.2	0	0.0	5	11.6
Never drunk and never sex in the past 12 months	(125)	-	(140)	-	(265)	-
Total	41	100.0	2	100.0	43	100.0

4.5.1 Condoms use during sex

The nature of condom used can be depending on the type of their sexual partners. Therefore condom used had been also asked according to their partners. The partners also divided into spouses, lovers and sex workers. Always used means they use the condoms always when they have sex. Often means if they used the condom not always but more than half of the time when they have sex and if they used irregular and the frequency of usage was less than half, it was noted as often use. The following table showed the frequency of condoms used with their partners.

Table 4.15: Frequency and percentage distribution of condom used among who had sex within the past 12 months

	Never		Ever		Total	
	Freq	%	Freq	%	Freq	%
Male* (n=119)						
Spouse	91	76.5	9	7.6	100	84
Lover	5	4.2	5	4.2	10	8.4
Sex worker	0	0.0	17	14.3	17	14.3
MSM	1	0.8	0	0.0	1	0.8
Female* (n=81)						
Spouse	75	92.6	6	7.4	81	100

*****Multiple responses

Table 4.16: Frequency and percentage distribution of frequency of condom used among who used condoms in the past 12 months

How often do you use condoms?

	Always		Often		Sometimes		Total	
	Freq	%	Freq	%	Freq	%	Freq	%
Male*								
Spouse	1	11.1	1	11.1	7	77.8	9	100.0
Lover	4	80	0	0.0	1	20.0	5	100.0
Sex worker	15	88.2	2	11.8	0	0.0	17	100.0
MSM	0	0.0	0	0.0	0	0.0	0	100.0
Female *								
Spouse	0	0.0	0	0.0	6	100.0	6	100.0

*Multiple Response

For condom used who had history of sex in the past 12 months, 31 males had ever used condoms during sex and 6 females had ever used condoms during sex. Only 20% of the male population (i.e 20) said they always used condoms at the time of sex and the couples used condoms with spouses for the contraception or birth control.

4.6 Relationship between independent and dependent variables

4.6.1 Relationship between socio-demographic characteristics and knowledge of HIV/AIDS

Before analysis the knowledge of HIV/AIDS with other variables, the knowledge group was divided into two groups, i.e low level of knowledge (below the level of average) and high level of knowledge (above the average level)according to the mean (8.37). To find the relationships between socio-demographic and knowledge level of HIV/AIDS, Chi-square test was used. The statistical significant was used by 0.05.

For gender, males were the higher percentage in the high level knowledge but oppositely females had higher percentage in the low level of knowledge. It was statistically association found between the gender and knowledge level with the p-value of 0.008.

For education with the knowledge level, both of the knowledge levels had the higher number of education level in the middle and above education groups. Moreover, it was significantly associated with the education and the knowledge of HIV/AIDS with the p-vale of <0.000 and the higher education person had the higher knowledge level.

Income of the respondents can also attribute to the knowledge of HIV/AIDS. The higher proportion of low income peoples were found both in the two levels of knowledge. But in the higher income people, the higher proportion of the respondents with the high level of knowledge was found. Furthermore, it was also statistically significance with the p-value of 0.012 with the knowledge level of HIV/AIDS.

The age of the respondents was grouped into below that age of 24 and above the 24 years. There was no statistically significance found between the age group and the knowledge of HIV/AIDS. Bu the percentage of the younger age group was more in the low level and the high level group had more percentage of the people from the older group.

As the majorities of the people was Burma in the study population. There was no statistically significance found between the races and the knowledge of HIV/AIDS.

In Burma, more people in the lower level but oppositely, the more people in the high level in other races.

Marital status was divided into single and the people who had ever married. But in this group both the levels of knowledge had the lower proportion of single than the ever married group and the marital status was not statistically significance with the knowledge of HIV/AIDS.

For registration status, there was not much difference between the low and high level of knowledge in the registered and un-registered groups. The knowledge of HIV/AIDS was not statistically significance with the registration status.

Table 4.17: Relationship between socio-demographic and knowledge level of HIV/AIDS

	Low level	High level	χ^2	p-value
	Freq (%)	Freq (%)		
Age			3.144	0.076
18-24 years	63 (57.8)	46 (42.2)		
Above 24 years	94 (47.2)	105 (52.8)		
Gender			7.056	0.008
Male	73 (44.0)	93 (56.0)		
Female	84 (59.2)	58 (40.8)		
Race			1.371	0.242
Burma	130 (52.6)	117 (47.4)		
Others	27 (44.3)	34 (55.7)		
Marital Status			1.209	0.272
Single	70 (54.7)	58 (45.3)		
Ever married	87 (48.3)	93 (51.7)		
Registration status			0.118	0.732
Unregistered	57 (52.3)	52 (47.4)		
Registered	100 (50.3)	99 (49.7)		
Education			26.802	0.000
≤Middle education	130 (60.7)	84 (39.3)		
>Middle education	27 (28.7)	67 (71.3)		
Income			6.385	0.012
≤ 7500 Bahts	125 (55.3)	101 (44.7)		
> 7500 Bahts	32 (39.0)	50 (61.0)		

4.6.2 Relationship between socio-demographic characteristics and alcohol

Before finding the relationship between the use of alcohol with other variables of interest, current drinkers were defined as the person who had drunk within the past 12 months and non-current drinkers were defined as the person who had never drunk as well as the person who had not drunk within the past 12 months.

Among the current drinkers, the male population was in the higher proportion but in the non-current drinker, the female population was in the high ratio. Moreover, the statistically significance found between the current drinking status and the gender with the p-value of <0.000.

The large proportion of non-drinker had been found in the low income group but opposite to this, a large proportion of current drinker had been found in the high income group. It was statistically significance between the income and current drinking status with the p-value of <0.000.

The people who never use tobacco or not the current drinkers had been found the large proportion in the study population. But in the population of the people who ever use tobacco had been found in the large proportion in the current drinkers. There also statistically significance found between the tobacco use and the current drinking status with the p-value of <0.000.

According to table 4.19, more population was in the older age group both in the current and non-current drinkers. Moreover, a large proportion of non-drinkers found in Burma and but for the other races, it was not much difference in current and non-current drinkers. Both in the age and the race, it was not statistically significance was found between the current drinking status with the age and the race.

For marital status, single have less proportion in both the current and non-current drinker groups than the person who ever married. For registration status, the registered population had the higher percentage both in the unmarried and non-current drinker. There was no statistically significance was found between the current drinking status with the marital status and the registered status.

Table 4.18: Relationship between socio-demographic characteristic and alcohol

	Non-Current drinker	Current drinker	χ^2	p-value
	Freq (%)	Freq (%)		
Age			0.527	0.468
18-24 years	55 (50.5)	54 (49.5)		
Above 24 years	109 (54.8)	90 (45.2)		
Gender			138.61	0.000
Male	37 (22.3)	129 (77.7)		
Female	127 (89.4)	15 (10.6)		
Race			0.555	0.477
Burma	134 (54.3)	113 (45.7)		
Others	30 (49.2)	31 (50.8)		
Marital Status			1.834	0.176
Single	74 (57.8)	54 (42.2)		
Married/Widow/Divorce	90 (50.0)	90 (50.0)		
Registration status			1.448	0.229
Unregistered	53 (48.6)	56 (51.4)		
Registered	111 (55.8)	88 (44.2)		
Education			2.253	0.133
≤Middle education	120 (56.1)	94 (43.9)		
>Middle education	44 (46.8)	50 (53.2)		
Income			12.462	0.000
≤ 7500 bahts	134 (59.3)	92 (40.7)		
> 7500 bahts	30 (36.6)	52 (63.4)		
Tobacco use			45.705	0.000
Never	143 (65.6)	75 (34.4)		
Ever	21 (23.3)	69 (76.7)		

4.6.3 Relationship between socio-demographics and sexual behavior

In this study, multiple sexual partners were the one who had more than one type of partner in the last 12 months (spouse, lover or sex-workers). Firstly, purposing to find the relationship between the socio-demographic characters with the multiple partners, chi-square test was used.

The multiple sexual partners were found only in 9 people and among them three were single and the other six were who had ever married.

The significant association was found between age and multiple partners with the p-value of 0.017. According to fisher's exact test, statistically significant was found between gender and the multiple partners with the p-value of 0.004.

Table 4.19: Relationship between socio-demographic and multiple sexual partners

	Multiple Sexual Partner		p-value (Fisher's Exact Test)
	No	Yes	
	Freq (%)	Freq (%)	
Age			1.000
18-24 years	106 (97.2)	3 (2.8)	
Above 24 years	193 (97)	6 (3)	
Gender			0.004
Male	157 (94.6)	9 (5.4)	
Female	142 (100)	0 (0)	
Education			1.000
≤ Middle education	208 (97.2)	6 (2.8)	
> Middle education	91 (96.8)	3 (3.2)	
Race			0.080
Burma	242 (98)	5 (2)	
Others	57 (93.4)	4 (6.6)	
Marital status			0.740
Single	125 (97.7)	3 (2.3)	
Married/ Widow/Divorce	174 (96.7)	6 (3.3)	
Registration Status			0.288
Registered	104 (95.4)	5 (4.6)	
Unregistered	195 (98)	4 (2)	
Income			1.000
≤ 7500 bahts	219 (96.9)	7 (3.1)	
>7500 bahts	80 (97.6)	2 (2.4)	

4.6.4 Relationship between socio-demographic characteristics and alcohol use with sex

There are so many studies found that alcohol use is strongly associated with HIV risk for sexual behavior. Thus better understanding about the alcohol use with sex, the relationship with the socio-demographic characteristics and alcohol use with sex among the current drinkers had been done and chi square test was used and the significant association was determined with the p-vale of <0.05.

According to table 4.21, the older age group (above 24 years of age) were the higher proportion both in ever alcohol use with sex or never use. Furthermore, age was statistically significant with alcohol use with sex (p=0.001). Similar to the age, the people who ever married were the higher proportion both in ever alcohol use with sex or never use. . The single group was less use of alcohol with sex and it was only about 9% of the single population. Moreover, the alcohol use with sex was also statistically significant with marital status of p-value <0.000

Among the 43 participants who ever used alcohol among the current alcohol user(144), the majority were the male population and 41 out of 43 who ever use alcohol with sex were male and only 2 were female. But after running chi-square test, there was no statistically significance with gender and alcohol with sex.

Among the participants who had ever use alcohol with sex, the proportion of registered population was higher than the unregistered population. Moreover, Burma was the higher proportion both in the people who ever use alcohol with sex and also in the people who had never use alcohol use with sex.

Concerning about the level of education, the middle and above middle level of education were the higher proportion both in the ever and never use alcohol use with sex. For income status, less income group were the higher proportion both in the ever and never use alcohol use with sex. Moreover, the proportion was not much different for the two level of knowledge of HIV/AIDS in the people who ever use alcohol with sex.

Table 4.20 : Relationship between socio-demographic characteristic and alcohol use with sex

	Never	Ever	χ^2	p-value
	Freq (%)	Freq (%)		
Age			11.78	0.001
18-24 years	47 (87.0)	7 (13.0)		
Above 24 years	54 (60.0)	36 (40.0)		
Gender			2.184	0.139
Male	88 (68.2)	41 (31.8)		
Female	13 (86.7)	2 (13.3)		
Registration status			0.073	0.787
Unregistered	40 (71.4)	16 (28.6)		
Registered	61 (69.3)	27 (30.7)		
Marital status			17.509	0.000
Single	49 (90.7)	5 (9.3)		
Married/Divorce/Widow	52 (57.8)	38 (42.2)		
Race			3.557	0.059
Burma	75 (66.4)	38 (33.6)		
Others	26 (83.9)	5 (16.1)		
Education			1.113	0.291
<Middle education	33 (64.7)	18 (35.3)		
≥Middle education	68 (73.1)	25 (26.9)		
Income			2.946	0.086
≤ 7500 bahts	60 (65.2)	32 (34.8)		
> 7500 bahts	41 (78.8)	11 (21.2)		
Knowledge on HIV/AIDS			1.297	0.255
≤ Average level	39 (65.0)	21 (35.0)		
> Average level	62 (73.8)	22 (26.2)		

The registration status, the races, the level of education, the income level, the knowledge level of HIV/AIDS were found that there were no statistically significance with alcohol use with sex.

CHAPTER V

DISCUSSION

5. Discussion

This cross-sectional study was done among Myanmar migrant workers in Mae Sai, Chaing Rai Province, Thailand to describe the situation of the substance use and sexual risk behavior. There were 308 respondents with male (166) and female (142) were recruited in this study. The questionnaires included socio-demographic characteristics, HIV/AIDS knowledge, substance use and sexual behaviors. During data analysis, Chi square test were used to determine the relationship of the variables. This section will be discussed according to the research objectives.

5.1 Knowledge of HIV/AIDS in Myanmar Migrants workers in Mae Sai

The behavior of a person is mainly influenced by his knowledge on that behavior and pre-migration characteristics (eg. age, gender and education) and post-migration or effect of migrations (living and accommodation, income, working environment and peer pressure) also influence the knowledge of HIV/AIDS. In this study, 15 sets of questions regarding the knowledge of HIV/AIDS and depend on the mean, the knowledge level was also divided into two groups, the below and above the level of average.

Among the two level of knowledge of HIV/AIDS in this study, the more percentage of low level of knowledge found in the younger age group but there was no significant association between the knowledge level and age group. It was different from the study done in Samut Sakhon Provine. (Ahmed, 2001).

Gender was found to be associated with the level of knowledge and belief of HIV/AIDS. It was the same with the previous studies. (Ahmed, 2001; Mullany L.C, 2000) Contrast to this, gender was no significant difference in the previous studies in Thailand. (Thu, 2003 and Htun, 2008)

Generally, the knowledge of HIV/AIDS between the males and females were not much different in each questions and most of the people can answer half of the questions. Moreover over 25% thought that HIV/AIDS is not concern only with the

gay men and over 32% thought that HIV/AIDS is not concern only with the injecting drug users. But it was found that about 18% of the people knew that the transmission HIV can prevent between husband and wife. It indicated that there will be a stigma in the community if they knew that one of the spouses is infected with HIV, they will believe that the other will have HIV. This indicates that they believe that HIV is only confined to that population and they were being away from that disease.

Furthermore, the same with the assessment done by IOM in 2005, about 60% of the study population thought that HIV/AIDS can transmitted through a mosquito bites. This was more than the baseline survey of the Evaluation and Monitoring of the Prevention of HIV/AIDS among Migrant Workers in Thailand (PHAMIT) project (Ford & Chamrathrithirong, 2007). Some also believed or unsure that kissing each others could also transmit HIV. These were also found in the previous study (Htun, 2008).

This may be due to the facts that they had been familiar with malaria and it was transmitted by the bites of mosquitoes through the blood sucking from the infected person. As HIV/AIDS can also be transmitted by the blood, they were mis-understanding with the mode of transmission of HIV/AIDS. Moreover, about 26% of the total population knew that HIV is different from AIDS and the others thought that a positive HIV test means the person had AIDS. This can also be lead to the stigma in the migrant communities if they had people living with HIV.

Even though 85% of the population knew that using condoms can reduce HIV transmission, only 63% of the population said they knew the places where the condoms can get. But it was less than the percentage of the study in 2009 in Ranong (Htoo & Panza, 2009). Among them, 30% of the population mentioned that condoms can get at their work place and it was found that the condoms boxes were holding besides their time-sheet cards and the condoms were replaced by the staffs from the INGO.

5.2 Substance use in Myanmar migrant workers in Mae Sai

This section focused on the substance use in Myanmar migrant workers in Mae Sai. Although the substances included tobacco, alcohol, methamphetamine,

ecstasy, ICE, opium, heroin, marijuana and glue had been asked, the study found that the migrants experienced from tobacco, alcohol and only one respondent for methamphetamine.

In the current study, the percent of current drinkers was 77.7% in males and 10.6 % in females. This male figure was more than the previous study done in Ratchaburi province (Soe, 2011) in which was 73.8%. Moreover, the trend was increasing in nature among Myanmar migrants ((Howteerakul, Suwannapong, & Than, 2005) and(Khinge, 2009)). This may be due to the facts that alcohol becomes accepted as a social beverage in Myanmar migrants and they can access with the prices that they can afford.

It was found that alcohol ever use was more than tobacco both in male and female populations. This may be due to the facts that the price for one pack of tobacco was higher than a bottle of beer and for social and fun for meeting, alcohol was becoming the social beverage. The female had been experienced for alcohol especially in the New Year festival celebrated in the factory or their work place. Thus, most of the reason for using the substance had been for peer pressure and relaxation. Sometimes, these two reasons can also be both especially for the migrants because they were working in the new environment that gave to the stress and sometime peer pressure can also be one of the superimposed factors to use that substance. This can also explained that why the alcohol drinker within 30 days was reduced than the current drinkers who drunk in the past 12 months.

Regarding the starting age, the more numbers of younger age group had been found in tobacco use than alcohol use even though the alcohol users were more than the tobacco users. This may be due to the curiosity to tobacco as they had been seen in the movies and they imitate what the actors did. Therefore, the mean age of tobacco use was less than the mean age of alcohol use. In this study, the mean age of alcohol use was about 21 years and it was the same in the study done in Myanmar (Htike, 2006) but younger mean age group found in than the study done in Thailand (Soe, 2011)

Even though it was found only one methamphetamine user, 30 respondents have friends of using methamphetamine. Moreover, the number of having friend with

the heroin user were only one and for marijuana, there only 4 people had friends. This was because as most of the respondents were the native Burma from the central region of Myanmar. They came directly to the work place and no experience in living in the cross-border area apart from their current place. Moreover, they are living with relatives, spouses and parents as they were socially coping with each others in Mae Sai. Therefore, they had been less chance to meet with the drug users or dealers.

But the people who had temporary stay in Tarchileik, they have been friends with the glue sniffers as the glue can buy easily and this was also not the illegal substances. Thus, the numbers of friends with glue users were more than the heroin and marijuana. But compare with the Thai user friends and Myanmar user friends, the people who had Thai user friends were less than the people who had Myanmar friends. This can also be due to less accessible to the drug in Thailand and also be due the communication barriers and living situation.

5.3. Sexual risk behaviors in Myanmar migrant workers in Mae Sai

According to conceptual framework, the sexual risk behavior depends on the socio-demographic characteristics, practices of substance use and the knowledge and belief of HIV/AIDS. In this section, sexual risk behaviors among the Myanmar migrant workers in Mae Sai were focused including history of sex in the past 12 months, sexual partners and condoms used.

The previous study done in Samut Sakhoorn province, Thailand found that men who were single or apart from their wives were more likely to have multiple partners and sex with sex workers while women were not (Thu, 2003). This was also found in this study and women have sex only with their spouses and not with the sex workers or others.

Moreover, factors included in the socio-demographic characteristics, 59% of the study people were single but about 65% of the people had history of sex in the past 12 months. Especially nearly 5% of males had found such experiences. This may be due to curiosity or peer pressure (Yang et al., 2007) to become a man or adult. This represent that a few of migrant singles have experienced in sex before they had been married.

In this study, about 80% of Myanmar migrants who had history of sex in the past 12 months did not usually used condoms while having sex with their partners. It was nearly the same with the study done among Myanmar migrants in Bangkok (Htun, 2008) and more than the study done in Samut Sakhorn. (Tin, 2000) Among the respondent who had history of sex in the past 12 months, about 14% said they had been experienced with sex workers but only 12.6% said they always used condoms when had sex with sex workers. This was lower than the study done in Myanmar migrants at Phuket cited in (Htun, 2008). Thus HIV education for condoms used to the migrants should be done for regular and consistent use of condoms although they knew that condoms can reduced the transmission of HIV.

Moreover, the study found that the frequency of condoms used varied depend on the sexual partners. But in general, condom used rate was low in the study population. In spite of knowledge of condoms, it was found that they were not using condoms regularly. This can be due to they had not been prepared or having drunk or believe to the provider as she was pretty and young. Moreover, they did not use the condoms with their spouses as they believe and trust to their partners. (Htun, 2008) Among the spouses, they usually use the condoms with the reason of birth control.

Among the 30% of the respondent who were the current drinkers, there were about 12% of the respondents used condoms with partners after they used alcohol. Although the number of people who had multiple sexual partners was only 9 people, this was one of the high risk behavior and sexual education need to be done. This can be due to have new experience at new environment or they were being away from their partners. Nearly 60% of the people were married and most of them stay with their spouses that they were not separate living and moreover, there also some relatives living together.

5.4 Relationship of the alcohol use and sexual behaviors in Myanmar migrant workers

Alcohol is one of the risk factors for high risk sexual behaviors (Bryant, 2006); (Parker, Harford, & Rosenstock, 1994); (Stall, McKusick, Wiley, Coates, & Ostrow, 1986). Moreover, engaging the sexual risks among who drunk were at least twice than among who did not drunk (Anderson & Dahlberg, 1992) .In this section,

for better understanding of alcohol use, the relationship of socio-demographic factors with current alcohol use discussed first and the relationship of the socio-demographic factors with the alcohol use with sex was followed.

In this current study, the mean age of the population for first exposure to alcohol was about 21 years and it was the same with the study done in Myanmar (Htike, 2006). This study did not find the association with the age of respondents and the current drinking status. Contrast to this study, the previous studies found that the age was associated with the alcohol. (Soe, 2011) and (Htun, 2008). In Myanmar culture, female drinking was more unacceptable. Moreover, buying the alcohol beverages by females was very rare in Myanmar culture and it was a very bad habit and culturally also not accepted. Thus the mean age of females starting to use alcohol was older than in males.

In the study population, current alcohol use was found to be associated with gender, income and tobacco use with the p-value of <0.000. Gender was also found to be associated with alcohol drinking done in Bangkok (Htun, 2008). Being male will be a greater chance to be a drinker as they had been going outside as normal life and the spending of their free time is different from the females.

Migrants come to Thailand with the aim of earning money. So, they save the money as much as they can and gave back to the family. So, only the higher income can spend their income for alcohol use in their free times in order to relax the stress and tiredness. Moreover, the higher incomes personal have many friends as they can organize the occasions. Therefore, having higher income was more likely to be current drinker and it was statistically significance with the p-value of <0.000. But this was contrast to the study done in Myanmar migrants (Htun, 2008).

Tobacco use and alcohol use are linking with each other. If a person started to use smoke, it was easier to start to drink. But not all the tobacco users were not drinker and vice-versa. Moreover, peer pressure also plays an important role among the smoker to become a drinker. In this study, tobacco use was statistically significant with current alcohol use with the p-value of <0.000.

Even though education was associated with the knowledge of HIV/AIDS, it was not found to be significance with the current alcohol use and education level. This may be due to it was consumed both in the lower and higher education level. This similarity found in the previous studies. ((Soe, 2011) and (Htike, 2006)).

Moreover, as they were living in the same compound and as they were familiar with each other, the marital status did not affect on the current drinking status. Similarly, this marital was not associated with the drinking status in the study done for Myanmar migrants in Ratchaburi Province (Soe, 2011). Similar to this, the race also did not statistically significance with the current drinking status even though the majority was Burma.

In this study, registration status of the migrants was not significance with the current drinking status. This may be due to the fact that the sources for alcohol beverage will be the same among the legal and illegal workers. As they are living the same compound or near to each others, they can share the alcohol especially at the special occasions or when they had had parties.

On focusing the person who had ever experience in alcohol with sex among the current drinkers, the age and the marital status were significance with the p-value of 0.001 and <0.000 respectively and the older age tends to be use alcohol. (Thu, 2003) This may be due to the facts that the older age group can easily search for sex than the younger age group and the partner can be spouses if they were married or even to the sex workers.

Alcohol can prevent the inhibition of sexual desires. Thus after alcohol, most of the people tend to be found for the sexual partners and the higher income person can find easily for buying sex. But this was not found in this study similar to the study done in Bangkok. (Htun, 2008) This may be due to the facts that most of their sexual partners were spouses and they don't need to cost the extra money. As most of their sexual partners were the spouse and this can also be explained to many variables, such as the ethnics, registration status and education levels were not statistically significance with the alcohol use with sex.

CHAPTER VI

CONCLUSION, RECOMMEDNDATION AND LIMITATION

6.1 Conclusion

The aim of this study was to assess the current situation regarding the sexual risk behavior and substance use in relation to HIV/AIDS among Myanmar migrant worker in Mae Sai, Chaing Rai Province.

Regarding the general characteristic of the 308 participants (males =166 and females =142), nearly 80% were Burma and one third of the population were less than 25 year old. More than half of the population were married and about 60% of the population had middle and above education. It was found that the two-third of the populations was registered. The duration of stay in Mae Sai was about 4 year on average and in Thailand was about 5 years on average. Nearly half of the population were living at their rent rooms and another nearly half of the population were living at the place provide by their work and more than half of the people were living together with their spouses. More than half of the population had monthly income between 5000 baht and 7500 baht with the average income of about 6500 baht.

Moreover, it was found that 69% of people seek health care in the past 12 month but only 20% got education regarding HIV/AIDS in the past 12 months. In the study population, about 76% of the population had moderate level of HIV/AIDS knowledge to the 15 questions and the knowledge level among the gender was not much different. Although 85% knew about condoms can reduce the transmission of HIV, 63% knew the place where the condoms can get.

In Mae Sai, tobacco and alcohol were the common substances used in Myanmar migrants. Among them, about 52% of male and 2% of females had ever use smoking. For alcohol, about 81% of male and about 11% of females had ever use. The mean age of first used for tobacco was 18 years but for alcohol was 21 years. About half of the reason for using the substance was according to the peer pressure. Between these two substances, tobacco use was more stable and alcohol use was decline comparing to the ever use and used within 30 days.

For sexual risk behaviors, less condom use rate, multiple sexual partners and alcohol use with sex were presented among the migrant population. Condom used was low in partners especially with the spouses. All the people who used the condoms with their spouse were for the birth control. The age and gender were found to be associated with having multiple sexual partners and the older age was more likely to have multiple sexual partner and males have more multiple sexual partners. Alcohol use with sex also associated with the increasing age and being ever married.

6.2 Recommendations

After conclusion, the study would like to give recommendations to policy makers and implementers regarding HIV/AIDS and substance use program to the migrants' population. Before going to detail, it can be summarized to the more health education sessions and legal enforcement regarding substance use. This should be done focusing individual level, communities level and also to the stake holders and /or the implementation organization level.

For the individual level, empowerment should be given to them with participatory education both in their residence communities but also in the working environments. For the communities level, information and awareness raising should be done with the used of media and in the some occasional ceremonies. For the stake holder level, health officials and non-governmental organization should be done a suitable BCC strategy for better understanding about the HIV/AIDS and health care services for the migrant populations, empowering the peer volunteers and also to other counterparts and close collaboration with the Ministry of Health from Myanmar for prevention, treatment and care.

According to the current studies, more than two third of the population had moderate level of knowledge of HIV/AIDS. But it was found that the practices of their knowledge were not adequate. For examples, the persistent and correctly use of condoms was poor even though they knew that the condoms can reduce transmission. Thus behavior change communication programs should be done in the targeted communities especially for the youth.

Moreover it was found that the communities can access with the sex workers not only to the singles but also to the married peoples. Besides these, they had poor knowledge about sexually transmitted infections and it will be delayed in the early diagnosis, treatment and cares. Regarding the HIV/AIDS, most of the study populations thought that it was only concern with gay men and people who inject drugs. Being thinking like this will increase the social stigmas to HIV/AIDS and also to the positive population to become hidden. Thus awareness raising for how to live with positive people, positive living for healthy and happy lives, prevention of mother to child transmission program should be done to the migrant communities. This will also increased the chances of getting HIV/AIDS in the migrant populations.

There is a saying that goes : " Prevention is better than cure". Even thought the sexual risk behavior was found in the older age group, education programs should be focused to the younger age group (18-24 years). For better implementations, there were also cultural barriers especially in Myanmar communities regarding HIV/AIDS and sexual risk behaviors. It will be better if the knowledge education should also be done through the local migrant organizations and religious youth groups.

Similarly, smoking and tobacco use are common in the migrants and it was not declining in nature. Thus education should be done regarding these substances used. Nowadays, social drinking is becoming accepted and most of the special occasions are providing with the alcoholic beverages. Thus regarding the disadvantages of alcohol drinking and health effects should also be done. Moreover, tobacco smoking and alcohol drinking are linking with each other and it was found that association also present and both of them can give rise to the harmful health effects. Thus education regarding these substances should be done especially targeting to the youths for better outcomes. Moreover advertising of these substances should also be limited and designed not to be focus to the youths because nowadays, the advertisements are focusing to the youths especially in the football matches.

Although alcohol use with sex was found mostly with spouses in the current studies, precautions should be taken on this matter. It was already known that alcohol can prevent the sexual inhibitions and the habit of alcohol use with sex will become normal to the one who ever had used and they may be engaged to extra-marital sex.

As the condoms used rate was low in the migrants, this normal habit will promote the transmission of HIV/AIDS. Thus educations not only about the substance use and sexual risks but also how to use correctly and persistent use of condoms should be done to the target communities. Providing condoms should not only be done to the work places but to their residence for easily accessible and behavior changes from the knowledge to become practices.

For effective programs design, government, local authorities, employers or business and the representatives of the migrant workers should be work together. The behavior change programs cannot be stand alone and it should be linkage with the other services for better care, treatment and prevention. Therefore, empowerment to the targeted communities should also be done with the various supports provided by the host communities, local authorities and health professional should be done for better integration and achievements of the outcomes.

This is very important to know about migrants' substance use and sexual risk behaviors in the education and prevention of HIV/AIDS. This study will act as a baseline and furthers studies for knowledge of substance use and practices of the sexual risk behavior in that area with the proper care of selection to include the all ethnic groups to represent all migrants in that area should be done especially in qualitative approach to support for behavior change communications among the migrants' communities.

6.3 Limitations

Although this study was done with the aim to study the substance use including smoking, alcohol and illicit drug use, there is only one user said he had ever use methamphetamine. Therefore, the analysis can only focus with alcohol and smoking. Moreover, multiple sexual partners found only in 9 people and this can also affect to the study of relationship between multiple sexual partners and other variables.

This study was a cross sectional study conducting among Myanmar migrants lived in Mae Sai, Chaing Rai Province, Thailand. This could not be represent as a whole characteristics of Myanmar migrants in Thailand.

As the data was collected by the use of structured interview, there will also be recall bias for substance use and underestimating of sexual risk behaviors not like the qualitative methods.

There also time limitation presented in this study as it last for about 30 minutes although the interview was done in their free times after working hours and sometimes at night. This can also lead to the respondents' impatience, boring and not giving enough concentration to the interviewers.

REFERENCES

Aceijas, C., Stimson, G. V., Hickman, M., & Rhodes, T. (2004). *Global overview of injecting drug use and HIV infection among injecting drug users. AIDS, 18*(17), 2295-2303.

Anderson, J. E., & Dahlberg, L. L. (1992). *High-risk sexual behavior in the general population. Results from a national survey, 1988-1990. Sex Transm Dis, 19*(6), 320-325.

Assanangkornchai, S., Mukthong, A., & Intanont, T. (2009). *Prevalence and Patterns of Alcohol Consumption and Health-Risk Behaviors Among High School Students in Thailand. Alcoholism: Clinical and Experimental Research, 33*(12), 2037–2046. doi: DOI: 10.1111/j.1530-0277.2009.01043.x

Bryant, K. J. (2006). *Expanding Research on the Role of Alcohol Consumption and Related Risks in the Prevention and Treatment of HIV/AIDS. Substance Use & Misuse, 41*, 1465–1507.

Deas-Nesmith, D., Brady, K. T., White, R., & Campbell, S. (1999). *HIV-risk behaviors in adolescent substance abusers.* [Comparative Study]. *J Subst Abuse Treat, 16*(2), 169-172.

Dunn, M. S., Ilapogu, V., Taylor, L., Naney, C., Blackwell, R., Wilder, R., & Givens, C. (2008). *Self-reported substance use and sexual behaviors among adolescents in a rural state. J Sch Health, 78*(11), 587-593. doi: 10.1111/j.1746-1561.2008.00350.x

Ford, K., & Chamrathrithirong, A. (2007). *Sexual partners and condom use of migrant workers in Thailand.* [Research Support, Non-U.S. Gov't]. *AIDS Behav, 11*(6), 905-914. doi: 10.1007/s10461-007-9207-x

Howteerakul, N., Suwannapong, N., & Than, M. (2005). *Cigarette, alcohol use and physical activity among Myanmar youth workers, Samut Sakhon Province, Thailand. Southeast Asian J Trop Med Public Health, 36*(3), 790-796.

Htay, S. S., Oo, M., Yoshida, Y. O., Harun-Or-Rashid, & Sakamoto, J. (2010). *Risk behaviours and associated factors among medical students and community youths in Myanmar. Nagoya Journal of Medical Science, 72*, 71-81.

Htike, T. P. (2006). *A study of Alcohol Consumption among male current drinkers in Sanchaung Township, Yangon.* Master's Thesis, University of Medicine 1, Yangon, Myanmar.

Htoo, K. M., & Panza, A. (2009). *Factors associated with unsafe sex behaviors for prevention of HIV/AIDS transmission among Myanmar migrant fishermen in Ranong, Thailand. Journal of Health Reserach, 23,* 43-47.

Htun, N. S. N. (2008). *HIV/AIDS Risk Behaviours Among Myanmar Migrants in Bangkok Thailand.* Master's Thesis, College of Public Health Sciences, Chulalongkorn University.

International Organization for Migration. (2011a). *Thailand Migration Report 2011 : Migration for development in Thailand: Overview and tools for policymakers*. Bangkok, Thailand: International Organization for Migration, Thailand Office.

International Organization for Migration. (2011b). *World Migration Report 2011: Communicating Effectively About Migration*. Geneva, Switzerland: International Organization for Migration.

Khinge, H. P. (2009). *Factor affecting anxiety and depression in Myanmar migrants adolescents, Bang Bon District, Thailand.* Master's Thesis, College of Public Health Sciences, Chulalongkorn University.

Lin, D., Li, X., Yang, H., Fang, X., Stanton, B., Chen, X., . . . Liu, H. (2005). *Alcohol intoxication and sexual risk behaviors among rural-to-urban migrants in China.. Drug Alcohol Depend, 79*(1), 103-112. doi: 10.1016/ j.drugalcdep. 2005.01.003

Lowry, R., Holtzman, D., Truman, B. I., Kann, L., Collins, J. L., & Kolbe, L. J. (1994). *Substance use and HIV-related sexual behaviors among US high school students: are they related? Am J Public Health, 84*(7), 1116-1120.

Lurie, M., Wilkinson, D., Harrison, A., & Abdool Karim, S. (1997). M*igrancy and HIV/STDs in South Africa--a rural perspective. S Afr Med J, 87*(7), 908-909.

Mathers, C. D., & Loncar, D. (2006). *Projections of global mortality and burden of disease from 2002 to 2030.* [Research Support, Non-U.S. Gov't]. *PLoS Med, 3*(11), e442. doi: 10.1371/journal.pmed.0030442

Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). *Binge Drinking and Associated Health Risk Behaviors Among High School Students. Pediatrics, 119*(1), 76 -85. doi: doi:10.1542/peds.2006-1517

Molitor, F., Truax, S. R., Ruiz, J. D., & Sun, R. K. (1998). *Association of methamphetamine use during sex with risky sexual behaviors and HIV infection among non-injection drug users. West J Med, 168*(2), 93-97.

Mullany, L. C., Maung, C., & Beyrer, C. (2003). *HIV/AIDS knowledge, attitudes, and practices among Burmese migrant factory workers in Tak Province, Thailand. AIDS Care, 15*(1), 63-70. doi: 10.1080/0954012021000039761

N Howteerakul, N Suwannapong, & M Than. (2005). *Cigarette, alcohol use and physical activity among Myanmar youth workers, Samut Sakhon Province, Thailand*. *The Southeast Asian Journal of Tropical Medicine and Public Health, 36*(3), 790-796.

National AIDS Programme. (2012a). *Global AIDS Response Progress Report, Myanmar*. Yangon, Myanmar, National AIDS Programme.

National AIDS Programme. (2012b). *Thailand AIDS Response Progress Report 2012: Status at a glance (31 Mar2012).* Bangkok, Thailand, National AIDS Prevention and Alleviation Committee..

Parker, D. A., Harford, T. C., & Rosenstock, I. M. (1994). *Alcohol, other drugs, and sexual risk-taking among young adults. J Subst Abuse, 6*(1), 87-93.

Puri, M., & Cleland, J. (2006). *Sexual behavior and perceived risk of HIV/AIDS among young migrant factory workers in Nepal*. *J Adolesc Health, 38*(3), 237-246. doi: 10.1016/ j.jadohealth. 2004.10.001

Soe, T. Z. (2011). *Determinants and consequences of Alcohol consumption among male adult Myanmar migrant workers in Ratchaburi Province, Thailand.* Master's thesis, College of Public Health Sciences, Chulalongkorn University.

Stall, R., McKusick, L., Wiley, J., Coates, T. J., & Ostrow, D. G. (1986). *Alcohol and drug use during sexual activity and compliance with safe sex guidelines for AIDS: the AIDS Behavioral Research Project*. [Research Support, U.S. Gov't, P.H.S.]. *Health Educ Q, 13*(4), 359-371.

United Nations Office on Drugs and Crime. (2010). *MYANMAR : Situation Assessment on Amphetamine-Type Stimulants. Global Smart Programme(East Asia),* Bangkok, Thailand, United Nations Office on Drugs and Crime.

United Nations Office on Drugs and Crime. (2012a). *South-East Asia :Opium survey 2012 - Lao PDR, Myanmar*. Vienna, Austria, United Nations Office on Drugs and Crime.

United Nations Office on Drugs and Crime. (2012b). *World Drug Report 2012*. Vienna, Austria, United Nations Office on Drugs and Crime.

Winger, G., Woods, J. H., & Hofmann, F. G. (2004). *A Handbook on Drug and Alcohol Abuse: The Biomedical Aspect* (4th ed.): New York, Oxford University Press, Inc.

Wisit Chaveepojnkamjorn, & Pichainarong, N. (2011). Current drinking and health-risk behaviors among male high school students in central Thailand. *BMC Public Health, 11*(233).

World Health Organization. (2010a). *ATLAS on substance use (2010):Resources for the prevention and treatment of substance use disorders*. France, World Health Organization

World Health Organization. (2010b). *Global status report on noncommunicable diseases 2010.* Geneva, Switzerland, World Health Organization.

World Health Organization. (2011). *GLOBAL HIV/AIDS RESPONSE,Epidemic update and health sector progress towards Universal Access : Progress report.* Malta, Switzerland, World Health Organization

Yang, X., Derlega, V. J., & Luo, H. (2007). *Migration, behaviour change and HIV/STD risks in China.* [Multicenter Study Research Support, N.I.H., Extramural]. *AIDS Care, 19*(2), 282-288. doi: 10.1080/09540120600909414

Zaw, M. M. (2002). *Assessment of knowledge, attitudes and risk behaviors regarding HIV/AIDS among Myanmar Migrants workers in Bangkok, Thailand.* Master's Thesis, Chulalongkorn University.

Zaw, S. T. (2008). *Prevalence of Cigarette Smoking and Factors Influencing Cigarette Smoking Behaviour among Adult Myanmar Migrant Workers in Mahachai Sub-district, Samut Sakhon Province, Thailand.* Master's Thesis, College of Public Health Sciences, Chulalongkorn University.

APPENDICES

APPENDIX A

Form of

Patient/ Participant Information Sheet

Title of research project ……Substance use and HIV-related sexual behavior among Myanmar migrant workers in Mae Sai, Chiang Rai Province, Thailand……..

Principle researcher's name …Mr.Htet Aung…. **Position** ……MPH Student……..

Office address …College of Public Health Science, Chulalongkorn Univerisity...…

Home address …521/3-4 Soi Sriayuthaya 2-4, Sirayathaya Road ,Prayathai Distrit, Rajthavee, Bangkok 10400

Telephone (office) …….. **Telephone (home)** …….

Cell phone …0826860289…….. **E-mail:** ……htet55788086@gmail.com……

1. You are being invited to take part in a research project. Before you decide to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and do not hesitate to ask if anything is unclear or if you would like more information.

2. This research project involves the study of substance use and HIV related sexual behavior.

3. Objective (s) of the project are

- To know the situation relation to the substance use (alcohol and illicit drug use) and HIV risk behavior in Myanmar Migrant Workers in Mae Sai, Chiang Rai province, Thailand

4. Details of participant

The participants are adult Myanmar migrant workers over 18 years of aged who live and work at factories in Mae Sai District, Thailand. Those who

can speak Burmese language, voluntary participation in the study after being informed and given their consents to be interviewed. The one who refuse to participate and has psychological problems are excluded. This study needs at least 306 eligible participants.

The participants are approached by the 2 research assistants, the volunteers from NGOs and also from Mae Sai Hospital. Those have a proper training about this research criterion, ways of discussion issue in face to face interview and approaching technique to participants. The research assistants inform and contact about the research to the factory's owners or managers. After permission, the participants will be invited to be a part of this study because you are the one of adult Myanmar migrant workers residing and working in Mae Sai District.

5. Procedure upon participants:

Before interviewing, the researcher and assistant well-trained volunteers will explain about the purpose of the project and criterion. After invitation had been accepted, you will be asked a series of questions including demographic characteristic, practices of substance use including alcohol, knowledge and belief of HIV, about HIV education services and sexual risk behavior in a structured face to face questionnaire which contained about 50 questions.

The place of conducting interview will be done in suitable place at your work compound or residence during your free time. To select the place to ensure your confidentiality and privacy, please mention the place you would like to prefer which one is the most convenient and most suitable for you.

This will take about 25-30 minutes to complete. The interviewers will take notes which will be deleted after the research finished. Only the overall figures presentation will be done and the rest information will be kept confidential. In some cases, time can be extended a few minutes for more information.

6. Process of providing information which also be stated in the proposal.

6.1 The researcher or assistant interviewer will provide you verbally all the explanation about the purpose of project thoroughly through this sheet which

you can keep one copy for yourself. Upon your voluntary participation, you will be requested to sign on the informed consent form which one copy will be for you.

6.2 The questionnaire is available in Myanmar language and will be asked during your free time apart from working hours.

7. You will not harm due to the participation of this project. Although there are some questions may be make you shy to answer, you can talk freely and openly as the confidentiality is our top priority. Moreover, notes will also be deleted when the research is finished. Moreover, results will be shown with anonymity.

8. The participants will also get benefits such as the materials about knowledge of HIV/AIDS. If study's results proved beneficial to migrant communities, the researcher will share with the stakeholder for policy implementation.

9. Participation to the study is voluntary and participant has the right to deny and/or withdraw from the study at any time, no need to give any reason, and there will be no bad impact upon that participant.

10. Participation will be provided a small gift as a souvenir (e.g a pen and a book) for your kindly contribution to the study.

11. Information related directly to you will be kept confidential. Results of the study will be reported as total figures with anonymity. Any information which could be able to identify you will not appear in the report.

12. In case you have an inquiry or need further information, please contact the research at all time.

13. If researcher does not perform upon participants as indicated in the information, the participants can report the incident to the Ethics Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University (ECCU). Institute Building 2, 4th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th.

APPENDIX B

Questionnaire

"Substance use and HIV-related sexual behaviors among Myanmar migrant workers in Mae Sai, Chiang Rai Province, Thailand"

Questionnaire is related to assess the current situation regarding HIV-related sexual risk behavior and substance use including alcohol in Myanmar Migrants population in Mae Sai, Chiang Rai Province and it will contain about sociodemographic characteristics, access to HIV/AIDS health education services, knowledge about HIV/AIDS, substance use including alcohol and sexual risk behavior related to HIV/AIDS.

Participant Code. No ( )

Instruction: Please tick in the ☐ and also write down in the blank space where provided as needed.

Part I: Socio demographic characteristics

1. What is your completed Age? ---------- years
2. What is your gender? ☐ 1.Male ☐ 2. Female
3. What is your race?

   ☐ a. Shan ☐ b. Mon ☐ c. Karen

   ☐ d. Burma ☐ e. Kachin ☐ f. Others (Please Specify) _____

4. What is your marital Status?

   ☐ a. single

   ☐ b. Married

   ☐ c. Widow

   ☐ d. Divorce

   ☐ e. Other (Specify) _____

5. What is your highest Education?

   ☐ a. No education (illiterate)

   ☐ b. Primary education or basic monastery school (can read and write)

   ☐ c. Middle School

☐ d. High School

☐ e. University or higher

6. Please tell about your migrant status.

☐ a. Unregistered ☐ b. Registered

7. What is your position in the factory? _____

8. What is your monthly income? _____ Bahts/month

9. Where do you live?

☐ a. Rent house

☐ b. Hostel

☐ c. Room given by factory

☐ d. Other (specify) _____

10. Who do you live with? (Ticks all that relevant to you)

☐ a. Husband/wife (spouse)

☐ b. Family

☐ c. Relatives

☐ d. Friends

☐ e. Alone

☐ f. Other (Specify) _____

11. How long have you been in Thailand? _____year _____ months

12. How long have you been in present resident? _____year _____months

13. What is your skill in Thai language?

Items	**No.**	**Yes but a little (basically)**	**Fluently**
Speaking			
Listening			
Reading			
Writing			

Part II. Access to HIV/AIDS health education services

1) If you get ill, where you usually go for your health care services?

(Ticks all which you have received)

- ☐ a. Government hospital
- ☐ b. Government clinic
- ☐ c. Private Clinic
- ☐ d. Drug Store
- ☐ e. Traditional medicine
- ☐ f. Other (specify)

2) Since you have been in Mae Sai, have you ever received any health education materials or education session on HIV/AIDS in the past 12 months?

☐ a. No, Skip to Q.7 ☐ b. Yes

3) What types of health education materials or sessions have you received in the past 12 months? (Ticks all which you have received)

- ☐ a. Pamphlets/leaflets
- ☐ b. Cartoon booklets
- ☐ c. Wall sheet/Poster
- ☐ d. Health Talk
- ☐ e. Group training/ workshop
- ☐ f. Video
- ☐ g. Others (Specify)

4) How many times did you received in the past 12 months?

- ☐ a. 1 time
- ☐ b. 2-3 times
- ☐ c. More than 3 times

5) From whom did you received in the past 12 months?

(Ticks all which you have received)

☐ a. Health Personnel (Government/NGO/Private)
☐ b. Friends
☐ c. Relatives/Family
☐ d. Owner of the Factory
☐ e. Other (Specify)

6) Which language is mostly used in these events in the past 12 month?

☐ a. Thai
☐ b. Burmese
☐ c. Thai-burmese
☐ d. Others (Specify) _____

7) Do you know where to go to get tested for HIV?

☐ a. No, skip to Q 12 ☐ b. Yes
☐ c. Not sure/ Don't know, skip to Q 12

7.1) If yes, where do you have to take? _____

8) Have you ever been tested for HIV?

☐ a. No, Skip to Q12 ☐ b. Yes

9) Please tell me the date especially when you tested for HIV if you remember?

☐ a. Not remember ☐ b. if Yes, ---------- (month) ---------- (year)

10) What was the reason for testing? ----------

11) Have you or your partner ever used condom?

☐ a.No ☐ b. Yes

12) Do you know where can you get condom?

☐ a. No ☐ b.Yes, which places you can get it?

☐ 1. Shop ☐ 2.drug store ☐ 3.NGO
☐ 4. Clinic ☐ 5.at workplace ☐ 6. Other (please specify)_____

Part III. Knowledge and beliefs about HIV/AIDS

1). Now, I will read out some questions about HIV/AIDS based on your own knowledge. Some of the questions have correct information and some are not correct. You can answer "Yes" if you think, is correct, "No" for incorrect and "Don't know/Refuse" if you don't know the answer is whether correct or not.

Sr.	Question	No	Yes	Don't know/Refuse
A	A person can get HIV from receiving blood in the hospital.	0	1	9
B	A blood test for HIV is a very good way to find out if you have HIV.	0	1	9
C	A positive blood test for HIV means that a person has AIDS.	0	1	9
D	Having sex during menstruation increases the chances of getting HIV.	0	1	9
E	HIV is only a problem for gay men.	0	1	9
F	HIV is only a problem for injecting drug users.	0	1	9
G	It's unlikely that someone can get HIV by kissing someone who has the virus.	0	1	9
H	Using a condom during sex reduces the chance of getting HIV.	0	1	9
I	A person can be infected with HIV and have no symptoms of the disease.	0	1	9
J	A person can get HIV through a mosquito bite.	0	1	9
K	If you have a sexually transmitted disease (STD), your chance of getting HIV is higher.	0	1	9
L	HIV/AIDS cannot be cured.	0	1	9
M	At present, there are drugs to treat HIV/AIDS.	0	1	9
N	If you get HIV and do not receive more viruses, you may live longer.	0	1	9
O	If husband get HIV, wife may not get HIV.	0	1	9

Part IV. Practice of substance use

1).Have you ever tried the following substances? Please tick (Â) if the answer is Yes and (â) if the answer is no in appropriate boxes.

Sr. No	Substances	Never	Ever	Age at first used (years)	Last 12 months		Last 30 days		Number of days			Substance use among your friends		Substance use among Thai People	
					No	Yes	No	Yes	1-5 days	6-20 days	>20 days	No	Yes, estimate the number	No	Yes, estimate the number
1	Cigarette														
2	Alcohol														
3	Methamphetamine (Yaba,Yama)														
4	Ecstasy														
5	Methamphetamine (Ice)														
6	Opium														
7	Heroin														
8	Benzodiazepines (DZ)														
9	Cough syrup														
10	Glue														
11	Other (Specify) _____														

Part V. Sexual Risk behavior related to HIV/AIDS

1. Do you have sex in the past 12 months?

☐ a. No. ☐ b. Yes, please mention with whom?

☐ a. Spouse

☐ b. Lover

☐ c. Others (please mention)…….

A. Substance related risk behavior

1. Have you ever drink alcohol before or while having sex in the past 12 months?

☐ a. No, skip to Q.2 ☐ b. Yes

1.1) When was your last time? _____

1.2) If yes, did you use condom in your last time?

☐ a. No ☐ b. Yes

2. In the past 12 months, have you ever used substance before or while having sex? ☐ a. No. ☐ b. Yes

2.1) When was your last time? _____

2.2) What was it ? _____

2.3) Did you use condom in your last time?

☐ a. No. ☐ b. Yes

B. Sexual Behavior

1. **For married people** : Do you have sex other than your husband/wife within past 12 month?

For single or not married people : Do you have sex within past 12 months?

☐ 1. No, skip to Q (2) ☐ 2.Yes, do you use condom when you have sex?

☐ 1. No ☐ 2.Yes, how often do you use condom?

☐ 1. Every time ☐ 2.Almost ☐ 3. Sometimes

2. Do you have casual sexual partners within past 12 months?

☐1. No, skip to Q (3) ☐2.Yes, do you use condom when you have sex?

☐1. No ☐2.Yes, how often do you use condom?

☐1. Every time ☐ 2.Almost ☐3. Sometimes

3. Do you have sex with sex workers within past 12 months?

☐ 1. No, skip to Q (4) ☐2.Yes, do you use condom when you have sex?

☐1. No ☐ 2.Yes, how often do you use condom?

☐1. Every time ☐2.Almost ☐3. Sometimes

4. **Only for Male participants**: In the past 12 months, do you have sex with a person who is the same sex with you?

☐1.No, skip to Q (5) ☐ 2.Yes, do you use condom when you have sex?

☐ 1. No ☐ 2.Yes, how often do you use condom?

☐ 1. Every time ☐2.Almost ☐3. Sometimes

5. If your partner other than your husband/wife wants to be sex without using condom, do you agree? ☐1. No ☐2.Yes

VITAE

PERSONAL DETAILS

Full Name: Htet Aung

Address: 521/3-4 Soi Sriayuthaya 2-4, Sriayuthaya Road, Phayathai District, Rajthavee, Bangkok, Thailand

Mobile : + 66 – 826860289

Nationality: Myanmar

Gender : Male

Date of Birth: June 2nd 1984

Marital status: Single

EDUCATION

- June 2012 to date : Graduate student at the College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand
- May 2001 to April 2007 : University of Medicine, Mandalay, Myanmar

EMPLOYMENT HISTORY

September 2011 – May 2012 : Field Project Coordinator (HIV- Global Fund)
World Health Organization, Myanmar

June 2011 – August 2011 : Assistant Program Coordinator
Substance Abuse Research Association
Yangon, Myanmar

April 2009 – April 2011 : Project Officer
Infant and Young Child Feeding Program
Save the Children, Myanmar

October 2008 – March 2009 : Project Officer (Infant Feeding in Emergency Officer)
Save the Children, Myanmar

June 2007 – May 2008 : Medical Officer, Place Specialist Clinic,
Mandalay, Myanmar