

ลักษณะอาชีพ และปัจจัยที่เกี่ยวข้องกับพฤติกรรมกำรป้องกันโรคเอดส์ ในกลุ่มพนักงานชาย ที่  
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Occupational Characteristics and Factors Associated with Prevention Practices related  
to HIV/AIDS among Alcohol Factory Male Workers in Industrial Zone (1),  
Pyi Gyi Tagon Township, Mandalay, Union of Myanmar

Miss Khin Thiri Maung

A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Public Health Program in Public Health

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Thesis Title OCCUPATIONAL CHARACTERISTICS AND FACTORS  
ASSOCIATED WITH PREVENTION PRACTICES  
RELATED TO HIV/AIDS AMONG ALCOHOL FACTORY  
MALE WORKERS IN INDUSTRIAL ZONE (1), PYI GYI  
TAGON TOWNSHIP, AND MANDALAY, UNION OF  
MYANMAR

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ชิน ทิริ หม่อง: ลักษณะอาชีพ และปัจจัยที่เกี่ยวข้องกับพฤติกรรมการป้องกันโรคเอดส์ ในกลุ่มพนักงานชายที่ทำงานโรงงานสุราในพื้นที่อุตสาหกรรมเขต 1 เมืองพิจิตากอน มณฑลพะเลย์ ประเทศพม่า (OCCUPATIONAL CHARACTERISTICS AND FACTORS ASSOCIATED WITH PREVENTION PRACTICES RELATED TO HIV/AIDS AMONG ALCOHOL FACTORY MALE WORKERS IN INDUSTRIAL ZONE (1), PYI GYI TAGON TOWNSHIP, MANDALAY, MYANMAR) วิทยานิพนธ์ที่ปรึกษาวิทยานิพนธ์หลัก.: อาจารย์ ดร.อุษณีย์ . , พังปान 72 หน้า

วัตถุประสงค์ของการศึกษาภาคตัดขวางครั้งนี้ เพื่อแสดงถึงลักษณะของงานอาชีพ และหาปัจจัยที่เกี่ยวข้องกับพฤติกรรมการป้องกันโรคเอดส์ ในกลุ่มพนักงานชายที่ทำงานโรงงานสุราในพื้นที่อุตสาหกรรมเขต 1 เมืองพิจิตากอน มณฑลพะเลย์ สหภาพพม่า ศึกษาจากจำนวน 219 ตัวอย่าง โดยใช้แบบสอบถาม เก็บข้อมูลในเดือนมีนาคม 2555 โดยใช้ตัวแปรอิสระ 14 ตัว และตัวแปรตาม 2 ตัว กล่าวคือ พฤติกรรมทางเพศ และการใช้ถุงยาง เพื่อหาความสัมพันธ์กับตัวแปรอิสระ 14 ตัว ดังกล่าว ในการวิเคราะห์แบบตัวแปรคู่ (bivariate) ตัวแปรอิสระแต่ละตัวจะวิเคราะห์แยกกันเพื่อหาความสัมพันธ์กับพฤติกรรมทางเพศและการใช้ถุงยาง

การศึกษานี้ใช้รูปแบบวิเคราะห์การถดถอยพหุโลจิสติกส์ (multiple logistic regression) สำหรับตัวแปรตามและตัวแปรอิสระเมื่อพบว่าตัวแปรที่มีความสัมพันธ์กัน การถดถอยพหุโลจิสติกส์ จะใช้เมื่อตัวแปรที่ค่า  $p \leq 0.15$  กลุ่มตัวอย่างบางคนถึงแม้ว่าจะแต่งงานแล้ว แต่การทำงานก็ทำให้ต้องจากครอบครัวมาอยู่กับเพื่อน ญาติ หรืออยู่ตามลำพัง ทำให้ต้องมีเพศสัมพันธ์กับบุคคลอื่นที่มีใช้ภรรยา (OR= 0.220, 95% CI= 0.063, 0.767, p-value= 0.017) ตัวแปรอีกตัวหนึ่งที่มีผลคือ ลักษณะการทำงานที่ต้องเดินทาง มีความสัมพันธ์กับการมีเพศสัมพันธ์ด้วยตัวแปร ดังต่อไปนี้ การมีเพศสัมพันธ์หลังการดื่มสุรา (OR= 26.696, 95% CI= 8.846, 80.551, p-value= <0.001) การมีความสัมพันธ์กับคนที่มิใช่ภรรยา (OR= 9.509, 95% CI= 3.099, 29.182, p-value= <0.001) การมีคู่นอนชั่วคราว (OR= 14.571, 95% CI= 7.124, 29.802, p-value= <0.001) การมีเพศสัมพันธ์กับโสเภณี (OR= 12.238, 95% CI= 6.120, 24.470, p-value= <0.001) และการมีเพศสัมพันธ์กับเพศเดียวกัน (OR= 12.768, 95% CI= 5.695, 28.628, p-value= <0.001) ผลการศึกษานี้ ให้คำตอบที่ชัดเจนว่าลักษณะการทำงานมีความสัมพันธ์กับพฤติกรรมเสี่ยงในการติดโรคเอดส์ ถึงแม้จะไม่ได้ระบุว่าเป็นสาเหตุก็ตาม อย่างไรก็ตาม น่าจะมีการศึกษาต่อไปถึงสาเหตุ นอกจากนี้งานวิจัยต่อไปน่าจะต้องมากกว่าการศึกษาเชิงพรรณนา อาทิ การศึกษาวิจัยปฏิบัติการ เพื่อการป้องกันและควบคุมพฤติกรรมเสี่ยงในการติดโรคเอดส์

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ลายมือชื่อที่ปรึกษาวิทยานิพนธ์.....

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KEYWORDS: SOCIO-DEMOGRAPHIC CHARACTERISTICS/ OCCUPATIONAL CHARACTERISTICS/ KNOWLEDGE/ ATTITUDES/ PREVENTION PRACTICES

KHIN THIRI MAUNG: OCUPATIONAL CHARACTERISTICS AND FACTORS ASSOCIATED WITH PREVENTION PRACTICES RELATED TO HIV/AIDS AMONG ALCOHOL FACTORY MALE WORKERS IN INDUSTRIAL ZONE (1), PYI GYI TAGON TOWNSHIP/ MANDALAY/ MYANMAR. ADVISOR: DR. USANEYA PERNGPARN, Ph.D., 72pp.

The objective of this cross-sectional study was to indentify the occupational characteristics and to find factors associated with prevention practices related to HIV/AIDS among alcohol factory male workers in IZ (1), Pyi Gyi Tagon Township and Mandalay, Union of Myanmar. This study was conducted with 219 samples by using a structured interview questionnaire and data was collected in March 2012. There were 14 independent variables and 2 dependent variables for respondents in this study. Workers' sex practices and prevalence of condom use were assessed in relation with the 14 independent variables. In a bivariate analysis, each independent variable was assessed separately in relation to their sex practices and consistent condom used.

For respondents, semifinal multiple logistic regression models were then constructed for all dependent variables for which  $p \leq 0.15$  for all independent variables. Final logistic regressions were then constructed and all variables for which  $p \leq 0.15$  in semifinal models were entered. Some of the respondents are married but they are living with friends, relatives or living alone instead of living with families for their jobs and this factor tended to the extramarital sex (OR= 0.220, 95% CI= 0.063, 0.767, p-value= 0.017). One of the occupational characteristics, travelling for jobs, was significantly associated with sex practices: sex after drinking alcohol (OR= 26.696, 95% CI= 8.846, 80.551, p-value= <0.001), extramarital sex (OR= 9.509, 95% CI= 3.099, 29.182, p-value= <0.001), casual sex practices (OR= 14.571, 95% CI= 7.124, 29.802, p-value= <0.001), sex practices for having sex with female sex workers (OR= 12.238, 95% CI= 6.120, 24.470, p-value= <0.001) and having homo sex (OR= 12.768, 95% CI= 5.695, 28.628, p-value= <0.001). This result strongly suggest that occupational characteristics is one of the associated factor in this study, but do not prove causality. The observed association should be investigated further and the further study should not only focus on descriptive study but also point out for action research for prevention and control of it.

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

Academic Year: .....2011.....Advisor's Signature.....

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## LIST OF ABBREVIATIONS

HIV	Human Immunodeficiency Virus
AIDS	Acquired Immunodeficiency syndrome
PLHIV	People living with Human Immunodeficiency Virus
STI	Sexually Transmitted Infections
STD	Sexually Transmitted Disease
SW	Sex Workers
WB	World Bank
UNAIDS	Joint United Nation Programme on AIDS
UNDP	United Nation Development Program
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization
ILO	International Labor Organization
ART	Anti-retroviral Therapy
IDU	Injecting Drug Users
MSM	Men who have Sex with Men
GDP	Gross Domestic Product
NHEC	National Health and Education Committee
LNGO	Local Non-government Organization
NGO	Non Government Organization
IEC	Information, Education, Communication
BCC	Behavior Change Communication

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Background and Rationale**

##### **HIV and the Workplace**

The social and economic impact of the disease is intensified by AIDS, a major threat to the world of work, kills primarily to the young and middle-aged adults (15-49 age groups) during their peak productive and reproductive years. At the macro level, economics of the entire countries can be impacted by the effect of this nature on the workforce. Communities with high rates of HIV infection lose disproportionate numbers of experienced workers and create gaps that are difficult for society to fill (WHO/UNAIDS, 2007).

In the workplace, HIV/AIDS related morbidity can undermine the work performance due to the employee illness and absenteeism. If not controlled, HIV/AIDS will impose huge costs on companies through declining productivity and loss of skills and experiences. In addition, HIV/AIDS is affecting fundamental rights at work particularly stigma and discrimination against PLHIV. The main employment issue includes the HIV infected employees fears workplace problem such as losing jobs and discrimination more than the real health consequence of HIV/AIDS. For these workers, termination of employment is a real threat to financial security for the whole family and children's education and social problems. For a business, terminating infected employers and recruiting new ones can be costly. It can lose skilled experience workers. Besides, the new employee performance can be low before they gain necessary skills and experience. Finally, it can damage the overall productivity of businesses and industries. So, HIV/AIDS is one of the important issues of the workplace.

HIV/AIDS is a workplace phenomenon not only because it has the potential to affect labor and productivity, but also because the workplace can play a vital role in the wider struggles to limit the spread and effects of the epidemic. HIV infection rate is highest in the working age group. As people in this age group spend most of their

time in workplace, workplace is an important part of their life. Some of work related factors such as mobility of workers and separation away from families can increase the risk of HIV infection (International Finance Corporation, World Bank Group, 2002). Therefore, understanding of work related risk factors is important in promoting safer behaviors and the workplace is an appropriate setting to involve the working age population in efforts to prevent and control the spread of HIV/AIDS through education and training, care and support and counseling.

### **Rationale of the Study**

One of the most serious HIV/AIDS epidemic regions in the South East Asia is Myanmar. HIV/AIDS is now ranked in Myanmar as the nation's third most compacting health challenge, after Malaria and TB. In Myanmar, HIV was introduced in mid-to-late 1980s and by the end of 2010. According to the HIV/AIDS Projection and Demographic Impact Analysis at the end of 2010, HIV infected person were dramatically increased and estimated that around 240,000 (200,000-290,000) people. Approximately 51 millions of people live in Myanmar and the national adult (aged within 15-49) prevalence of HIV infection is 0.6% in 2010. In the same year, an estimated 17,000 people died of AIDS related illness and incidence is estimated above 10,000 new infections per year. The adult HIV prevalence rate in Myanmar declines estimated falling from 0.9% in 2007 to 0.6% in 2010. But antiretroviral treatment (ART) coverage in Myanmar is very low among the Southeast Asia countries, only 18% of HIV infected person have received that treatment.

The combination of limited knowledge about HIV and high level of risk behavior among injecting drug users and sex workers could lead to the rapid spread of HIV. Knowledge, attitude and beliefs of sexual behaviors regarding HIV/AIDS are important part in setting in HIV prevention and controlling of HIV epidemic programs. Many HIV prevention strategies have focused on identifying and promoting safer-sex practices. An important element of any HIV/AIDS prevention program is a reliable supply of free or affordable, high-quality condoms. Correct and consistent use of condoms can greatly reduce the risk of HIV transmission, including STI (UNAIDS, Position Statement on Condoms & HIV Prevention, 2004).

Shared use of drug injection equipment and unprotected vaginal or anal sex with multiple sexual partners are specific risk factors for HIV transmission. For this reason, interventions that can reduce the prevalence of these practices are critical components of AIDS prevention policy. (Schoenbacem, Harlel and Selwyn, 1989).

People who abuse alcohol are more likely to engage in risk behaviors for contracting HIV/STD. A history of heavy alcohol use has been correlated with a lifetime tendency toward high-risk behaviors, including multiple sex partners, injected drug users, unprotected intercourse, sex with high-risk sexual partners and the exchange of sex for money or drugs (Malow et al., 2001). Factory workers had a higher rate of alcohol consuming than non-factory workers ( Khampang et al., 2006). So, factory workers might have the high risks of HIV/AIDS. And then, there have high risk of HIV infection such as morbidity, working in a male dominated profession and working in geographically isolated and male dominated environment (ILO, 2001). The alcohol factories in Pyi Gyi Tagon Township, the number of the male workers has significantly increased than the number of female workers.

Mandalay is the second largest commercial city in Myanmar. The population of Myanmar in 2009 has over 50.2 million (WB, 2011). The population of Mandalay is over 1 million. In Pyi Gyi Tagon Township is the one of the townships in Mandalay. Pyi Gyi Tagon Township also called industrial zone and most of the factories and industries of Mandalay is stated in that township. Industrial zone have been divided into two parts: Industrial Zone (1) and Industrial Zone (2). Most of the alcohol factories are stated in industrial Zone (1) (Shown in Fig.1).



Figure 1: Mandalay Map (From Myanmar Information Migrant Unit (MIMU))

[http://www.themimu.info/docs/MIMU141\\_ADPC\\_Mandalay\\_city\\_090120\\_A3\\_v01.jpg](http://www.themimu.info/docs/MIMU141_ADPC_Mandalay_city_090120_A3_v01.jpg)

Myanmar is a conservative country with strong cultural norms regarding sexual behavior. As a result, research to identify priorities has many challenges. By giving correct knowledge of HIV is a rapidly changing subject about HIV risk reduction. Becoming educated about HIV and understanding how it was important to our life. For this purpose, there is a need to identify the existing knowledge of workers on HIV in related to their attitude. Besides, the prevention programme focused on encouraging people adopts safer sex and safer behavior. In Myanmar, factors associated with HIV infection among workers have not been fully examined. And then, we also wanted to study the relation between occurrence of HIV risk factors and workers' occupational characteristics. This is the reason for the conducting the study on the occupational characteristics and factor associated with prevention practices related to HIV among male alcohol factory workers. Although it is a small scale study, this collaborative effort will be worth performing for HIV to a certain extent.

## **1.2 Research Objective**

### **1.2.1 General Objectives**

- To identify the occupational characteristics and to find factors associated with prevention practices related to HIV/AIDS among alcohol factory male workers in IZ (1), Pyi Gyi Tagon Township and Mandalay, Union of Myanmar.

### **1.2.2 Specific Objectives**

- To describe the socio-demographic characteristics, occupational characteristics, basic knowledge, attitude and prevention practices related to HIV/AIDS among alcohol factory male workers.
- To describe the association between socio-demographic and HIV/AIDS prevention practices among alcohol factory male workers.
- To explain the association between occupational characteristics and HIV/AIDS prevention practices among alcohol factory male workers.
- To explain the association between knowledge and prevention practices of HIV among alcohol factory male workers.
- To determine the association between attitude and prevention practices of HIV/AIDS among alcohol factory male workers.
- To determine the relationships between socio-demographic characteristics, occupational characteristics, knowledge, attitude and prevention practices of HIV/AIDS among alcohol factory male workers.

## **1.3 Research Questions**

- What are the socio-demographic characteristics, occupational characteristics, level of knowledge, attitude and prevention practices among alcohol factory male workers?
- Which factors are significantly associated with prevention practices related to HIV/AIDS among alcohol factory male workers?

- Is there any relationship between socio- demographic characteristics, occupational characteristics and knowledge, attitude and prevention practices of alcohol factory male workers?

### **Key Words**

Socio-demographic characteristics, Occupational characteristics, Knowledge, Attitudes and Prevention practices related to HIV/AIDS, Factory Workers

### **1.4 Hypothesis of the Study**

- There is association between socio-demographic characteristics, occupational characteristics and prevention practices related to HIV/AIDS among alcohol factory male workers.
- Respondents with high level of knowledge about HIV/AIDS are more likely to have prevention practices.
- Respondents with negative attitudes towards HIV/AIDS are less likely to have prevention practices.

### **1.5 Variables of the Study**

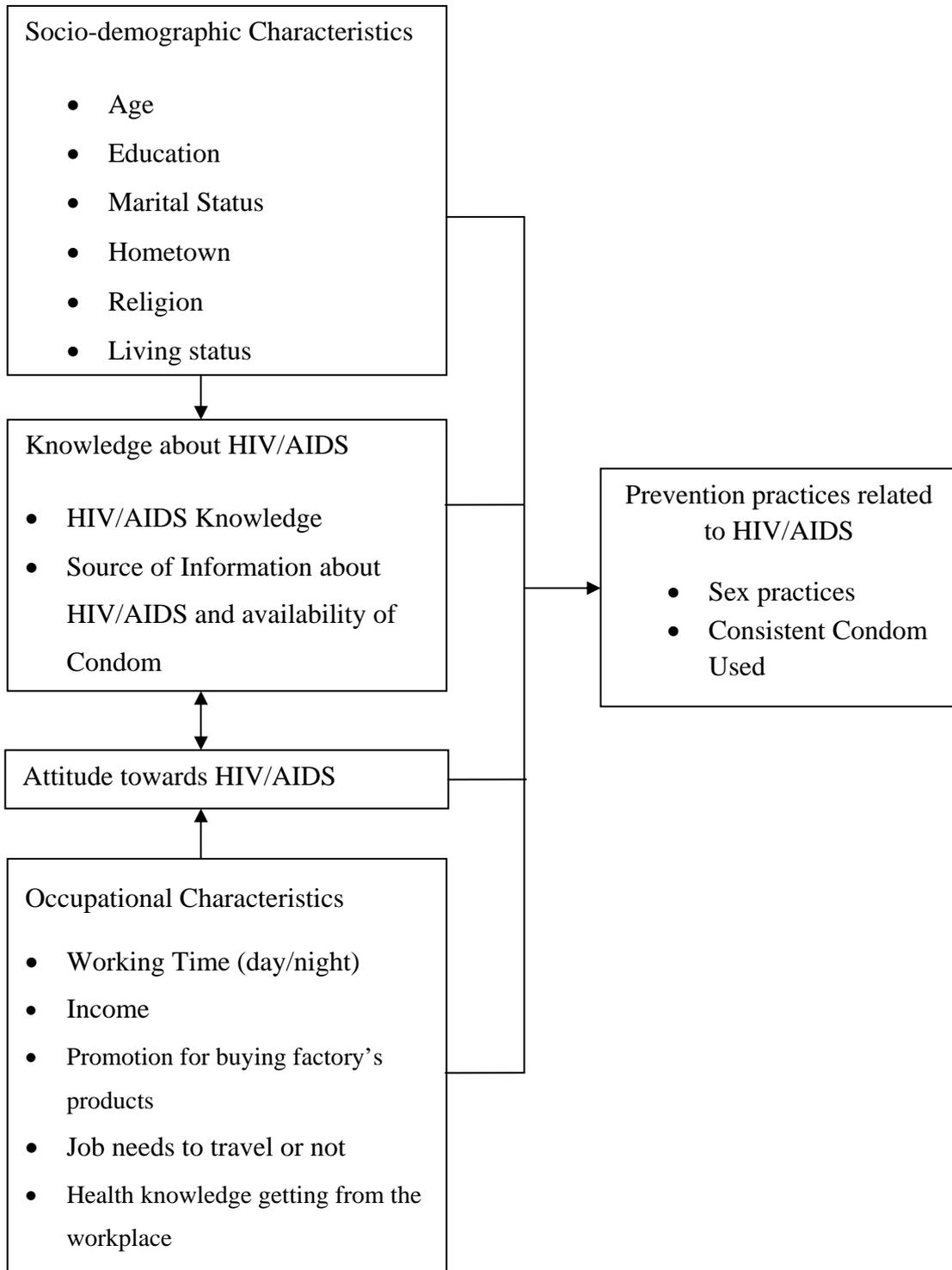
In this study, the variables are-

1. Independent Variables
  - a. Socio-demographic characteristics (e.g. age, education etc.,)
  - b. Occupational characteristics
  - c. Knowledge about HIV/AIDS and its prevention
  - d. Attitude towards HIV/AIDS and its prevention
2. Dependent Variables
  - a. Prevention practices on Safe sex.

## 1.6 Conceptual Framework

### Independent Variables

### Dependent Variables



## 1.7 Operational Definitions

**Socio-demographic characteristics** include age, marital status, education, religion, income, current residence.

**Occupational characteristics** of factory workers refer to their working status, working condition, working time (day/night shift), working hour, getting health care support from their factories.

**Working time** refers to the time when the respondent's work was classified as day, night and alternate.

**HIV educational workshop** refers to a brief intensive course for a small group about HIV education.

**Eligible to buy factory's products at discount** refers to the encouragement of the acceptance of factory's products.

**Knowledge** refers to the basis of concepts, facts, criteria for decisions and other cognitive aspects of HIV/AIDS and its preventive methods known by the person.

**Source of information** about HIV/AIDS include those who or which can convey the information on HIV/AIDS. (e.g. - family members, friends, radio, magazine, newspaper, etc)

**Availability of condom**, in this study, means whether the respondents know where they can get condom and if they can pay for it every time.

**Attitude** refers to the relatively constant feeling predisposition or sets of beliefs, directed towards behavior, action, idea of an object, person or situation.

**Safe Sex Practices** refer to be refusing of sex with unknown partners, condom usage when have sex other than spouse, multiple sex partners and faithfulness to spouse.

**Alcohol Factory Workers** refers workers who are working at the alcohol factory.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Global HIV/AIDS Situation**

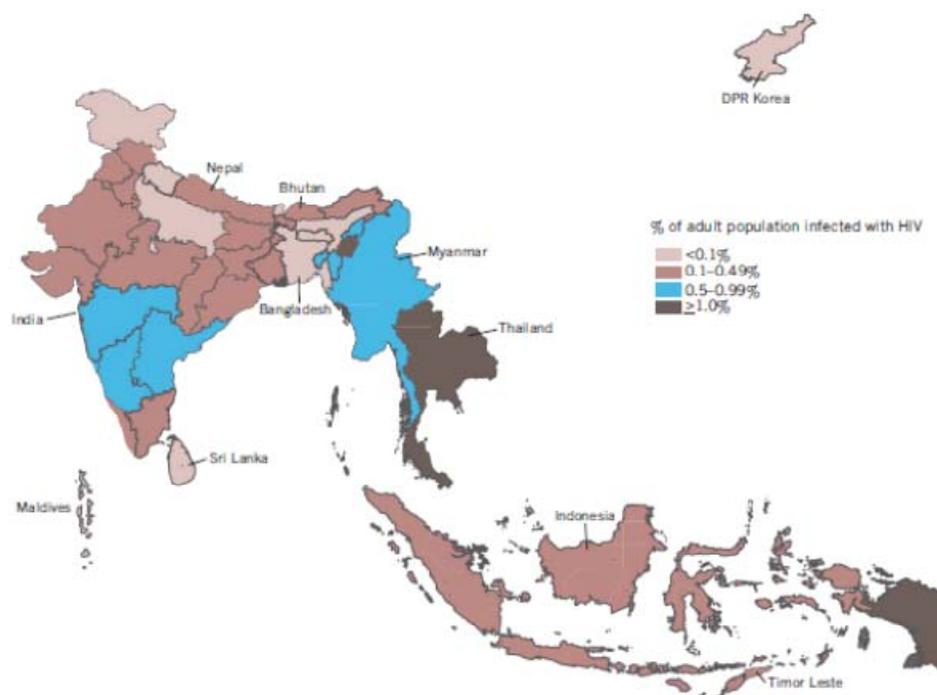
Acquired Immunodeficiency Syndrome (AIDS) is caused by the human immunodeficiency virus, was first discovered in the United States in 1981. It is still a threat to human life and human societies by causing morbidity and mortality throughout the world. HIV infection and AIDS affect mental, physical, social, emotional and spiritual dimensions of human life. HIV and AIDS reduce the life expectancy of infected persons, creating turbulence in health care system, increasing the number of orphaned children, and contributing to economic insecurity, potentially leading to political instability (Sowell et al., 2004).

The HIV epidemic continues to be very serious on the individuals, households and nations, reducing by more than half the GDP of severely infected countries and reducing by 480 million people the UN estimate of global population by year 2050. Global summary of HIV epidemics according to the end of 2010 (UNAIDS, 2011), there was an estimated 34 million [31.6 million–35.2 million] people living with HIV, including 3.4 million (3 million–3.8 million) children less than 15 years. The annual number of new HIV infections is 2.7 million [2.4 million–2.9 million] in 2010, including 390,000 (340,000–450,000) among children less than 15 years. Overall, 1.8 million [1.6million– 1.9million] people died due to AIDS in 2010.

According to the United Nations Development Programme, HIV has inflicted the “single greatest reversal in human development” in modern history (UNDP, 2005). HIV causes a greater loss of productivity than any other disease, and is likely to push an additional 6 million households into poverty by 2015 unless national responses are strengthened (Commission on AIDS in Asia, 2008).

In 2010, an estimated 4.8 million (4.3 million–5.3 million) people in Asia were living with HIV, including 360,000 newly infected people for that year. The overall trends in this region hide important variation in the epidemics, both between and within countries. Most national HIV epidemics appear to have stabilized and no

country in the region has a generalized epidemic. Injecting drug users, men who have sex with men and sex workers and their clients have accounted for most of the new infections, and ongoing transmission to the female partners of drug users and the clients of sex workers is becoming apparent. The HIV transmitted rate for the Pacific region is small, but the number of people living with HIV in this region nearly doubled between 2001 and 2009—from 28 000 to 57 000. However, the number of people newly infected with HIV has begun to decline from 4700 in 2001 to 4500 in 2009. The HIV epidemics in the region are mainly driven by sexual transmission (UNAIDS, 2011).



Source: WHO. (2010)

In Southeast Asia, an estimated 3.5million people were living with HIV in 2010, including the 210,000 people who are newly infected in this year. Approximately 230,000 died from HIV related illness. At the end of 2010, the epidemics HIV prevalence rate in Southeast Asia region is 0.3% (UNAIDS, 2011) and the estimated adults HIV prevalence rate in Thailand is 1.2%, Myanmar is 0.6%, Cambodia is 0.8%, Vietnams is 0.4% and Laos is 0.2% (WHO, 2011).

## **2.2. Risk Factors Related to HIV/AIDS**

The most important risk factor for the spread of HIV in several parts of Asia is unprotected sex. Sex-trafficked women especially younger girls face high risks of HIV/AIDS and STI infection. A significant proportion of women with HIV in India have been infected by regular partners who paid for sex. Risk behaviors include early age of sexual debut, multiple sexual partners, inconsistent or no condom use and difficulty in following safe sex practices. Sexual behavior is usually the most important factor to change to prevent HIV transmission. (Yu, 2000).

Sexual intercourse may be influenced by many factors, including age, socioeconomic status, family structure, educational aspirations, ethnicity, and life experiences. Urbanization (e.g., from rural areas to urban centers or industrial sites) creates a greater mixing of diverse people at places of destination, which provides a risk or disposed environment for viral transmissions by commercial sex and the intravenous drug injection users. Certain professions such as truck drivers, traders and military personnel groups have been associated with a higher risk of HIV infection (Thu, 2003).

Men who have sex with men (MSM) face risks of exposure to HIV in various settings throughout the world. In many countries, MSM are the minority and preferred not to disclose their lifestyles and sex between men is officially denied, stigmatized and criminalized in various parts of the world. As a result, these MSM feels vulnerable and unaccepted and these are making difficult to control them. Many MSM have wives and still have sex with both genders which can result in transmitting HIV to their female partners if they become infected. The significant of HIV impact on MSM is an emerging public health problem, as well as being seen in the developing countries which link to HIV epidemics (Gouws et al., 2006).

The relationship between injecting drug use and HIV/AIDS was relatively well researched. There is evidence of sexual transmission of HIV from married men who inject drugs to their wives, an estimated 60,000 wives and 40,000 children are vulnerable and at risk of HIV transmission and drug use related harms in Pakistan. (Irene et al., 2006). Many IDUs believed they can judge who is HIV-positive when deciding whether to share needles/syringes, and their judgments are often based on

familiarity with a person. Risk perception is low because some IDUs believed sex workers are more risks than IDUs to be HIV-positive which justifies continuation in practicing unsafe injecting (Morrison, 2007).

Previous studies have shown that 67.2% of IDUs rarely used condom regularly with partners, while 68.1% of IDUs never used condoms with their regular partners, and only 15.94% always used condoms with their regular partners. It has also been found that IDUs were more likely to have multiple sexual partners and exhibit relatively lower condom use than non-injecting drug users. Because high-risk injecting and sexual behaviors of IDUs make them a ‘dual risk’ group, they are considered a main bridge population for spreading HIV from high-risk groups to the general population. In China, IDUs have higher rates of multiple sexual partners and 30—75% of drug users reported having multiple sexual partners (Liu et al., 2006).

One study in United States, in 2007 described that there was 27.5% in males and 17.7 % in females’ students who were currently sexually active and drank alcohol or drug used before last sexual intercourse. In Ranong and Chaing Mai, commercial sex patronage occurred as a group activity with men and their peers going together to visit sex workers, usually after a night of drinking (Archavantikul, Therese and Pune, 2000). Myanmar Migrant Fishermen in Ranong revealed that drinking alcohol and drunk and go to the brothel are significantly associated with unsafe sex behavior (Paw, 2006). People who drink alcohol frequently are at a higher risk to contract HIV. Alcohol use is associated with high risk sexual behaviors and IV drug use which are two major modes of transmission of HIV (Krupitsky et al., 2005). Thus, alcohol consuming can be considered primary prevention of HIV as well.

### **2.3 Association between Socio-demographic Characteristics and Prevention Practices Related to HIV/AIDS**

Differences in knowledge on HIV transmission were caused by differences in socio-demographic characteristics directly or indirectly (Chantavanich, Beesey and Paul, 2000). The prevalence of risk behaviors in adolescents in Bangkok was significantly associated with low socioeconomic status, poor relationships and broken

families, and parental substance abuse, environmental factors, peer pressure and several risks factors (Ruangkanchanasetr et al., 2004).

In a study conducted to determine socio-demographic, social network characteristics, knowledge and attitude towards HIV transmission among Myanmar migrants working in Tak province, Thailand by Myanmar Medical Association and National Health and Education Committee, there was significant knowledge level between male and female migrants' factory workers, males having more knowledge than female (NHEC) (Mullany et al., 2003).

The gender, income and the education are the influence factors for safe sex behavior. The higher the income and the higher the education level often practice safe sex (Aung, 2009). Respondent with secondary and higher educational status had better sexual behavior than the respondents with middle and lower educational status (Nyunt, 2008). The men who were single or apart from their wives were more likely to have sex with prostitutes and multiple partners was found among Myanmar migrant workers among Samut Sakhorn province, Thailand (Thu, 2003). Being single and/or live apart from their spouse was associated with visiting commercial sex workers (Gupta and Singh, 2000).

#### **2.4 Association between Occupational Characteristics and Prevention Practices Related to HIV/AIDS**

Occupational status is one of the important factors that associated with risk behavior about HIV. Participants who worked as construction workers, factory workers, hotel and restaurants, tattooing and hair dressing were more likely to visit to sex workers (Htun, 2008). The working time of the day had statistically associated with the safe sex behavior. People who work at night had the worst sexual behavior. Commercial sex workers are also working at night, so workers had more chance to have sex with them (Aung, 2009).

In Asia, the workers who were characteristics in general as male, less educated, young, single and mobile were more likely to engage in risky sexual behaviors including having multiple casual sex partners, having sex with commercials sex workers and poor condom use (ILO, International Labor Organization, 2006). Their

attitudes and behavior may change when away from home, influenced by a range of factors including the duration of time away from home, the types of location at the destination, living situations, occupation, age and gender (Chantavanich, Beesey and Paul, 2000) An important element of any HIV/AIDS prevention program is a reliable supply of free or affordable, high-quality condoms. Ensuring condoms are available in the workplace addresses a primary limiting factor of their use (International Finance Cooperation, December 2002).

According to the job location, respondents who are working in the sea (fishing) had poor behavior. They are working away from their families and spouses had chance to sex with commercial sex workers and casual partners. When these men are living in same boat for a long time and isolated from the community when they were in the sea, this may lead to homo sex. For these reason, the respondents who need to travel due to their job had poor sexual behavior comparing to the ones who do not need to travel (Aung, 2009). Men residing separately from their wives were more likely to report multiple sexual partners and more likely to have additional partners and this is likely to be an effect of mobility, causing family disruption and increasing the chances of these employers to engage in a higher risk (Machekano et al., 1996)

Increasing the awareness of HIV/AIDS among construction workers would be valuable to minimize the risk of infection for keeping the nation's HIV prevalence at a minimum level. (Hokkaido, 2007).

## **2.5 Association between Knowledge, Attitudes and Prevention Practices Related to HIV/AIDS**

The knowledge level of Myanmar migrants in Bangkok was moderate and a previous study in Sangkhlarburi and Ranong proved that knowledge and risk behaviors relating to condom use were significant (Hargreaves et al., 2001-2004). In a study among Myanmar Migrant workers in Mahachai, there was an association between good knowledge and a positive attitude towards HIV/AIDS (Thu, 2003).

Due to misconceptions and lack or limited knowledge about HIV/AIDS among Myanmar migrant workers, they still have a lack of self-efficacy and negative attitudes on condom use, decoration of male sex organ by making enlargements

method using steel ball or marble and injecting oil or hairspray under the fore skin, wrong belief in sexual practices, peer-pressure on alcohol and drug use and difficult to access health information (World Vision Foundation of Thailand, 2006).

Numerous studies have shown that one of the contributing factors for HIV/AIDS control program is the mass media such as television, radio, magazine, newspaper as well as electronic media, which provide health information have the major effect on them. Especially health information from media has significantly correlation with behaviors. More than 50% of Myanmar migrants received health information from mass media; some got information from workplace and friends was reported in one study done in Bangkok (Htun, 2008).

One national qualitative evaluation study showed in South Africa showed that access to health education using media shaped the potential for behavior change (Peterson, Bhana, Bell, & McKay, 2006) and many conducted that exposure to entertainment based health education is associated with reduction in risk behaviors in normal community and also hidden community like intravenous drug users (IVDU) and Men who have sex with Men (MSM).

Conclusive evidence from extensive research among heterosexual couples in which one partner is infected with HIV shows that correct and consistent condom use significantly reduces the risk of HIV transmission from both men to women, and also from women to men (Holmes et al., 2004)

Condoms are a key component of HIV prevention strategies to reduce the risk of sexual exposure to HIV (UNAIDS, 2004). Knowing where to get condom, refusing to have sex without a condom and discussing condom use maintained significant association with unsafe sex (Htoo, 2009). Most of the respondents knew where they could get condoms. The main sources to get condom is the drug store, shop, hospital, health center and clinic. The previous study among migrant fishermen in Ranong stated that safe sex was statistically associated with receiving information HIV/AIDS and known source of condom (Paw, 2006).

The knowledge, attitude and practices regarding prevention of HIV/AIDS among Myanmar migrant factory workers in Mahachai district, Samut Sakorn Province in Thailand, more than half of the respondents were misconceptions on prevention of HIV/AIDS. Although a positive attitude was associated with safe sex

practice, there was no statistically significant association between knowledge and condom use (Thu, 2003). But one study reported that high incidence and some risky sexual behaviors like early sexual age but multiple sexual partners were common in low educated women (Hargreaves et al., 2001-2004).

A study was done in Sri Lanka to describe the knowledge, attitude and practice assessment of construction workers for HIV. In this study, most of the respondents have fairly good knowledge on HIV prevention. But, they still have misconceptions about HIV and STI. A high percentage did not consider HIV/AIDS as their own personal issues and over 50% respondents conveyed discriminatory attitudes towards HIV positives. (Kanda et al., 2007) .

Education about human behavior and sexuality is important and appropriate to a young person's given stage of development and culture. Education relating HIV/AIDS has proved to be effective in increasing the knowledge regarding HIV/AIDS (Yu, 2000). Most of the respondents among Myanmar migrants workers in Ranong believed that HIV/AIDS is one of their important matters, and health educations about HIV/AIDS is the proper knowledge for them and half of them believed that health education could change their attitudes towards and their practices for HIV preventions (Win, 2007).

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1 Research Design

Cross sectional descriptive study with quantitative approach were used to access the occupational characteristics and factor associated with prevention practices related to HIV/AIDS among alcohol factory male workers.

#### 3.2 Target area and Study Population

The study population was all male workers aged between 18-49 years in alcohol factories, Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay, Myanmar.

#### 3.3 Sample Size

There were about 486 male workers from total of 10 alcohol factories in Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay, Union of Myanmar. (Data from Industrial Office, Pyi Gyi Tagon Township, Mandalay, Union of Myanmar, 2011)

The number of sample were calculated by using the formula of Taro Yamanae's

$$n = \frac{N}{1 + N(e^2)} \quad (\text{Yamane, 2}^{\text{nd}} \text{ Ed, 1967})$$

In this formula, n= size of the samples

N= Size of population (486 workers)

e= deviation of the random sampling

The deviation of the sampling was required to be equal to 5%.

Sample collected = 219

### 3.4 Sampling Technique

There were two zones in Pyi Gyi Tagon Township: Industrial Zone (1) and (2). Industrial Zone (1) were selected purposively because most of the alcohol factories are situated at industrial zone (1). There were (10) alcohol factories and (486) alcohol factory male workers in Industrial Zone (1) and sample collected number was 219. Proportional sampling method was used to calculate the collected size of sample from each subgroup in proportion to the actual size of the group in the total population. After getting permission from factory owners/managers to collect the sample, the calculated sample from each subgroup was collected randomly by using simple random sampling.

The collection of sample allocated proportionally by using this formula.

$$n_k = n * N_k / N$$

$n_k$  = size of sample from each subgroup

$n$  = the total size of the sample

$N_k$  = population of the size of each subgroup

$N$  = the total size of population

Factory	No of workers from each sub-group( $N_k$ )	No of sample from each sub-group ( $n_k$ )
1	53	24
2	29	13
3	31	14
4	45	20
5	49	22
6	52	24
7	73	33
8	47	21
9	38	17
10	69	31
10 factories	Total population= 486 (N)	sample collected= 219 (n)

**Inclusion criteria for selection subjects**

- The subject who was aged between 18 and 49 years.
- The subject who performed as a male worker.
- The subject who wanted to give written consent and willing to participate.

**Exclusion criteria for selection subjects**

- The subject who did not want to give written consent and not willing to participate
- The subject who got sickness.

**3.5 Measurement Tools**

The data were collected by structured questionnaires. The draft questionnaires were pre tested prior to collect data. The questionnaires were conformed from previous studies of occupational characteristics and risk factor for safe sex practices related to HIV/AIDS among adult person. They include 5 main parts;

- Socio-demographic characteristics such as age, marital status, education level, hometown and living status of the factory workers.
- Occupational characteristics such as working status, working time (day/night shift), travelling for jobs, getting health care support from their factory.
- Knowledge about HIV/AIDS
- Attitude towards HIV/AIDS
- Sex practices and consistent condom used were asked.

**3.6 Data Collection**

The data were collected by face to face interviews of the study population. The subject selection and interviewing at their workplaces had been done by the researcher and trained health volunteers from local non-government organization (LNGO). Four research assistants were participated to collect the data and the interview with participants. Although the assistant researchers were already trained person but we took two hours orientation for the structured face-to-face interview and technique how to approach participants.

Before interview the purpose, confidentiality, ethical issues and benefits of the study had been explained to the respondents. After getting the informed signed consents, the interview questionnaires were asked. All the respondents were asked the same questionnaires. The interview was done in their working time and it took 25-30 minutes in average.

### **3.7 Data Analysis**

SPSS software version 16 was used for the data analysis.

For descriptive statistics, frequency and percentage were used to describe socio-demographic characteristics, occupational characteristics, knowledge on HIV/AIDS prevention and its transmission, attitude towards HIV/AIDS and prevention practices related to HIV/AIDS. Mean, median and standard deviation (SD) were used to calculate in the socio-demographic characteristics, occupational characteristics, knowledge on HIV/AIDS prevention and its transmission, attitude towards HIV/AIDS.

In knowledge score, there were categorized into two groups: low and high by taking cut point on mean score and attitude was also categorized into two groups: positive and negative attitude by taking cut point on mean score.

The researcher analyzed the data to assess relationships between independent variables (socio-demographic characteristics, occupational characteristics, knowledge on HIV/AIDS prevention and its transmission and attitude towards HIV/AIDS prevention) and dependent variables (prevention practices- sex practices and consistent condom use) which are dichotomous variables. Simple logistic regressions were used to find association between independent variables and dependent variables. In these tables, the researcher only included independent variables with p-value less than or equal to 0.15.

Semifinal multiple logistic models were constructed for respondents' sex practices and consistent condom used for which  $p \leq 0.15$  were entered. Final logistic regression models were then constructed. In these, all independent variables for which

$p \leq 0.15$  in semifinal models were entered and the final models for independent variables for which  $p < 0.05$  were considered for significant data.

### **3.8 Validity and Reliability**

#### **3.8.1 Validity**

Validity is the quality of being valid and rigorous. The content validity of the questionnaire was done by adapting previous literatures and studies and was checked by the three experts.

#### **3.8.2 Reliability**

To check the reliability of the research instrument, a pre-test of research questionnaires was conducted among 30 male alcohol factory workers in Industrial Zone(2) and Mandalay, Union of Myanmar. Cronbach's alpha coefficient was used to measure reliability of the data collection tool. The Alpha Cronbach's coefficient for the knowledge questions was 0.84 and attitude questions were 0.72. The questionnaires was revised and improved after pre-testing and the final version of the questionnaires was used in main survey.

### **3.9 Ethical Consideration**

The study was started after getting approval from the ethical committee of Chulalongkorn University. Before the interview, the researcher and data collectors explained the purpose and procedure of the research to the respondent. The informed written consent was taken from each participant who is willing to participate in this study. This consent contained the information of confidentiality, feel free participation, freedom to withdraw, and no used of data for other purpose except the further health education and implementation among workplace. In addition, the interview was held in privacy away from managers and owners. The names of the respondents were not recorded and only data were coded.

## CHAPTER IV

### RESULTS

This chapter provides a detailed description of findings obtained from data analysis of the survey.

#### 4.1 General Information

Survey respondents were male factory workers (n=219) of age from 18 to 49 years who are working at the alcohol factories which are local small and medium alcohol manufacture factories in Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay, Myanmar. In Myanmar, factories were categorized into three groups: small (workers less than 50), medium (from 50 to 150 workers) and the large (more than 150 workers) .There were 6 small types of factories (factory no. 2, 3, 4, 5, 8 and 9) and 4 medium types of factories (factory no. 1, 6, 7 and 10) in this study. Table 1 shows the number and percentage of respondents in each alcohol factory.

**Table 1 Distribution of Respondents by Factories**

Factory	Workers	Collected Sample
1	53	24
2	29	13
3	31	14
4	45	20
5	49	22
6	52	24
7	73	33
8	47	21
9	38	17
10	69	31
10	486	219

#### 4.1.1 Socio-demographic Characteristics of Male Factory workers

Table 2 showed that (54%) of the respondents are under the age of 29, (53.4%) of the respondents were single and most of the respondents and (41.1%) finished high school level education. Almost all of the respondents (99.5%) were Buddhists and only few of them, (0.5%) was Muslims. Fifty seven percent of the

respondents' hometown was Mandalay, (43.4%) of the respondents come from all around the country. Most of the respondents (71.2%) were living with their family.

**Table 2 Number and Percentage Distribution of Respondents by Socio-Demographic Characteristics (n=219)**

<b>Variables</b>	<b>Number</b>	<b>%</b>
<b>Age (n=219)</b>		
<20	10	4.6
20-24	54	24.7
25-29	54	24.7
30-34	47	21.5
35-39	29	13.2
40-44	11	5.0
45-49	14	6.3
Median = 29		
Mean $\pm$ SD = 29.7 $\pm$ 7.5		
Range = 19-49		
<b>Marital Status (n=219)</b>		
Single	117	53.4
Married	100	45.6
Divorced	1	0.5
Widowed	1	0.5
<b>Education (n=219)</b>		
Primary Education (1-4)	5	2.3
Secondary Education (5-8)	42	19.2
High School Level (9-10)	90	41.1
Higher Education(>10)	82	37.4
<b>Religion (n=219)</b>		
Buddhist	218	99.5
Muslim	1	0.5
<b>Hometown (n=219)</b>		
Mandalay	124	56.6
Other	95	43.4
<b>Living with (n=219)</b>		
Friends	33	15.1
Family	156	71.2
Relatives	12	5.5
Alone	18	8.2

#### 4.1.2 Occupational Characteristics of the Male Factory Workers

Table 3 shows the frequency distribution of occupational characteristics of the respondents. In table 3, most of the respondents (40.6%) were working for 13-24 months at their current job. (91.3%) of respondents have 8 hours of working time and (87.7%) of the respondents were working at the whiskey production factories. More than half of the respondents (61.2%) could not buy their factories' product at the discount. During the last one month, most of the respondents (53.4%) were working at day time, (8.2%) were working at night shift and (38.4%) were alternate shift.

Most of the respondents earned  $\leq$  \$150 as their monthly income. Nearly half of the respondents (48.9%) were not provided HIV educational workshops by NGOs. Two third of the respondents were travelling for jobs. (58.4%) of the respondents received HIV related health knowledge in the workplace. Most of the respondents received information from their colleagues (76.6%). The least common source of information is business owner (employer); it was just about only 6.3%.

**Table3 Number and Percentage Distribution of Respondents by Occupational Characteristics (n=219)**

<b>Variables</b>	<b>Number</b>	<b>%</b>
<b>Working Months (n=219)</b>		
< 12 months	31	14.2
13-24 months	89	40.6
25-36 months	31	14.2
37-48 months	27	12.2
49-60 months	12	5.5
61-120 months	17	7.8
121-180 months	11	5.0
181-230 months	1	0.5
Mean $\pm$ SD = 37.4 $\pm$ 37.2		
Range = 4.0- 230.0		
<b>Working Hours (n=219)</b>		
8 hours	200	91.3
above 8 hours	19	8.7
Mean $\pm$ SD = 8.3 $\pm$ 0.9		
Range = 8.0 -13.0		
Median – 8.0		
<b>Types of Alcohol Produced (n=219)*</b>		
Whiskey	192	87.7

Wine	24	11.0
Beer	1	0.5
White Spirit	27	12.0
<b>Eligible to buy alcohol at the discount (n=219)</b>		
Yes	85	38.8
No	134	61.2
<b>Working Time (n=219)</b>		
Day Shift	117	53.4
Night Shift	18	8.2
Alternate	84	38.4
<b>Income (n=219)</b>		
< \$50	29	13.2
\$ 51-90	101	46.1
\$ 91-150	78	35.6
\$ 151-250	9	4.2
\$ 251-350	2	0.9
Mean $\pm$ SD = \$ 90.8 $\pm$ \$41.5		
Range = \$ 25.0 - \$ 350.0		
Median- \$ 88.5		
<b>Need to travel for Job (n=219)</b>		
No	151	68.9
Yes	68	31.1
<b>HIV related Health Education material received in workplace (n=219)*</b>		
Pamphlets	97	44.3
Booklets	62	28.3
Posters	37	16.9
Cartoon	7	3.2
None	39	17.8
<b>HIV related Health Education from NGOs(n=219)</b>		
No	107	48.9
Yes	112	51.1
<b>HIV related Health knowledge getting from Workplace (n=219)</b>		
No	91	41.6
Yes	128	58.4
<b>Source of Health Information (n=128)*</b>		
Owner	9	7.0
Manager	12	9.4
Supervisor	24	18.8
Colleagues	98	76.6

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\*Multiple Responses

#### 4.1.3 Sources of Information on HIV/AIDS

The table 4 revealed that respondents received HIV/AIDS information from various sources. Out of many sources, some of the respondents were often getting information from these sources: television (56.6%), posters (47.5%), books (44.8%), and newspaper (43.4%).

**Table 4: Number and percentage distribution of Source of Information (n=219)**

Source of Information	Often		Sometimes		Never	
	Number	%	Number	%	Number	%
Newspaper	95	43.4	102	46.6	22	10.0
Television	124	56.6	80	36.6	15	6.9
Magazine	79	36.1	117	53.4	23	10.5
Family members	53	24.2	110	50.2	56	25.6
Friends/Colleagues	58	26.5	132	60.3	29	13.2
Books	98	44.8	99	45.2	22	10.0
Posters	104	47.5	95	43.4	20	9.1
Health Providers	67	30.6	91	41.6	61	27.8
NGOs	48	21.9	75	34.3	96	43.8

#### 4.1.4 Distribution of Knowledge on Prevention on HIV/AIDS

##### Respondents know where to get condom (n=219)

Table 5 showed that (86.8%) the respondents knew where to get condom. Out of many places, drug store is the most chosen place of the respondents; it was (79%).

**Table 5: Number and Percentage Distribution of Sources of Availability of Condom**

Availability of Condom	Number	%
<b>Do you know where can you get condom?</b>		
No	29	13.2
Yes	190	86.8
<b>Source of Condom:*</b>		
Shop	34	15.5
Drug Store	173	79.0
NGO	42	19.2
Clinic	35	16.0
Workplace	3	1.4

\*Multiple responses

### Knowledge on Prevention of HIV/AIDS of the Respondents

Table 6 revealed that most of the respondents have a correct knowledge about HIV/AIDS. But only (23.3%) and (31.1%) of the respondents had a knowledge about HIV/AIDS can be transmitted by various ways. More than half of the respondents (58%) have a misconception about HIV can be prevented by washing genital pus with antiseptics solution after sex. Only half of the respondents (51.1%) had knowledge that there is need to use condom within sexual intercourse when both partners are HIV transmitted. And then, the respondents had a poor knowledge about mother to child HIV transmission. Only (26.5%) of the respondents can give correct answer about mother to child transmission.

**Table 6: Number and Percentage Distribution of Knowledge on prevention of HIV/AIDS of the Respondents (n=219)**

No	Statement	Frequency of respondents' answered correctly	%
1	HIV is a communicable disease.	212	96.8
2*	A healthy looking person cannot have HIV.	173	79.0
3	HIV/AIDS can be prevented.	197	90.0
4	A person who totally abstains from sex can be infected with HIV.	164	74.9
5*	I cannot get HIV if I avoid extramarital sex.	51	23.3
6*	I cannot get AIDS If I avoid intravenous drug use.	68	31.1
7	The risk of HIV transmission can be reduced by having sex with only one partner.	190	86.8
8	Having sex while on drug or alcohol increased the risk of HIV/AIDS infection.	189	86.3
9	Correct and consistent use of condom can reduce the risk of getting HIV.	196	89.5
10	Avoiding sex with injecting drug users can reduce the risk of HIV transmission.	149	68.0
11*	HIV transmission can be prevented by washing genital pus with antiseptic solution after sex.	92	42.0
12	Condom can break during sex.	166	75.8
13*	Using oral contraceptive pills can protect against HIV/AIDS.	164	74.9
14*	There is no need to use condom during sexual intercourse when both partners are HIVtransmitted.	112	51.1

15	Avoiding needle sharing can reduce the risk of HIV transmission.	177	80.8
16	Transfusion of only the scanned blood can reduce the risk of HIV transmission.	196	89.5
17*	Every child who is born to HIV transmitted mother can have HIV.	58	26.5
18	HIV can be diagnosed by blood test only.	203	92.7
19*	HIV can be cured totally in the well developed countries.	142	64.8
20	Having sex during menstruation increases chances of getting HIV.	139	63.5
21	If the person has a sexually transmitted disease (STD), the person has higher risk of getting HIV.	179	81.7

\*Negative statement

### Knowledge on HIV/AIDS Transmission of the Respondents

Table 7 showed that most of the respondent had a correct knowledge on HIV/AIDS transmission but only half of the respondents (53.9%) knew HIV can be transmitted by breast feeding and (56.2%) of the respondents knew blood and blood component from the blood center cannot transmitted and already scanned.

**Table 7: Number and Percentage Distribution of Knowledge on HIV/AIDS Transmission of the Respondents (n=219)**

No	Knowledge on modes of HIV of transmission	Frequency of respondents' answered correctly	%
1	Tattooing	193	88.1
2	Homosexual intercourse	210	95.9
3	Heterosexual intercourse	191	87.2
4*	Sharing accommodation and food with HIV infected person	169	77.7
5*	Transfusion of blood and blood components from blood center.	123	56.2
6*	Handshaking with HIV infected person	195	89.0
7*	Kissing	183	83.6
8*	Mosquito bite	152	69.9
9	Sharing syringe/needles	198	90.4
10	During pregnancy (mother to child)	158	72.1
11	During delivery (mother to child)	135	61.6

12	By breast feeding (mother to child)	118	53.9
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\*Negative statement

### **Level of Knowledge on HIV/AIDS Prevention and Transmission of the Respondents**

Table 8 showed the frequency and percentage distribution of knowledge level of the respondents. The level was classified into two categories: low level (1-24 scores) and high level (25-33 scores). Depend on the categories: (50.7%) of the respondents had low knowledge and (49.3%) of the respondents had high knowledge respectively.

**Table 8: Number and Percentage Distribution of Level of Knowledge on HIV/AIDS Prevention and Transmission of the Respondents (n=219)**

<b>Knowledge Level</b>	<b>Number</b>	<b>%</b>
Low Level (1-24 scores)	111	50.7
High Level (25-33 scores)	108	49.3
Range =13.0-33.0		
Mean $\pm$ SD = 23.9 $\pm$ 3.9		
Median = 24.0		

#### **4.1.5 Distribution of Attitudes towards Prevention on HIV/AIDS**

Table 9 showed that (93.7%) of the respondents agreed that anyone should have knowledge and should be aware of the mode of HIV/AIDS transmission and (75.9%) of the respondents agreed that anyone can get HIV/AIDS. (45.2%) of the respondents agreed on the statement that AIDS is a disease for only a person with multi-sexual partners. They had positive attitude towards condom using. But they still believed that using condom within sexual intercourse is a sign of not trusting to partners because (38.8%) disagreed, (31.1%) is uncertain and (30.1%) agreed on this situation. More than (55%) are uncertain for the all men who have sex with men (MSM) and commercial sex workers (CSW) have HIV/AIDS. Half of the respondent disagreed that there is no problem about HIV if needle sharing for only one time. Half of the respondents disagreed for the HIV affected workers should be terminated but they thought that it should let to know others and they do not want to work together with them. About (60%) of respondents have positive attitude towards carrying a condom.

**Table 9: Number and Percentage Distribution of the Attitude towards HIV/AIDS of the Respondents (n=219)**

Statement	%				
	SA	A	U	DA	SDA**
Anyone can get HIV/AIDS.	57.1	18.7	17.8	3.2	3.2
Anyone should be aware of the mode of HIV/AIDS transmission.	69.9	22.8	5.5	0.9	0.9
Anyone should have knowledge about HIV transmission.	72.1	21.5	4.1	1.4	0.9
AIDS is a disease for only a person with multi-sexual partners.*	27.4	17.8	28.8	11.9	14.2
A person cannot get HIV by having sex without condom for only once.*	8.7	8.2	30.6	14.2	38.4
Using condom interrupt the sexual intercourse.*	6.4	19.6	26.5	23.7	23.7
Using condom within sexual intercourse is a sign of not trusting to partners.*	11.9	18.3	31.1	15.5	23.3
I think all sex workers have HIV/AIDS.*	7.8	8.7	58.4	16.0	9.1
I think all men who have sex with men can get HIV.*	6.4	13.2	56.5	12.3	11.4
There is no problem about HIV if we share needle just only one time for intravenous drug use.*	2.3	14.6	26.9	23.3	27.9
If a worker is infected HIV virus, he/she should be terminated from jobs.*	11.0	11.4	22.4	21.0	34.2
If I know that one of my friends/colleagues have HIV, I should tell to others that he/she got HIV.*	30.6	25.6	17.4	10.0	16.4
If I know that one of my friends/colleagues have HIV, I don't want to work together with him/her.*	11.4	11.0	25.1	21.0	31.5
I feel comfortable carrying a condom with me.	29.2	31.1	21.9	11.4	6.4

\*Negative statement

\*\*SA=Strongly Agree,A= Agree, U=Uncertain, DA= Disagree, SDA= Strongly Disagree

#### **Level of Attitude towards Prevention on HIV/AIDS of the Respondents**

The level was classified into two categories: negative attitude (1-49 scores), and positive attitude (49-70 scores). According to this categories, (49.3%) of the respondents had negative attitude, and (50.7%) of the respondents had positive attitude respectively.

**Table 10: Number and Percentage Distribution of the Level of Attitude towards Prevention on HIV/AIDS of the Respondents (n=219)**

<b>Attitude Level</b>	<b>Number</b>	<b>%</b>
Negative Attitude (1-49 scores)	108	49.3
Positive Attitude (49-70 scores)	111	50.7
Range =26.0 -70.0		
Mean $\pm$ SD = 49.3 $\pm$ 7.2		
Median = 49.4		

#### **4.1.6 Distribution of Prevention Practices related to HIV/AIDS**

##### **Respondents who was drinking alcohol and having sex after drinking alcohol**

Two third of respondents were drinking alcohol during the past 12 months. Among these 154 drinkers, (54.5%) of the respondents had sex after drinking alcohol as shown in table 11.

**Table 11: Number and Percentage Distribution of the Respondents who was drinking alcohol and having sex after drinking alcohol (n=219)**

<b>Variable</b>	<b>Number</b>	<b>%</b>
<b>Did you drink alcohol during past 12 months? (n=219)</b>		
No	65	29.7
Yes	154	70.3
<b>Did you have sex after drinking alcohol?(n=154)</b>		
No	70	45.5
Yes	84	54.5

##### **Respondents who was using sedative drug and having sex after using sedative drug**

Table 12 showed that there were only 8(3.7%) respondents were using sedative drug during past 12 months as shown in table 12.

**Table 12: Number and Percentage Distribution of the Respondents who was using sedative drug and having sex after using sedative drug (n=219)**

<b>Variable</b>	<b>Number</b>	<b>%</b>
<b>Did you use sedative drug during past 12 months? (n=219)</b>		
No	211	96.3
Yes	8	3.7

**Did you have sex after using sedative drug (n=8)**

No	2	25.0
Yes	6	75.0

**Having Extramarital sex and Condom use of the Respondents**

Among 100 married respondents, (45%) of the respondents had extramarital sex during the past 12 months. Only (11.1%) of the respondents consistent used condom when they had extramarital sex.

**Table 13: Number and Percentage Distribution of Respondents who have Extramarital sex and Condom use of the Respondents (n=100)**

Variable	Number	%
<b>Do you have extramarital sex during past 12 months? (n=100)</b>		
No	55	55.0
Yes	45	45.0
<b>Do you use condom when you have sex? (n=45)</b>		
Every time	5	11.1
Almost	9	20.0
Sometimes	23	51.1
Not used	8	17.8

**Having sex with Casual Sexual Partners and Condom use of the Respondents**

According to the following table, (38.4%) of the respondents had casual sexual partners during the past 12 months. Among the respondents who had casual sexual partners, (13.1%) of the respondents used condom consistently.

**Table 14: Number and Percentage Distribution of Respondents' Casual Sexual Partners and Condom use of the Respondents (n=219)**

Variable	Number	%
<b>Do you have casual sexual partners during the past 12 months? (n=219)</b>		
No	135	61.6
Yes	84	38.4
<b>Do you use condom when you have sex? (n=84)</b>		
Every time	11	13.1
Almost	27	32.1
Sometimes	36	42.9
Not used	10	11.9

### Having sex with female sex workers and Condom use of the Respondents

Table 15 showed that (31.5%) of the respondents had sex with female sex workers during the past 12 months. Among the respondents who has sex with female sex workers, only (29%) of the respondents used condom consistently.

**Table 15: Number and Percentage Distribution of Respondents who have sex with female sex workers and Condom use of the Respondents (n=219)**

Variable	Number	%
<b>Do you have sex with female sex workers during the past 12 months? (n=219)</b>		
No	150	68.5
Yes	69	31.5
<b>Do you use condom when you have sex?(n=69)</b>		
Every time	20	29.0
Almost	24	34.8
Sometimes	18	26.1
Not used	7	10.1

### Having Homo sex and Condom use of the Respondents

Table 16 revealed that (19.2%) of the respondents had sex with a person who is the same sex with them during the past 12 months. Among the respondents who had homo sex, only (50%) of respondents used condom consistently.

**Table 16: Number and Percentage Distribution of Homo sex and Condom use of the Respondents (n=219)**

Variable	Number	%
<b>Do you have sex with a person who is the same sex with you during the past 12 months? (n=219)</b>		
No	177	80.8
Yes	42	19.2
<b>Do you use condom when you have sex? (n=42)</b>		
Every time	21	50.0
Almost	9	21.4
Sometimes	8	19.1
Not used	4	9.5

## 4.2 Association between Knowledge, Attitude by Socio-demographic and Occupational Characteristics

The association between socio-demographic characteristics, occupational characteristics and knowledge of the respondents on HIV/AIDS prevention and its transmission, attitude towards HIV/AIDS was determined by simple logistic regressions. Level of the significance for relationship between these variables was set as p value 0.05.

Table 17 summarizes simple logistic regressions for association of knowledge level of the respondents with socio-demographic characteristics and occupational characteristics. Respondent whose hometown was Mandalay (p-value = 0.007), respondents who were not travelling for job (p-value = 0.005) and respondents who were provided HIV related health education from NGOs (p-value = 0.008) were associated with better knowledge on HIV/AIDS and its prevention.

**Table 17: Association between Socio-demographic, Occupational Characteristics and Knowledge of the Respondents on HIV/AIDS Prevention and its Transmission**

Socio-demographic and Occupational Characteristics	Knowledge Level		OR	95% CI	P-value
	Low n(%)	High n(%)			
<b>Hometown (n=219)</b>					
Mandalay	53(42.7)	71(57.3)	0.476	0.276, 0.821	0.007
Others	58(61.1)	37(38.9)			
<b>Travelling for job (n=219)</b>					
No	67(44.4)	84(55.6)	0.435	0.241, 0.821	0.005
Yes	44(64.7)	24(35.3)			
<b>HIV related Health Education workshop provided by NGOs (n=219)</b>					
No	64(59.8)	43(40.2)	2.058	1.201, 3.528	0.008
Yes	47(42.0)	65(58.0)			

Table 18 summarizes simple logistic regressions for association of attitude level of the respondents with socio-demographic characteristics and occupational

characteristics. Respondents who are married, widowed and divorced (p-value = 0.012), who had high level of education (p-value =0.004) and respondent whose hometown is Mandalay (p-value=0.013), respondents with higher income (p-value=0.014) were significantly associated with positive attitude towards HIV/AIDS.

**Table 18: Association between Socio-demographic, Occupational Characteristics and Attitude of the Respondents towards HIV/AIDS**

Socio-demographic and Occupational Characteristics	Attitude Score		OR	95% CI	P-value
	Negative Attitude n (%)	Positive Attitude n (%)			
<b>Marital Status (n=219)</b>					
Single	67(57.3)	50(42.7)	1.994	1.163, 3.419	0.012
Married, Divorced, Widowed	41(40.2)	61(59.8)			
<b>Education (n=219)</b>					
Primary, Secondary Education	32(68.1)	15(31.9)	2.695	1.361, 5.336	0.004
High School Level, University	76(44.2)	96(55.8)			
<b>Hometown (n=219)</b>					
Mandalay	52(41.9)	72(58.1)	0.503	0.292, 0.865	0.013
Others	56(58.9)	39(41.1)			
<b>Income per month (n=219)</b>					
Low (0-90.0 US \$)	73(56.2)	57(43.8)	1.976	1.142, 3.420	0.014
High (90.1- 350.0 US\$)	35(39.3)	54(60.7)			

Table 19 summarizes simple logistic regressions for association between knowledge of the respondents and attitude level of the respondent on HIV/AIDS. There was an association between high knowledge and positive attitude of the respondents towards HIV/AIDS and its prevention (p-value 0.026).

**Table 19: Association between Knowledge and Attitude of the Respondents on HIV/AIDS and its prevention**

Knowledge of the Respondents	Attitude Score		OR	95% CI	P-value
	Negative Attitude n (%)	Positive Attitude n (%)			
Low Knowledge	63(56.8)	48(43.2)	1.838	1.075, 3.141	0.026
High Knowledge	45(41.7)	63(58.3)			

### 4.3 Relationships between independent variables and dependent variables

There were 14 independent variables and 2 dependent variables for respondents. The independent variables were age, marital status, education, hometown, living status, could buy alcohol with discount, working time, income per month, travelling for job, HIV related health education by NGOs, health knowledge getting from workplace, knowledge level, knew where to get condom and attitude level. The dependent variables were sex practices of the workers (sex after drinking alcohol, extramarital sex and casual sex, having sex with female sex workers and having homo sex) and consistent usage of condom when they have sex. The following tables show the bivariate analysis for sex practices and consistent condom usage in respondents. In the tables, independent variables with p value less than or equal to 0.15 were included.

#### 4.3.1 Simple logistic regression for sex practices in respondents: independents variables for which $p \leq 0.15$

Among 154 drinkers out of 219 respondents, 84 respondents have sex after drinking alcohol. In simple logistic regression for sex after drinking alcohol in respondents, 7 variables (respondents' age, marital status, living status, education, and hometown, travelling for job and HIV related health education provided by NGOs) were positive relationship with having sex after drinking alcohol. Five out of 7 variables were significantly associated with sex after drinking alcohol. Education (p-value= 0.070) and hometown (p-value= 0.087) were  $p < 0.15$ .

**Table 20: Simple logistics regressions for sex practices (sex after drinking alcohol) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Sex After Drinking Alcohol		OR	95% CI	P- value
	No n (%)	Yes n (%)			
<b>Age (n=154)</b>					
≤29 years	45(53.6)	39(46.4)	2.077	1.084, 3.980	0.027
>29 years	25(35.7)	45(64.3)			
<b>Marital Status (n=154)</b>					
Single	50(64.1)	28(35.9)	5.000	2.510, 9.958	<0.001
Married, Divorced,					
Widowed	20(26.3)	56(73.7)			

<b>Living with (n=154)</b>					
Friends, Relatives, Alone	16(32.7)	33(67.3)	0.458	0.225, 0.931	0.029
Family	54(51.4)	51(48.6)			
<b>Education (n=154)</b>					
Primary, Secondary	10(31.3)	22(68.7)	0.470	0.205, 1.074	0.070
Education	60(49.2)	62(50.8)			
<b>Hometown (n=154)</b>					
Mandalay	43(51.8)	40(48.2)	1.752	0.920, 3.336	0.087
Other	27(38.0)	44(62.0)			
<b>Travelling for job (n=154)</b>					
No	63(66.3)	32(33.7)	14.625	5.967, 35.845	<0.001
Yes	7(11.9)	52(88.1)			
<b>HIV related Health Education workshop provided by NGOs (n=154)</b>					
No	26(34.7)	49(65.3)	0.422	0.220, 0.809	0.009
Yes	44(55.7)	35(44.3)			

Among 100 married people, 45 respondents have extramarital sex practices. In simple logistic regression for extramarital sex in respondents, 7 variables (living status, hometown, travelling for jobs, eligible to buy alcohol with discount, working time, HIV related health education provided by NGOs and knowledge level) were positive association with extramarital sex. Six out of 7 variables were significantly associated with extramarital sex. Hometown (p-value= 0.112) were p<0.15.

**Table 21: Simple logistics regressions for sex practices (extramarital sex) in respondents: independents variables for which p≤ 0.15**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Extramarital Sex		OR	95% CI	P-value
	No n (%)	Yes n (%)			
<b>Living with (n=100)</b>					
Friends, Relatives, Alone	5(19.2)	21(80.8)	0.114	0.038, 0.340	<0.001
Family	50(67.6)	24(32.4)			
<b>Hometown (n=100)</b>					
Mandalay	32(62.7)	19(37.3)	1.904	0.857, 4.229	0.112
Other	23(46.9)	26(53.1)			

<b>Travelling for job (n=100)</b>					
No	49(74.2)	17(25.8)	13.451	4.754, 38.059	<0.001
Yes	6(17.6)	28(82.4)			
<b>Eligible to buy alcohol at the discount (n=100)</b>					
No	41(63.1)	24(36.9)	2.562	1.103, 5.955	0.027
Yes	14(40.0)	21(60.0)			
<b>Working time (n=100)</b>					
Day Shift	35(70.0)	15(30.0)	3.500	1.529, 8.012	0.003
Night and Alternate Shift	20(40.0)	30(60.0)			
<b>HIV related Health Education workshop provided by NGOs (n=100)</b>					
No	27(46.6)	31(53.4)	0.435	0.191, 0.992	0.046
Yes	28(66.7)	14(33.3)			
<b>Knowledge Level (n=100)</b>					
Low	20(42.6)	27(57.4)	0.381	0.169, 0.857	0.018
High	35(66.0)	18(34.0)			

In simple logistic regression for casual sex in respondents, 6 variables (living status, hometown, travelling for jobs, HIV related health education provided by NGOs, health knowledge getting from workplace and knowledge level) were positively significant association with casual sex.

**Table 22: Simple logistics regressions for sex practices (casual sex) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Casual Sex		OR	95% CI	P-value
	No n (%)	Yes n (%)			
<b>Living with (n=219)</b>					
Friends, Relatives, Alone	28(44.4)	35(55.6)	0.336	0.201, 0.668	0.001
Family	107(68.6)	49(31.4)			
<b>Hometown (n=219)</b>					
Mandalay	84(67.7)	40(32.3)	1.812	1.043, 3.146	0.034
Others	51(53.7)	44(46.3)			

<b>Travelling for job (n=219)</b>					
No	121(80.1)	30(19.9)	15.557	7.642, 31.670	<0.001
Yes	14(20.6)	54(79.4)			
<b>Health Knowledge getting from Workplace (n=219)</b>					
No	49(53.8)	42(46.2)	0.570	0.328, 0.991	0.045
Yes	86(67.2)	42(32.8)			
<b>HIV related Health Education workshop provided by NGOs (n=219)</b>					
No	57(53.3)	50(46.7)	0.497	0.286, 0.864	0.013
Yes	78(69.6)	34(30.4)			
<b>Knowledge Level (n=219)</b>					
Low	59(53.2)	52(46.8)	0.478	0.274, 0.833	0.009
High	76(70.4)	32(29.6)			

In simple logistic regression for having sex with female sex workers in respondents, 6 variables (living status, hometown, travelling for jobs, eligible to buy alcohol with discount, HIV related health education provided by NGOs and knowledge level) were positive association with female sex workers. Four out of 6 variables were significantly associated with having sex with sex workers. Hometown (p-value= 0.137) and HIV related health education provided by NGOs (p-value= 0.067) were  $p < 0.15$ .

**Table 23: Simple logistics regressions for sex practices (sex with female sex workers) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Sex with female sex workers		OR	95% CI	P-value
	No n (%)	Yes n (%)			
<b>Living with (n=219)</b>					
Friends, Relatives, Alone	36(57.1)	27(42.9)	0.491	0.266, 0.906	0.022
Family	114(73.1)	42(26.9)			
<b>Hometown (n=219)</b>					
Mandalay	90(72.6)	34(27.4)	1.544	0.870, 2.741	0.137
Other	60(63.2)	35(36.8)			

<b>Travelling for job (n=219)</b>					
No	128(84.8)	23(15.2)	11.636	5.927, 22.846	<0.001
Yes	22(32.4)	46(67.6)			
<b>Eligible to buy alcohol at the discount (n=219)</b>					
No	99(73.9)	35(26.1)	1.886	1.055, 3.369	0.031
Yes	51(60.0)	34(40.0)			
<b>HIV related Health Education workshop provided by NGOs (n=219)</b>					
No	67(62.6)	40(37.4)	0.585	0.329, 1.041	0.067
Yes	83(74.9)	29(26.1)			
<b>Knowledge Level (n=219)</b>					
Low	67(60.4)	44(39.6)	0.459	0.255, 0.825	0.009
High	83(76.9)	25(23.1)			

In simple logistic regression for having homo sex in respondents, 6 variables (living status, hometown, travelling for jobs, eligible to buy alcohol with discount, HIV related health education provided by NGOs and knowledge level) were positive association with having homo sex. Five out of 6 variables were significantly associated with having homo sex. Eligible to buy alcohol with discount (p-value= 0.098) were p<0.15.

**Table 24: Simple logistics regressions for sex practices (homo sex) in respondents: independents variables for which p≤ 0.15**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Homo sex		OR	95% CI	P-value
	No	Yes			
	n (%)	n (%)			
<b>Living with (n=219)</b>					
Friends, Relatives, Alone	43(68.3)	20(31.7)	0.353	0.176, 0.708	0.003
Family	134(85.9)	22(14.1)			
<b>Hometown (n=219)</b>					
Mandalay	107(86.3)	17(13.7)	2.248	1.132, 4.463	0.019
Others	70(73.7)	25(26.3)			

<b>Eligible to buy alcohol at the discount (n=219)</b>					
No	113(84.3)	21(15.7)	1.766	0.896, 3.479	0.098
Yes	64(75.3)	21(24.7)			
<b>Travelling for job (n=219)</b>					
No	141(93.4)	10(6.6)	12.533	5.638, 27.861	<0.001
Yes	36(52.9)	32(47.1)			
<b>HIV related Health Education workshop provided by NGOs (n=219)</b>					
No	79(73.8)	28(26.2)	0.403	0.199, 0.817	0.010
Yes	98(87.5)	14(12.5)			
<b>Knowledge Level (n=219)</b>					
Low	81(73.0)	30(27.0)	0.338	0.162, 0.702	0.003
High	96(88.9)	12(11.1)			

#### 4.3.2 Simple logistic regression for Consistent Condom Used in respondents: independents variables for which $p \leq 0.15$

Among 45 respondents who had extramarital sex, 5 respondents used condom consistently when they had sex. In simple logistic regression for consistent used of condom in respondents when they had extramarital sex, only one variable (knowledge level) were positive relationship with consistent used of condom. But it was  $p < 0.15$ .

**Table 25: Simple logistic regression for Consistent Condom Used (extramarital sex) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Extramarital sex		OR	95% CI	P- value
	Consistent Condom use				
	Yes n(%)	No n(%)			
<b>Knowledge Level (n=45)</b>					
Low	1(3.7)	26(96.3)	0.135	0.014, 1.323	0.052
High	4(22.2)	14(77.8)			

Among 84 respondents who had casual sex, 11 respondents used condom consistently when they had sex. In simple logistic regression for consistent used of condom in respondents when they had casual sex, 4 variables (respondents' age, marital status, living status, eligible to buy alcohol at discount) were positive relationship with having casual sex. All of them were  $p < 0.15$ .

**Table 26: Simple logistic regression for Consistent Condom Used (Casual sex) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Casual sex		OR	95% CI	P- value
	Consistent Condom use				
	Yes n(%)	No n(%)			
<b>Age (n=84)</b>					
≤29 years	3(7.0)	40(93.0)	0.309	0.076, 1.260	0.084
>29 years	8(19.5)	33(80.5)			
<b>Living with (n=84)</b>					
Friends, Relatives, Alone	2(5.7)	33(94.3)	0.269	0.054, 1.334	0.076
Family	9(18.4)	40(81.6)			
<b>Marital Status (n=84)</b>					
Single	3(7.0)	40(93.0)	0.309	0.076, 1.260	0.084
Married, Divorced, Widowed	8(19.5)	33(80.5)			
<b>Eligible to buy alcohol at the discount (n=84)</b>					
No	9(18.8)	39(81.2)	3.923	0.792, 19.425	0.064
Yes	2(5.6)	34(94.4)			

Among 69 respondents who had sex with sex workers, 20 respondents used condom consistently when they had sex. In bivariate analysis for consistent used of condom in respondents when they had sex with female sex workers, all of the variables (travelling for jobs, HIV related health education provided by NGOs, Health knowledge getting from workplace and Knowledge level) were positive relationship with having sex with sex workers. Health knowledge getting from workplace is significantly associated with consistent condom used. HIV related health education provided by NGOs is marginally significant with consistent condom used. Travelling for jobs and knowledge level were  $p < 0.15$ .

**Table 27: Simple logistic regression for Consistent Condom Used (Sex with female sex workers) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Sex with female sex workers		OR	95% CI	P- value
	Consistent Condom use				
	Yes n(%)	No n(%)			
<b>Travelling for job (n=69)</b>					
No	10(43.5)	13(56.5)	2.769	0.939, 8.170	0.061
Yes	10(21.7)	36(78.3)			
<b>HIV related Health Education workshop provided by NGOs (n=69)</b>					
No	8(20.0)	32(80.0)	0.354	0.121, 1.033	0.053
Yes	12(41.4)	17(58.6)			
<b>Health Knowledge getting from Workplace (n=69)</b>					
No	5(15.2)	28(84.8)	0.250	0.078, 0.797	0.015
Yes	15(41.7)	21(58.3)			
<b>Knowledge Level (n=69)</b>					
Low	10(22.7)	34(77.3)	0.441	0.152, 1.282	0.128
High	10(40.0)	15(60.0)			

Among 42 respondents who had homo sex, 21 respondents used condom consistently when they had sex. In bivariate analysis for consistent used of condom in respondents when they had homo sex, 4 variables (respondents' age, marital status, travelling for jobs and HIV related health education provided by NGOs) were negatively significant association with having homo sex.

**Table 28: Simple logistic regression for Consistent Condom Used (Homo sex) in respondents: independents variables for which  $p \leq 0.15$**

Socio-demographic, Occupational Characteristics, Knowledge and Attitude	Homo sex		OR	95% CI	P- value
	Consistent Condom use				
	Yes n(%)	No n(%)			

<b>Age (n=42)</b>					
≤ 29 years	16(64.0)	9(36.0)			
>29 years	5(29.4)	12(70.6)	4.267	1.134, 16.050	0.028
<b>Marital Status (n=42)</b>					
Single	15(68.2)	7(31.8)			
Married, Divorced, Widowed	6(30.0)	14(70.0)	5.000	1.347, 18.555	0.013
<b>Travelling for job (n=42)</b>					
No	11(39.3)	17(60.7)			
Yes	10(71.4)	4(28.6)	0.259	0.065, 1.035	0.047

#### 4.4 Multiple logistic regressions of sex practices and consistent condom used in respondents

Final multiple logistic regressions model of sex practices and consistent condom used in respondents is presented in the following tables.

##### 4.4.1 Sex practices in respondents, final multiple logistic regressions

Final multiple logistic regressions model of sex practices after drinking alcohol in respondents is presented in the table 29. Respondents' age, living status, hometown and HIV related health education provided by NGOs were included in semi final model but they were not included in final model because of  $p > 0.15$ . Marital status, education level and travelling for jobs were included in semifinal model and final model and significantly associated with sex after drinking alcohol. Travelling for jobs (OR= 26.696, 95% CI= 8.846, 80.551, p-value=  $< 0.001$ ), marital status (OR= 9.531, 95% CI= 3.653, 24.868, p-value=  $< 0.001$ ) and education (OR= 0.282, 95% CI= 0.090, 0.882, p-value= 0.030) were significantly associated with sex after drinking alcohol.

**Table 29: Sex practices (sex after drinking alcohol) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Marital Status</b>				
Single <sup>Ref</sup>	1	1	1	1
Married, Divorced, Widowed	2.255	9.531	3.653, 24.868	$< 0.001$

<b>Education</b>				
Primary, Secondary Education <sup>Ref</sup>	1	1	1	1
High School, University	-1.264	0.282	0.090, 0.882	0.030
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	3.285	26.696	8.848, 80.551	<0.001

<sup>Ref</sup> - Reference group

Final multiple logistic regressions model of extramarital sex practices in respondents is shown in table 30. Hometown, working time, HIV related health education provided by NGOs and knowledge level were included in semi final model but they were not included in final model because of  $p > 0.15$ . Living status, eligible to buy alcohol at the discount and travelling for jobs were included in semifinal model and final model. But only travelling for jobs (OR= 9.509, 95% CI= 3.099, 29.182, p-value= <0.001) and living status (OR= 0.220, 95% CI= 0.063, 0.767, p-value= 0.017) were significantly associated with extramarital sex.

**Table 30: Sex practices (extramarital sex) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Living with</b>				
Friends, Relatives, Alone <sup>Ref</sup>	1	1	1	1
Family	-1.514	0.220	0.063, 0.767	0.017
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	2.252	9.509	3.099, 29.182	<0.001
<b>Eligible to buy alcohol at the discount</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	1.027	2.792	0.991, 7.865	0.052

<sup>Ref</sup> - Reference group

Final multiple logistic regressions model of casual sex practices in respondents is presented in table 31. Living status, HIV related health education provided by NGOs and knowledge level were included in semi final model but they were not included in final model because of  $p > 0.15$ . Travelling for jobs, hometown and health knowledge getting from workplace were included in semifinal model and final model. Travelling for jobs (OR= 14.571, 95% CI= 7.124, 29.802, p-value=  $< 0.001$ ) was significantly associated with casual sex practices.

**Table 31: Sex practices (casual sex) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Hometown</b>				
Mandalay <sup>Ref</sup>	1	1	1	1
Others	0.322	1.380	0.705, 2.704	0.348
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	2.679	14.571	7.124, 29.802	$< 0.001$
<b>Health Knowledge getting from Workplace</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	-3.323	0.724	0.369, 1.422	0.348

<sup>Ref</sup> - Reference group

Final multiple logistic regression models of sex practices for having sex with female sex workers in respondents is given in table 32. Living status, hometown, HIV related health education provided by NGOs and knowledge level were included in semi final model but they were not included in final model because of  $p > 0.15$ . Travelling for jobs and eligible to buy alcohol at discount were included in semifinal model and final model. Travelling for jobs (OR= 12.238, 95% CI= 6.120, 24.470, p-value=  $< 0.001$ ) and eligible to buy alcohol at discount (OR= 2.175, 95% CI= 1.089, 4.346, p-value= 0.028) were significantly associated with sex practices for having sex with female sex workers.

**Table 32: Sex practices (having sex with female sex workers) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	2.505	12.238	6.120, 24.470	<0.001
<b>Eligible to buy alcohol at discount</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	0.777	2.175	1.089, 4.346	0.028

<sup>Ref</sup> - Reference group

Final multiple logistic regression models of sex practices for having homo sex in respondents is given in table 33. Living status, hometown, HIV related health education provided by NGOs and knowledge level were included in semi final model but they were not included in final model because of  $p > 0.15$ . Travelling for jobs and eligible to buy alcohol at discount were included in semifinal model and final model. Travelling for jobs (OR= 12.768, 95% CI= 5.695, 28.628, p-value= <0.001) was significantly associated with sex practices for having homo sex.

**Table 33: Sex practices (having homo sex) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	2.547	12.768	5.695, 28.628	<0.001
<b>Eligible to buy alcohol at discount</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	0.636	1.889	0.867, 4.115	0.109

<sup>Ref</sup> - Reference group

#### 4.4.2 Consistent condom used in respondents, final multiple logistic regressions

There are 45 respondents for extramarital sex practices, 84 respondents for casual sex, 69 respondents for having sex with female sex workers and 42 respondents for having homo sex practices. Final multiple logistic regression model of casual sex and having sex with sex workers in respondents is presented in the following tables.

Final multiple logistic regression model of consistent condom used in respondents when they have casual sex is presented in table 34. Age, marital status, were included in semi final model but they were not included in final model because of  $p > 0.15$ . Living status and eligible to buy alcohol at discount were included in semifinal model and final model but not significantly associated with consistent condom use of the respondents when they have casual sex.

**Table 34: Consistent condom used (casual sex) in respondents, final multiple logistic regressions**

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	P-value
<b>Living with</b>				
Friends, Relatives, Alone <sup>Ref</sup>	1	1	1	1
Family	-1.489	0.226	0.044, 1.154	0.074
<b>Eligible to buy alcohol at the discount</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	1.537	4.653	0.911, 23.758	0.065

<sup>Ref</sup> - Reference group

Final multiple logistic regression model of consistent condom used in respondents when they have sex with female sex workers is presented in table 35. HIV related health education provided by NGOs and knowledge level were included in semi final model but they were not included in final model because of  $p > 0.15$ . Travelling for jobs and health knowledge getting from workplace were included in semifinal model and final model. Health knowledge getting from workplace (OR= 0.266, 95% CI= 0.082, 0.864, p-value= 0.028) was significantly associated with consistent condom use when the respondents have sex with female sex workers.

**Table 35: Consistent condom used (sex with female sex workers) in respondents, final multiple logistic regressions**

<b>Independent variables</b>	<b>Modeled Coefficient (B)</b>	<b>Odds Ratio Exp (B)</b>	<b>95% CI</b>	<b>p-value</b>
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	0.932	2.540	0.822, 7.852	0.105
<b>Health Knowledge getting from Workplace</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	-1.326	0.266	0.082, 0.864	0.028

<sup>Ref</sup> - Reference group

## **CHAPTER V**

### **DISCUSSION, SUMMARY AND CONCLUSION**

#### **5.1 Discussion**

This study was to evaluate the occupational characteristics and how work-related factors were associated with HIV/AIDS prevention practices among male workers working at the alcohol factories in Myanmar. The main objective of this study was to find out the occupational characteristics of alcohol factory male workers and factors associated with prevention practices related to HIV/AIDS among alcohol factory male workers in IZ (1), Pyi Gyi Tagon Township and Mandalay, Myanmar. In this chapter, the findings will be discussed on the setting of research questions and objectives.

There were 14 independent variables and 2 dependent variables for respondents. Fourteen independent variables (age, marital status, education, hometown, living status, could buy alcohol with discount, working time, income per month, travelling for job, HIV related health education by NGOs, health knowledge getting from workplace, knowledge level, knew where to get condom and attitude level) and 2 dependent variables; sex practices of the workers (sex practices after drinking alcohol, sex practices after using drug, extramarital sex practices and casual sex practices, having sex with female sex workers and homo sex practices) and consistent usage of condom when they have sex) were analyzed. For their sex practices after using drug and consistent condom use when they have extramarital sex and homo were too few cases to analyze meaningfully.

The study group included only the age from 18-49 years. The figures are difficult to compare directly for age but from the data analysis; above 29 years were considered older aged group. The findings of the study showed that most of the respondents were male, aged from 18 to 29 and single. Education level of the respondents mainly was high school and they travelled for a job for a month on average. So, the respondents in this study were consistent with the profile of HIV/AIDS vulnerable workers reported by the ILO.

Based on the data analysis, the score of respondents' knowledge on HIV/AIDS was divided into two groups: low and high. Half of the respondents had high knowledge on HIV/AIDS. The factory workers were very familiar with the term "HIV/AIDS" but the awareness of HIV/AIDS prevention practices were not consistent with their knowledge. Regarding transmission, 86.8% viewed that the risk of HIV transmission can be reduced by having sex with only one partner but multiple sexual partners were found on their practices. The results showed that alcohol factory workers knew that HIV is a communicable disease and can be prevented; but many did not know how to prevent HIV/AIDS. For example, 52% of the workers did not know that HIV cannot be prevented by washing genital pus with antiseptic solution after sex and 48.9% did not know that there is a need to use condom when having sexual intercourse when both partners are HIV transmitted. Such high prevalence of misconceptions can undermine HIV preventions effort by health organization.

Regarding transmission, 80.8% of the respondents viewed that avoiding needle sharing can reduce the risk of HIV transmission and 89.5% of the respondents knew that transfusion of only the scanned blood can reduce the risk of HIV transmission but only 56.2% of the respondents' view that HIV cannot be transmitted by transfusion of blood from blood center. So, respondents should be aware where to get blood if they need. Besides, they had poor knowledge on HIV prevention of mother to child transmission. 46.1% of respondents did not know that HIV can be transmitted by breast feeding and only 73.5% did not know that any child who is born to HIV transmitted mother cannot have HIV. Because of not understanding mother to child transmission, in the other way, because of not understanding that their behavior were effected to their wives and their children, they were not controlled themselves about sex practices. Besides, low knowledge on mother to child transmission issues can exacerbate stigmatization of children born to HIV positive mothers. This limited knowledge on HIV/AIDS can lead to low utilizations of PMCT services.

The attitude of the respondents in alcohol factories towards HIV/AIDS prevention mainly depended on the knowledge they gained. This finding is consistent with the study among Myanmar migrant workers in Mahachai, Samut Sakorn Province, Thailand. There was an association between good knowledge and positive

attitude towards HIV/AIDS (Thu, 2003). In this study, half of the respondents did not have positive attitude towards HIV/AIDS prevention practices. Nearly 75% of the respondents thought that AIDS is a disease for only a person who has multi- sexual partners. Discrimination against HIV- positive people were also serious. This is consistent with the study which was done in Sri Lanka on assessment of Knowledge, Attitude and Practices of construction workers for HIV. In this study, most of the respondents have fairly good knowledge on HIV prevention. But they still had misconceptions about HIV. Over 50% respondents conveyed discriminatory attitudes towards HIV positives. (Kanda et al., 2007).

Nearly half of the respondents (47.5%) did not want to work together with people with HIV/AIDS. This reason leads to conflicts in the workplace and it can affect employment issues. HIV infected employees are afraid of losing jobs and being discriminated in the workplace. Financial and psychological issues can effect on infected workers and families. According to previous studies, high level of discrimination against HIV/AIDS in community and media can lead to low uptake of voluntary testing and health services. Based on the finding, most of the respondents did not have good attitude on using condom. They thought that a person cannot get HIV by having sex without condom for only once and using condom is interrupted the sexual intercourse and it reduces the amount of sexual pleasures, that is why they did not consider of using condom during sex. The respondents also assumed that using condom during sex is a sign of not trusting to partners. But 86.8% of the respondents knew where they could get condom.

Numerous studies have shown that one of the contributing factors for HIV/AIDS control program is the mass media such as television, radio, magazine, newspaper and electronic media, internet. These media provide health information which could have major effect of HIV/AIDS prevention practices on people; especially health information from media has significantly correlation with behaviors (Htun, 2008). In this study, the main source of information was Television (93.2%) followed by newspaper, magazine, poster and books. Even though most of the respondents were getting information regarding HIV/AIDS form the television but they still had low level of knowledge for HIV/AIDS. The reason

of having low knowledge of the respondents is that media is the main source of information for the factory workers in Myanmar communities is television. But Myanmar mass media do not provide enough knowledge on HIV/AIDS. Eighty seven percent of the respondents received information from their friends and colleagues. Peer pressures were very important factor influencing their practices. If they have misconception and incorrect knowledge about HIV/AIDS, these misconceptions may be barriers for HIV prevention programs.

Pharmacy is the main source for the respondents to get condom. Although the international finance cooperation stated about HIV/AIDS in the workplace that ensuring availability of condom in the workplace addresses a primary limiting factor of the workers use, in our study respondents voted workplace for only 1.4%. In this study, condoms were not widely use during the sexual intercourse in the last 12 months. The number of people who consistently used condom was fairly low. So, more condom promotion in the workplace can be more beneficial for future HIV/AIDS prevention program.

Reduced availability or increased legal cost of alcohol can reduce alcohol consumption. Target populations were alcohol factory male workers. Two-third of the respondents drank alcohol. Some respondents could buy alcohol product from their factories at discount price. This was found to be one of the most important driving forces for alcohol consumption of alcohol factory male workers. In this study, respondents have poor sexual practices of HIV/AIDS; the consistency used of condom when they have sex was very low. Sexual practices can be influenced by many factors. Drinking alcohol is the one of the most important factor in this study. Eligible to buy alcohol at discount (OR= 2.175, 95% CI= 1.089, 4.346, p-value= 0.028) are positively significant associated with sex practices for having sex with female sex workers.

Education (OR= 0.282, 95% CI= 0.090, 0.882, p-value= 0.030) was negatively associated with sex after drinking alcohol. This finding is indicated that the previous study of Aung, 2009 was done among Myanmar migrant workers in Thailand that education is the influence factors for safe sex behavior. The higher the education level often practices safe sex. Respondent with secondary and higher

educational status had better sexual behavior than the respondents with middle and lower educational status (Nyunt, 2008).

Workers are recruited not only from Mandalay; nearly half of the workers were from all over the country. Some of them were not living together with their families. In this study, among married person, one fourth were living with their friends, relatives or alone instead of living with their families, in the other ways, they were apart from their wives/ spouse. Married person who are living with friends, relative and alone had more likely to have extramarital sex than the respondents who were living with their families. Living status (OR= 0.220, 95% CI= 0.063, 0.767, p-value= 0.017) were significantly negative association with extramarital sex in logistic regression. This finding indicated that the study was done in Uganda in which being multiple sexual partners, travelling for job, being married but not residing with regular sex partner and drinking alcohol were associated with HIV risk behaviors (Esther Buregyeya et al., 2008).

Travelling for a job is one of the risk factors. In this study, travelling for jobs was significantly associated with all sex practices in respondents. Travelling for jobs (OR= 26.696, 95% CI= 8.846, 80.551, p-value= <0.001) was significantly positive association with sex after drinking alcohol. Travelling for jobs (OR= 9.509, 95% CI= 3.099, 29.182, p-value= <0.001) was positively significant association with extramarital sex. Travelling for jobs is positively associated with casual sex practices (OR= 14.571, 95% CI= 7.124, 29.802, p-value= <0.001). Travelling for jobs (OR= 12.238, 95% CI= 6.120, 24.470, p-value= <0.001) was significantly positive association with sex practices for having sex with female sex workers. These are consistent with the previous studies that men residing separately from their wives was more likely to report multiple sexual partners freedom of sex and expose with new surroundings and more likely to have additional partners and more likely effecting mobility, causing family disruption and increasing the chances of these employers to engage in a higher risk (Machekano et al., 1996). Travelers engaging in sexual contact with new partners may be at high risk of HIV/AIDS. Alcohol frequently influenced their decisions involving sex, 49% of men and 38% of women were reported having

sex as a direct result of drinking. Of concern, three quarters reported that they rarely or never used a condom (Hamlyn, Peer and Easterbrook, 2007)

Besides, homo sex is associated with travelling and drinking alcohol in this study. Travelling for jobs (OR= 12.768, 95% CI= 5.695, 28.628, p-value= <0.001) was significantly positive association with sex practices for having homo sex. Out of 219 respondents, (20%) of the respondents have practiced same sex activity. Respondents are travelling for their jobs on average for a month. They were away from their families and experiencing new environment and living together in same place on average for a month, these factors are leading cause to homo sex. This finding is highlighted that respondents who are working in the sea (fishing) had poor behavior according to the job location. They are working away from their families and spouses and living in same boat for a long time and isolated from the families and spouses when they were in the sea may lead to homo sex. For these reasons, the respondents who need to travel due to their job had low condom use comparing to the ones who do not need to travel (Aung, 2009). There is an association of having sex after drinking alcohol among the respondents with older age group (above 29 years). This age group had unsafe sex practices when they engaged in homo sex. The respondents with higher income are more likely to have unsafe sex practices when they engaged in homo sex. This is contrasted with the previous finding that the higher the income often practices safe sex (Aung, 2009).

Health knowledge getting from the workplace is the one of the most important factors to increase workers' knowledge and tend to consistent condom used practices. Health knowledge getting from workplace (OR= 0.266, 95% CI= 0.082, 0.864, p-value= 0.028) was significantly associated with consistent condom use when the respondents have sex with female sex workers. This is consistent with the previous study of Win (2007) was done among Myanmar migrant workers in Ranong, in which health educations about HIV/AIDS is the proper knowledge for respondents and health education could change their attitudes and practices towards safe sex.

## 5.2 Conclusion

Advocate to factory owners and managers, the respondents' free time and willingness for the interview, and sensitive questions about sex practices were major challenges during data collection. To overcome these, four Myanmar male local persons who are the health volunteers from local non-government organizations were hired to assist data collection process of the study. As our questions is sensitive questions about sex but the interviewers are male and one by one interview style can affect them to feel free to answer the questions. It was found that the respondents had non-marital sex practices and poor consistent condom used.

Travelling for jobs marital status and education were significantly associated with sex after drinking alcohol. Travelling for jobs and living status were significantly associated with extramarital sex. Travelling for jobs was significantly associated with casual sex practices. Travelling for jobs and eligible to buy alcohol at discount were significantly associated with sex practices for having sex with female sex workers. Travelling for jobs was significantly associated with sex practices for having homo sex. Health knowledge getting from workplace was significantly associated with consistent condom use when the respondents have sex with female sex workers.

In conclusion, this study found that their sex practices and consistent condom used were significantly associated with some socio-demographic characteristics such as education, marital status, living status and occupational characteristics such as travelling for jobs, eligible to buy alcohol at discount and health knowledge getting from workplace. HIV related risk behavior among alcohol factory workers is associated with separation from partners and travelling for jobs. HIV intervention strategies should include work related factors of this type. The result provides support for the hypothesis that there is an association between socio-demographic characteristics and occupational characteristics and prevention practices related to HIV/AIDS among alcohol factory male workers.

### **5.3 Recommendation**

#### **For Policy makers and Researchers**

1. Further research should study on factory workers and other occupational workers in other places to find out the factors influencing on sex practices and their consistent condom used practices.

2. Education program should also target owners and managers because they are keys to the success and the sustainability of the intervention and HIV prevention programs. Their involvement also helps peer education programs capitalize on potential contributions, such as financial and human resources. Peer education should be used in prevention programs with the aim of modifying a person's knowledge, attitudes, beliefs and behaviors. Peer education may also effect change at the individual, group or societal level. By getting a better collaboration between employers and health organizations for offering Voluntary Counseling and Testing for HIV and STI to workers with high risk behaviors can prevent spread of infections to their spouses and partners.

3. More information about HIV transmission from mother to child and education about breast feeding and prevention of mother to child HIV transmission should be offered to the adult males. This is because male involvement is very important for HIV prevention program.

#### **For Owners and Managers**

1. Travelling is one of the major factors of occupational characteristics that lead to report multiple sexual partners' practices. Therefore, more efforts in providing supportive and intervention programs to workers who need to travel for jobs in order to increase their awareness and knowledge about HIV/AIDs. The program should provide for free or affordable of condom. Information, Education and Communication (IEC) distribution network to support risk-reduction behaviors for all beneficiaries. IEC materials covered topics ranging from HIV/STI, drug and people trafficking, and safe migration.

2. Some of the respondents were married workers; they worked from all over the country and living with their friends, relatives or living alone instead living with their wives. These factors lead to extramarital sex practices. The findings showed implications for the design of HIV/AIDS control programmes for workplaces and work policies. Migrating workers should be provided with accommodation for their families/partners.

3. HIV related educational workshops organized by external professionals, such as local public health agencies for one to two hours to increase their HIV/AIDS awareness. This can also reduce stigma and discrimination towards HIV/AIDS and to promote safer sex practices such as advantages of condom usage and demonstration of correct condom usage for them. Besides, getting condom in the workplace could be more beneficial for future HIV/AIDS prevention program.

4. Eligible to buy alcohol at the discount is one of the factors influencing drinking. Reduced availability or increased the costs of drinking can reduce drinking. So, employers should avoid selling alcohol products at the discount.

#### **5.4 Limitation**

A limitation of the study was in sampling since the area was pre-selected and the study was only focused on the alcohol factory male workers in Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay, Myanmar. A study that would include samples from various districts in the country might be more representative of the status of Myanmar male alcohol factory workers. In addition as the study was the cross-sectional study, it could not detect the changes among workers over time.

#### **5.5 Expected Outcomes and Benefits**

After the interview, researcher and researcher assistant provided the small group discussion to give the correct information about HIV/AIDS to the participants and it took few more minutes. The researcher can destabilization the results of

research to relevant health care provider and policy maker. It is expected that the result of this study will provide the baseline information (assessment of occupational characteristics, factor associated with prevention practices related to HIV/AIDS) for workplace HIV prevention practices and intervention to increase prevention program of health education, health promotion, IEC (information, education and communication) material development, condom promotion and BCC (behavioral changed communication) regarding HIV/AIDS among workers in another workplace in Myanmar or elsewhere.

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## APPENDIX 1

### Questionnaire

**Topic: Occupational Characteristics and Factors Associated on Prevention Practices related to HIV/AIDS among Alcohol Factory Male Workers in Industrial Zone (1), Pyi Gyi Tagon Township Mandalay, Myanmar**

**Identify:** □□□

**Please mark ✓ in the box and fill in appropriate.**

#### **I. Socio-demographic Characteristics**

- (1) What is your age? .....
- (2) What is your marital status?
1. Single       2. Married       3. Divorced  
 4. Widowed    5. Separated       6. Others (please specify) .....
- (3) What is your education level? .....
- (4) What is your religion?
1. Buddhism     2. Christian    3. Muslim     4. Others  
 (specify).....
- (5) Where is your hometown?
1. Mandalay     2. Others (please specify) .....
- (6) To whom you are living with?
1. Friend             2. Family members    3. Relatives  
 4. Alone             5. Others (specify).....

#### **II. Occupational Characteristics**

- (1) How long have you been working at your current job?..... year(s) ....month(s)
- (2) How many working time per day?..... hours
- (3) What kind of alcohol produced in your factory?
1. Whiskey       2. Wine           3. Beer       4. Others;  
 specify.....
- (4) Can you buy your factory product with discount?
1. No           2. Yes

- (5) When is your working time the last one month?  
1. Day shift    2. Night Shift    3. Alternate    4. Others  
 (specify).....
- (6) What is your income per month (Kyats)? .....kyats
- (7) Do you need to travel for job?  
1. No    2. Yes, on average, how many days it takes? .....days
- (8) What types of HIV related education material do you receive in your workplace?  
1. Pamphlets    2. Booklets    3. Wall sheet/Poster    4. Cartoon
- (9) Does your workplace provide HIV related health educational workshops by external professional such as local public health agencies?  
1. No    2. Yes
- (10) Do you receive the HIV related health knowledge in the workplace?  
1. No    2. Yes, from who did you receive?  
1. Owner    2. Manager    3. Supervisor    4. Peer

### III. Knowledge about HIV/AIDS and its transmission

- (1) Please describe the source of general information about HIV/AIDS that you have received in the past 1 year?

No	Source	Often	Sometimes	Never
1	Newspaper			
2	Television			
3	Magazine			
4	Family members			
5	Friends/Colleagues			
6	Books			
7	Posters			
8	Health Providers			
9	NGOs			

(2) Do you know where can you get condom?

1. No     2. Yes, what places you can get it?

1. Shop    2. drug store   3. NGO

4. Clinic   5. at workplace    6. Other (please specify).....

(3) For each statement, please choose (✓) True, False and not sure.

No	Statement	True	False	Not Sure
1	HIV is a communicable disease.			
2	A healthy-looking person cannot have HIV.			
3	HIV/AIDS can be prevented.			
4	A person who totally abstains from sex can be infected with HIV.			
5	I cannot get AIDS if I avoid extramarital sex.			
6	I cannot get AIDS if I avoid intravenous drug use.			
7	The risk of HIV transmission can be reduced by having sex with only one partner.			
8	Having sex while on drug or alcohol increased the risk of HIV/AIDS infection.			
9	Correct and consistent use of condom can reduce the risk of getting HIV.			
10	Avoiding sex with injecting drug users can reduce the risk of HIV transmission.			
11	HIV transmission can be prevented by washing genital pus with antiseptic solution after sex.			
12	Condom can break during sex.			
13	Using oral contraceptive pills can protect against HIV/AIDS.			
14	There is no need to use condom during sexual intercourse when the both partners are HIV transmitted.			
15	Avoiding needle sharing can reduce the risk of HIV transmission.			
16	Transfusion of only the scanned blood can reduce the risk of HIV transmission.			

17	Every child who is born to HIV transmitted mother can have HIV.			
18	HIV can be diagnosed by blood test only.			
19	HIV can be cured totally in the well developed countries.			
20	Having sex during menstruation increases the chances of getting HIV.			
21	If the person has a sexually transmitted disease (STD), the person has higher risk of getting HIV.			

(4) Please choose (✓) the modes of HIV transmission among the following ways.

No	Statement	Yes	No	Don't know
22	Tattooing			
22	Homosexual intercourse			
24	Heterosexual intercourse			
25	Sharing accommodation and food with HIV infected person.			
26	Transfusion of blood and blood components from blood center.			
27	Handshaking with HIV infected person			
28	Kissing			
29	Mosquito bite			
30	Sharing syringe/needles			
31	During pregnancy (mother to child)			
32	During delivery (mother to child)			
33	By breast feeding (mother to child)			

#### IV. Attitude towards HIV/AIDS

Please choose (✓) each of the following.

1. Strongly agree    2. Agree    3. Uncertain    4. Disagree    5. Strongly disagree

No	Statement	1	2	3	4	5
1	Anyone can get HIV/AIDS					
2	Anyone should be aware of the mode of HIV/AIDS transmission.					
3	Anyone should have knowledge about HIV prevention.					
4	AIDS is a disease for only a person with multi-sexual partners.					
5	A person cannot get HIV by having sex without condom for only once.					
6	Using condom interrupt the sexual intercourse.					
7	Using condom within sexual intercourse is a sign of not trusting to partners.					
8	I think all sex workers have HIV/AIDS.					
9	I think all men who have sex with men can get HIV/AIDS.					
10	There is no problem about HIV if we share needle just only one time for intravenous drug use.					
11	If a worker is infected HIV virus, he/she should be terminated from jobs.					
12	If I know that one of my friends/colleagues have HIV, I should tell to other friends/colleagues that he/she got HIV.					
13	If I know that one of my friends/colleagues have HIV, I don't want to work together with him/her.					
14	I feel comfortable carrying a condom with me.					

## V. Prevention practices related to HIV/AIDS

Please choose (✓) each of the following.

1. Did you drink alcohol during the past 12 months?

1. No                      2. Yes

Did you have sex after drinking alcohol during the past 12 months?

1. No                      2. Yes

2. Did you use sedative drug during the past 12 months?

1. No                      2. Yes

Did you have sex after using sedative drug during the past 12 months?

1. No                      2. Yes

3. Did you have sex other than your wife during the past 12 months?

1. No                      2. Yes, did you use condom when you have sex?

1. Every time   2. Almost   3. Sometimes   4. Not used

4. Did you have casual sexual partners during the past 12 months?

1. No                      2. Yes, did you use condom when you have sex?

1. Every time   2. Almost   3. Sometimes   4. Not used

5. Did you have sex with female sex workers during the past 12 months?

1. No                      2. Yes, do you use condom when you have sex?

1. Every time   2. Almost   3. Sometimes   4. Not used

6. In the past 1 year, do you have sex with a person who is the same sex with you?

1. No                      2. Yes, do you use condom when you have sex?

1. Every time   2. Almost   3. Sometimes   4. Not used

**APPENDIX 2: Budget Details**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit Price (Baht)</b>	<b>Unit (Number)</b>	<b>Total Amount (Baht)</b>
<b>A</b>	<b>Pre- testing in Myanmar (Transport, Respondents, Photocopy)</b>				500
	<b>Sub-Total (A)</b>				<b>500</b>
<b>B</b>	<b>Data Collection in Myanmar</b>				
B-1	Transport cost	Trip	12500	1 trip	12500
B-2	Question	set	0.5/page	6pg/300 set	9,00
B-3	Interviewers per day	4Person/day	200	7days	5600
B-4	Honorarium for respondents	Person	50/ person	219 persons	10950
	<b>Sub-total (B)</b>				<b>29,950</b>
<b>C</b>	<b>Document and Printing</b>				
C-1	Paper and printing	page	5/page	150 pages	750
C-2	Copying (exam + final submit)+ Binding charges	set	200/set	10 set	2000
C-3	stationery	Set	400	1 set	400
	<b>Sub-total (C)</b>				<b>3,150</b>
	<b>TOTAL</b>				<b>33,600</b>

### APPENDIX 3: Time Schedule

<b>Project procedure</b>	<b>Oct 11</b>	<b>Nov 11</b>	<b>Dec 11</b>	<b>Jan 12</b>	<b>Feb 12</b>	<b>Mar 12</b>	<b>Apr 12</b>	<b>May 12</b>
1. Literature review								
2. Writing thesis proposal								
3. Submission Proposal Exam								
4. Proposal Exam								
5. Ethical consideration								
6. Pre-test Questionnaire								
7. Data collection								
8. Data analysis								
9. Thesis and Article writing								
10. Thesis exam								
11. Submission for article publication								
12. Submission of thesis								

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