KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON CIGARETTE SMOKING AMONG ADULT MYANMAR MIGRANT WORKERS: A CASE STUDY IN RATCHABURI PROVINCE, THAILAND

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ความรู้ เจตนคติ และการปฏิบัติเรื่องการสูบบุหรี่ในแรงงานอพยพชาวพม่าวัยผู้ใหญ่: กรณีศึกษาที่จังหวัดราชบุรี ประเทศไทย

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
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Thesis title	KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON CIGARETTE SMOKING AMONG ADULT MYANMAR MIGRANT WORKERS: A CASE STUDY IN RATCHABURI PROVINCE, THAILAND
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ออง มิน โก โก: ความรู้ เจตนคติ และการปฏิบัติเรื่องการสูบบุหรี่ในแรงงานอพยพชาวพม่าวัยผู้ใหญ่: กรณีศึกษาที่จังหวัดราชบุรี ประเทศไทย (KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON CIGARETTE SMOKING AMONG ADULT MYANMAR MIGRANT WORKERS: A CASE STUDY IN RATCHABURI PROVINCE, THAILAND) อ.ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร. ประเทือง หงสรานากร, 68 หน้า

การศึกษาภาคตัดขวางได้ดำเนินการที่ตำบลบ้านเลือกและตำบลหนองรี จังหวัดราชบุรี ประเทศไทยในเดือนมีนาคม พ.ศ. 2554 วัตถุประสงค์หลัก คือ การศึกษาเพื่อระบุความชุกของการสูบบุหรี่และระบุความสัมพันธ์ระหว่างลักษณะทางประชากร ระดับความรู้ เจตนคติ และการปฏิบัติเรื่องการสูบบุหรี่ของแรงงานอพยพพม่าวัยทำงานอายุระหว่าง 18-59 ปีผู้อาศัยในจังหวัดราชบุรี ประเทศไทย การศึกษานี้มีกลุ่มตัวอย่างจำนวน 385 ราย โดยการใช้แบบสัมภาษณ์ที่มีโครงสร้างเพื่อรวบรวมข้อมูลโดยผ่านการพิจารณาจริยธรรม การวิเคราะห์ข้อมูลใช้โปรแกรมสำเร็จรูป SPSS Version 16 และการทดสอบไคสแควร์เพื่ออธิบายความสัมพันธ์ระหว่างตัวแปรอิสระและพฤติกรรมการสูบบุหรี่

ผลการศึกษาพบว่า ความชุกโดยทั่วไปของการสูบบุหรี่คือร้อยละ 40 โดยมีความชุกในเพศชายที่ร้อยละ 55.3 และในเพศหญิงที่ร้อยละ 9.4 ร้อยละ 72.7 ของผู้สูบบุหรี่เริ่มสูบที่อายุน้อยกว่า 18 ปี ร้อยละ 68.2 ของผู้สูบบุหรี่สูบจำนวน 3-5 มวนต่อวัน และร้อยละ 44.8 ของผู้สูบบุหรี่สูบเพราะรู้สึกว้าเหว่และร้อยละ 40.3 สูบเพราะรู้สึกเครียด ในกลุ่มตัวอย่างร้อยละ 39.7 มีระดับความรู้สูงและร้อยละ 30.4 มีระดับความรู้ปานกลาง ด้านเจตนคติของการสูบบุหรี่พบว่า ร้อยละ 59.0 ของกลุ่มตัวอย่างมีเจตนคติระดับสูงและร้อยละ 37.4 อยู่ในระดับปานกลาง พฤติกรรมการสูบบุหรี่มีความแตกต่างอย่างมีนัยสำคัญสูงกับอายุ (<0.001) เพศ (<0.001) และระยะเวลาที่อยู่ในประเทศไทย (<0.001) ทั้งยังมีความสัมพันธ์ระหว่างความรู้ของการสูบบุหรี่และพฤติกรรมการสูบบุหรี่ (<0.001) ในขณะที่ยังมีความแตกต่างทางสถิติระหว่างเจตนคติของการสูบบุหรี่และพฤติกรรมการสูบบุหรี่ด้วย (<0.001)

การศึกษานี้ได้ดำเนินการด้วยความคาดหวังว่าข้อมูลที่ได้รับจะเป็นข้อมูลฐานต่อการศึกษาในอนาคต การให้การแทรกแซงเป็นสิ่งจำเป็นเพื่อการปรับเปลี่ยนพฤติกรรมและเพื่อมาตรการของการป้องกันและควบคุมเกี่ยวกับการสูบบุหรี่ในแรงงานอพยพพม่าวัยทำงานในประเทศไทย

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

ปีการศึกษา..... 2553.....ลายมือชื่อ อ. ที่ปรึกษาวิทยานิพนธ์หลัก.....

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KEYWORDS: SMOKING/ ADULT MYANMAR MIGRANT WORKERS/ RATCHABURI PROVINCE/THAILAND

AUNG MYIN KO KO: KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON CIGARETTE SMOKING AMONG ADULT MYANMAR MIGRANT WORKERS: A CASE STUDY IN RATCHABURI PROVINCE, THAILAND. ADVISOR: ASSISTANT PROFESSOR PRATHURNG HONGSRANAGON, Ph.D., 68pp.

A cross-sectional study was carried out in Bann Leuk and Nongree Sub-district, Ratchhaburi Province, Thailand in March, 2011. The main purposes of this study were to identify the prevalence of smoking and to identify the association between demographic characteristics, level of knowledge, level of attitudes and practices of smoking of adult Myanmar migrant workers aged between 18 to 59 years who lived in Ratchaburi province, Thailand. This study was conducted with 385 samples by using a structured interview questionnaire to gather the data with the ethical view protocol from Chulalongkorn University. For data analysis, Statistical Package of Social Science software SPSS version 16 (licensed for Chulalongkorn University) was used. Chi-square test was used to describe the relationship between independent variables and cigarette smoking behavior.

The results showed that the overall prevalence of cigarette smoking was 40% with the prevalence of males was 55.3% and of females was 9.4%. Seventy two point seven percent of smokers started smoking under the age of 18 years. 68.2% of smokers smoked 3 to 5 cigarettes per day and 44.8% of smokers smoked according to being loneliness when 40.3% smoked because of stress. Among respondents, 39.7% had high level of knowledge while 30.4% had moderate level of knowledge. For attitude toward smoking, 59% of respondents had high level of attitude and 37.4% had moderate level of attitude. Smoking behavior was high significant difference with age (<0.001), gender (<0.001) and duration of staying in Thailand (<0.001). There was an association between knowledge of smoking and cigarette smoking behavior (<0.001) while there was also statistical different between attitude towards smoking and cigarette smoking behavior (<0.001).

This study was done with the expectation that the information obtained from this study can be used as a baseline data for further studies. Interventions are needed to be considered for behavioral change and to conduct prevention and control measures of smoking among adult Myanmar migrant workers in Thailand.

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

Academic Year:……2010…….Advisor's Signature……

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LIST OF ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
COPD	Chronic Obstructive Pulmonary Disease
DOH	Department of Health
GMS	Greater Mekong Sub-region
HDI	Human Development Index
IOM	International Organization of Migration
NGOs	Non-Government Organizations
PSM	Department of Preventive and Social Medicine
SIDS	Sudden Infant Death Syndrome
SPSS	Statistical Package of Social Science software
UNDP	The United Nations Development Program
WHO	World Health Organization

Chapter I

INTRODUCTION

1.1 Background and Rationale

It is well-known that smoking is hazardous in the world. But it is also one of the preventable causes of death in the world (WHO, 2008a). Globally, 1.3 billion people smoke currently. More than 1 billion of them are males and the rests are females (WHO, 2008a). Prevalence of smoking is increasing day by day in the developing countries but decreasing in developed ones. In developing regions, a cigarette smoking is rising by 3.4% per year. Most of the smokers started smoking at younger age (13-15 years). WHO estimated that between 80,000 and 100,000 children worldwide start smoking everyday (WHO, 2002).

Among the six WHO regions, the South-East Asia has the second highest (2.8 per cent) annual per capita growth rate among adults for cigarette consumption, over a decade. The current consumption rates of South-East Asia range from 50% to 80% for men and about 1% to 71% for women (The Frame Work Convention on Tobacco Control, 2000). The Global Youth Tobacco Survey (1999-2001) from India, Indonesia and Sri Lanka showed that 3.4%-46.7% of school-going children in the 13-15 year age groups were ever cigarette smokers and 4.5-59% were current users of tobacco. In addition, 12 – 87.8% of school children started smoking at the age of nine years or earlier (WHO, 2003).

Although Myanmar had laws related to tobacco products control, smoking was prohibited in transportation, educational institutions, schools and important public places, the number of smokers is still high. The study of tobacco used in Myanmar 2001 described that overall prevalence of smoking of Myanmar adult (more than or equal 15 years) was 31.1% with the prevalence among male 42.9% and female, 21.9%. In Global Youth Tobacco study among 8^{th} to 10^{th} grade Myanmar students in year 2004, the prevalence of smoking in male is 25.4% and 5.1% in female. 47% of total populations (6100 sample students) had one or both parents of smoking and 11.1% had most or all of the smoking friends (Kyaing, 2004a).

It is stated that tobacco is the second major cause of death in the world in WHO report published in2005. Annually, about 5 million deaths were due to tobacco and cigarette smoking (one in ten adult deaths). In the 20th century, one hundred million people worldwide were killed by cigarette and tobacco smoking. WHO estimated that smoking will threaten one billion of current smokers' life in 21st century (WHO, 2008a). Currently, tobacco and cigarette smoking kills more people worldwide than malaria, maternal and childhood conditions and tuberculosis combined (Nichter, 2009). In 2000, there were estimated 4.8million smoking-attributable deaths in the world: 2.41 millions in developing countries and 2.43 millions dead in industrialized countries (Ezzati, 2004). Smoking causes approximately 5 million premature deaths each year and it is estimated to reach 10 million per year by 2030. In 2004, 70% of deaths due to smoking were encountered in the countries of low and middle socio-economic conditions and majority were occurring in India, China and Indonesia. In India, estimated mortality due to smoking is 1 million at present and will be projected to 1.5 million by 2020. In China, estimated mortality due to tobacco-related illness was 800,000 in year 2000 and at current smoking uptake rates; 100 millions of 300 million Chinese men under 29 years of age will be killed (Nichter, 2009).

Cigarette contains more than 4,000 chemical substances, many of which are toxic and harmful, and over forty of which are carcinogenic. Smoking is the major cause of the lung cancer and other health hazards associated with smoking includes chronic obstructive pulmonary disease (COPD), heart attack, strokes, cardiovascular diseases and infertility (WHO 2008a). In developed countries, 1.02 million died due to smoking related cardiovascular diseases, 0.31 million due to Chronic Obstructive Pulmonary Disease (COPD) and 0.52 million; lung cancer. In developing countries, cardiovascular diseases caused 0.67 millions of death, COPD caused 0.65 millions and lung cancer; 0.33 millions of death (Ezzati, 2004).

In Myanmar, 92.8 per 100,000 population in male and 43 per 100,000 populations in female were suffered from smoking related diseases like bronchus, trachea and lungs cancers. Lips, oral and pharyngeal cancers were 47.7 per 100,000 population in male and 16 per 100,000 in female (Tobacco Control Country Profile, 2003).

Most of the smokers started smoking at younger age and this age is the period of temptation to experiment about smoking. Peer pressure plays the major role among smokers. Both close friends and wider friendship groups can provide opportunities to smoke as well as reinforcement for smoking. Moreover, family influence is one of the causes of smoking. Several young people imitate their parents and want to know the feelings of smoking since their parents do so. Being a youth, influences of media and advertisements are also the reasons for smoking. Some adverts give the impression that smoking is sociable or can make new friendship and some shows that smoking is graphically associated with strong men (sports figures, successful businessmen, etc.). According to the adverts, young people can misunderstand about smoking. In addition, individual feelings like stress and loneliness is associated with smoking. A lot of people smoke when they are suffering from anxiety, depression and stress as smoking makes them to release away from these feelings and tensions. Some people smoke if they are boring and have nothing to do or if they are feeling lonely. They believe that smoking is the most satisfactory solution for these problems. (Why people smoke, 2005).

Migration becomes a global issue nowadays not only in economic sectors but also in health aspects. There are more than 200 million migrants around the world today. In 2005, there were 70.6 million migrants in Europe, 45.1 million migrants in North America and 25.3 million in Asia (International Organization of Migration, 2005).

According to the economic disparity between Myanmar and Thailand, since 2000, many migrants from Myanmar have entered into Thailand for working. The study done by World Vision Foundation of Thailand and the Asian Research Center for Migration revealed that the main cause of migration to Thailand was political regression by military regime and another associated causes are low earnings, unemployment in Myanmar, family poverty, traumatic experiences such as forced labor and lack of qualification for employment (Huget and Punpuing, 2005).

Moreover, other pull factors have made Thailand attractive to Myanmar migrants. The Human Development Index (HDI) of Thailand, a measure of overall

social and economic development used by the United Nations Development Program (UNDP), rose from 0.614 in 1975 to 0.781 in 2006 while HDI of Myanmar was 0.583 in 2006. The socio-economic development prompted many Thai people to avoid dirty, difficult and dangerous occupations. The resultant labor shortage in these sectors attracted a large number of people from Cambodia, Laos, and Myanmar, countries that are economically poorer especially after the early 1990s (Naing, 2009). Second attraction was the relative increase of value of the Thai Baht in relation to the Myanmar Kyat over the last two decades. The exchange rate was 30.5 Kyats to one Baht in unofficial street markets as of December 2010 (Irrawaddy Online Journals, 2010).

The majority of Myanmar migrant workers in Thailand came from the ethnic states which share a border with Thailand. Even though there are six official cross-border points along the 1,800 kilometer-long Thai-Myanmar border, many of these migrants have used mainly Mae Sai-Tachileik, Mae Sot-Myawaddy, Sangkhlaburi-Phayathongsu, and Ranong-Kawthaung (Naing, 2009). There is an estimate of 3-4 million Myanmar migrant workers in Thailand. In 2009, only 1,079,991 people were registered Myanmar migrant workers and the rest were no-registered (IOM, 2010).

Ratchaburi located in the central Thailand is one out of ten provinces which border Myanmar. The current population of Ratchaburi province is 835,231 people. There were 20,307 registered Myanmar migrants, 16,070 migrants have work permit and registered camp population is 8,353 people in 2008. But there are nearly 20,000 non-registered Myanmar migrants in Ratchaburi province (WHO, 2008b). Migrant population of Myanmar consists of Burma, Shan, Mon, Pa-O and Karen. Although Ratchaburi province borders Myanmar and has a lot of Myanmar migrant people, there is no baseline data on smoking. And there are also no other studies which were done among Myanmar migrant workers in a small province namely Ratchaburi. So the study was conducted in Ratchaburi province.

Due to migration, many of migrants have to work in the illegal, unregulated labor market and in “3-D jobs” (dangerous, dirty and difficult) that often pay well below the minimum wage (Naing, 2009). Moreover, migrants have to face many problems like poverty, stigma, problems of housing and education, social exclusion,

differences in language and culture, separation from family and socio-cultural norms. Some migrated illegally and it also makes them afraid to being arrested. Depression, anxiety and stress caused by the problems may become a reason for them to smoke.

1.2 Research Question

- What are the demographic characteristics of adult Myanmar migrant workers in Ratchaburi province, Thailand?
- What is the level of knowledge about smoking of adult Myanmar migrant worker**s** in Ratchaburi province, Thailand**?**
- What is the level of attitudes towards smoking of adult Myanmar migrant workers in Ratchaburi province, Thailand?
- What is the practice about smoking of adult Myanmar migrant workers in Ratchaburi province, Thailand?
- Do the demographic characteristics, level of knowledge and attitude associated with cigarette smoking behavior of adult Myanmar migrant workers in Ratchaburi province, Thailand?

1.3 Research Objectives

General Objective

- To identify the level of knowledge, attitudes and practices about smoking of adult Myanmar migrant workers in Rachaburi province, Thailand

Specific Objective

- To identify the demographic characteristics of adult Myanmar migrant workers who smoke and do not smoke in Rachaburi province, Thailand
- To identify the level of knowledge, attitudes and practices about smoking of adult Myanmar migrant workers in Rachaburi province, Thailand

- To identify the association between demographic characteristics, level of knowledge and attitudes with cigarette smoking behavior of adult Myanmar migrant workers in Rachaburi province, Thailand

1.4 Research Hypothesis

- There is an association between demographic characteristics and cigarette smoking behavior.
- There is an association between level of knowledge and cigarette smoking behavior.
- There is an association between level of attitudes and cigarette smoking behavior.

1.5 Variables of the study

- Independent variables
    - Demographic characteristics
    - Level of knowledge
    - Level of attitudes

- Dependent variables
    - Cigarette smoking behavior

1.6 Operational Definitions

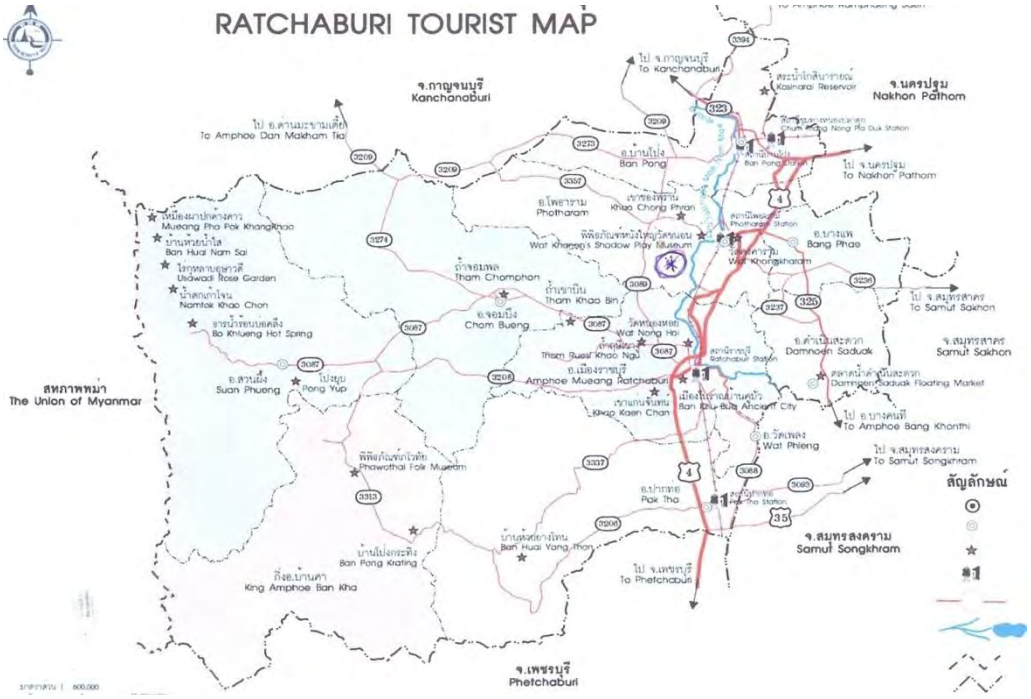
- Adult Myanmar migrant worker is a person who is the age between 18 to 59, Myanmar nationality and migrates from Myanmar to Thailand for working.
- Demographic characteristics included age, gender, ethnicity, marital status, education, occupation, and monthly income, duration of staying in Thailand and Thai language skill.

- Knowledge on smoking consisted of information about diseases associated with smoking, effects on pregnancy and children, passive smoking and air pollution, laws and legislation about smoking.
- Attitude on smoking means belief, value and feeling about cigarette smoking.
- Practice on smoking includes cigarette smoking behaviors of adult Myanmar migrant workers.

1.7 Map of Ratchaburi Province

Figure 1 showed the map of Ratchaburi province while figure 2 showed that Ratchaburi province is the one which borders to Myanmar.

Figure 1: Ratchaburi Tourist Map

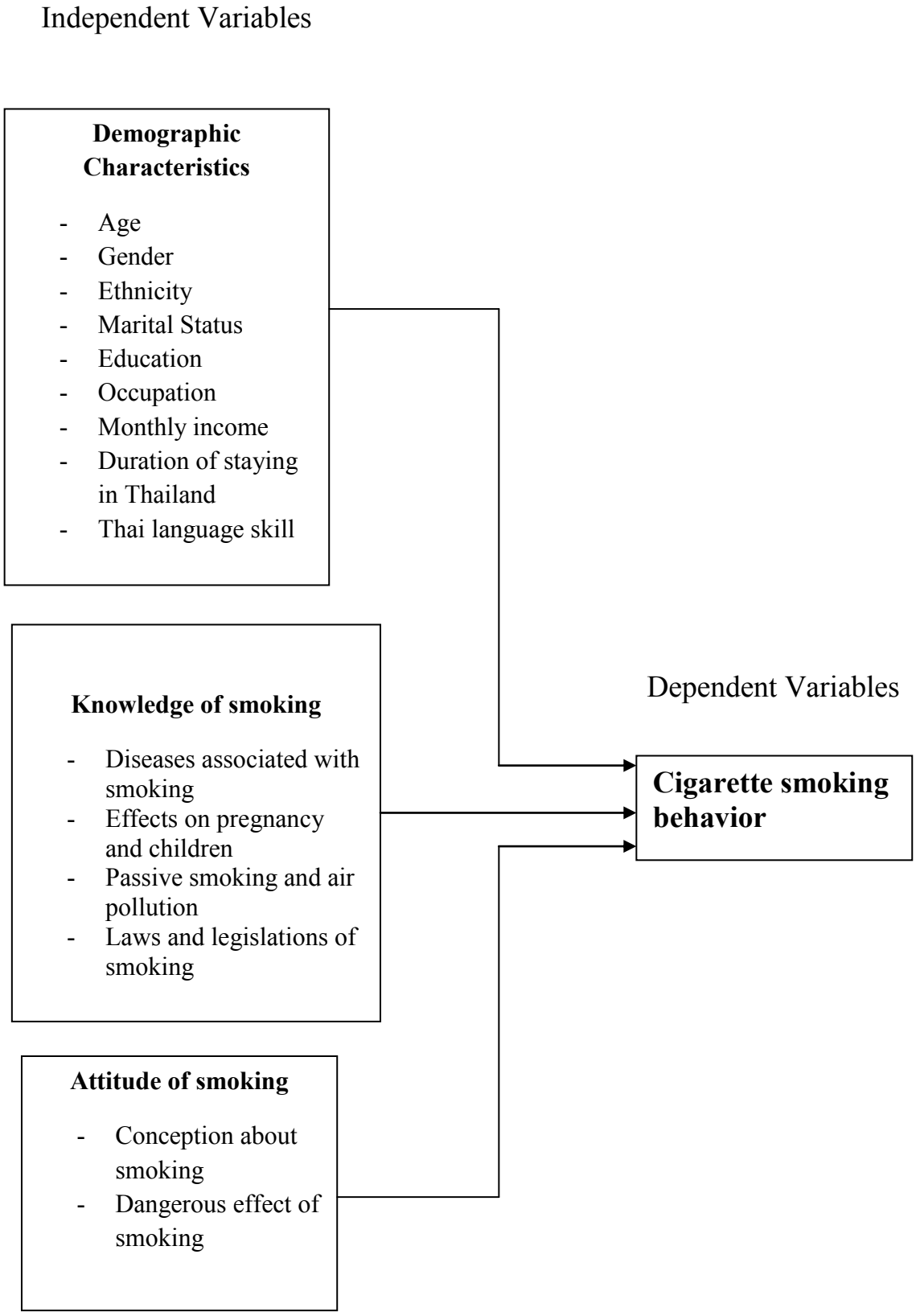


Source: Ratchaburi Province from Wikipedia, the free encyclopedia accessed on 30th April, 2011

Figure 2: Map of Thailand highlighting Ratchaburi Province

Source: Ratchaburi Province from Wikipedia, the free encyclopedia accessed on 30th April, 2011

1.7 Conceptual Framework



Chapter II

Literature Review

2.1 The meaning of cigarette

Cigarette means a cigarette, cigar, tobacco or modified tobacco pursuant to the law on tobacco. Smoking includes any act which results in the production of smoke from the burning of cigarette (Health Systems Research Institute, 1995).

2.2 Definition of Prevalence of cigarette smoking

Definition of prevalence of cigarette smoking is a standardization of terms and concepts required to monitor the Global tobacco epidemic and comparison between countries. Any population can be divided in two groups, smokers and non-smokers.

- A smoker is a person who smoke tobacco product daily or occasionally at the time of the study.
    - Daily smoker is a person who smokes tobacco product at least once a day.
    - Occasional smoker is a person who smokes tobacco product but not every day. Occasional smoker include:
        - Reducer: a person who used to smoke daily but now does not smoke every day.
        - Continuing occasional: a person who does not smoke daily but smoked 100 or more cigarettes and now smoke occasionally.
        - Experimenter: a person who smoke less than 100 cigarettes and now smoke occasionally.
- A non-smoker is a person who does not smoke at the time of the study.
    - Ex-smoker is a person who smoked daily but now does not smoke at all.
    - Never- smoker is a person who never smokes at all.

- Ex-occasional smoker is a person who was formerly occasional smoker but never daily smoker who smoked 100 or more cigarettes in his/her lifetime. (WHO, 1998)

In this study, smoker will be divided in five categories such as daily smoke, often smoke (more than three times a week), occasionally smoke (one to three times a week), quit smoke (ex-smoker) and never smoke.

2.3 Calculation of prevalence rate

Prevalence of smoking is the percentage of smokers in the total population. Formula for prevalence of smoking is shown in below (WHO 1998).

$$\text{Prevalence of smoking} = \frac{\text{number of smokers in the population at the time of survey} \times 100}{\text{Total number of the survey population}}$$

2.4 Cigarette smoking prevalence in South-East Asia

The South-East Asian Region has the second highest (2.8 per cent) annual per capita growth rate of adults for cigarette consumption among the six WHO regions, over a decade. The current consumption rates of South-East Asia range from 50% to 80% for men and from about 1% to 71% for women (The Frame Work Convention on Tobacco Control, 2000). The Global Youth Tobacco Survey (1999-2001) from India, Indonesia and Sri Lanka showed that 3.4%-46.7% of school-going children in the 13-15 year age groups were ever cigarette smokers and 4.5-59% were current users of tobacco. In addition, 12 – 87.8% of school children smoked cigarettes at the age of nine years or earlier (WHO, 2003).

Smoking prevalence for men in Nepal and Thailand was 40% to 49%. In Cambodia and China, prevalence was 60% and above. Smoking rate in Bangladesh was 50% to 59%. For worldwide, almost one billion men smoke. About 35% are in developed countries and 50% are in developing countries (Mackay, 2002).

Tobacco consumption had steadily risen in Indonesia over the past 30 years from 33 billion pieces per year in 1970 to 230 billion pieces in 2006. But in Maldives, 57% males and 30% females were tobacco users in 1997 and the number came down in 2001 to 37.4% males and 15% females (WHO, 2007).

The current tobacco consumption rates in South East Asia region ranged from 25.7% to 59.6% for men. But female smoking prevalence was low compared to global figures. High prevalence rates of smoking were found in Bangladesh, Maldives, Nepal and Myanmar. Female smoking rates were increased in India and Bangladesh. But smoking rates were low among Bhutanese, Thai, Korean, Sri Lankan and Indonesian women (Kyaing 2003).

2.5 Cigarette smoking prevalence in Myanmar

In 2000, a cross-sectional study on prevalence of current smokers was done by Institute of Medicine 1 in 29 townships of Bago, Magway and Mandalay townships. It showed that the current overall prevalence of smoking was 55.4% in 3,059 persons (PSM, 2000).

In the same year, Maternal and Child Health section of the Department of Health conducted the adolescent reproductive survey. In this study, 68.8% of male had experienced of smoking in their life and 56.3% of male were current smokers. In female, 8.8% had experienced of smoking and 1.4% was current smokers (DOH, 2000).

In 2001, Myanmar Tobacco Use prevalence study was conducted in two sentinel townships and reported that overall prevalence of current smoking in adult (15 years and above) was 31.1% with the prevalence of males 42.9% and females 21.9% (Kyaing, 2001).

The study of Tobacco Economic 2001 described that approximate 22.6% of urban population and 48.7% of rural population above 15 years old were current smokers (Kyaing, 2001).

In 2004, the Global Youth Tobacco study among the 8th, 9th and 10th grade students in Myanmar described that the prevalence of smoking was 25.4% in males and 5.1% in females. 47% of total population had one or more parental smoking and 11.1% had most of friends who smoked (Kyaing, 2004a).

Myanmar sentinel tobacco use prevalence study in 2004 reported that the prevalence of current tobacco smoking in adult (over 15 years and above) was 26.5% with the prevalence of male (38.1%) and female (14.7%) (Kyaing, 2004b).

The report of Global School Personal Survey in 2007 stated that 14.2% of participants were ever cigarette smokers with males significantly higher (66.7%) than females (4.6%). About 1.3% was daily cigarette smokers (7.4% of males and 0.2% of females); about 5.0% are occasional cigarette smokers (29% of males and 0.6% of females (Kyaing, 2007).

2.6 Health problems and diseases caused by smoking

Cigarette smoking contains more than 4,000 chemical substances, many of which are toxic and harmful, and over forty of which are carcinogenic. Formaldehyde and cyanide which were founded in cigarette cause watery eyes, burning sensation in eyes, asthmatic attack in asthma patients and can also cause cancers. One of the contents of cigarette, Nicotine is an addictive drug which causes raising heart rate, raises the risk of developing blood clots and results in increased risk of cardiovascular disease, heart attack and stroke. Smoking harms nearly every organ of the body and produces many health problems including cough, shortness of breath, tiredness, decrease the smoker's sense of smell and taste and develop poor circulation with cold hand and feet. In addition, smoking can cause many cancers like cancers of bladder, oral cavity, pharynx, larynx, esophagus, cervix, kidney, lung and stomach. Cigarette smoking is also associated with chronic obstructive pulmonary disease (COPD). Many adverse reproductive and early childhood effects including an increased risk of infertility, preterm delivery, still birth, low birth weight, and sudden infant death syndrome (SIDS) (CDC, 2008).

Approximately half of all cancers in men in India were related to tobacco while over 60% of those suffering from heart disease below the age of 40 are smokers. In Sri Lanka, it is estimated that over 435 cancers were tobacco related and cardiovascular diseases were the leading cause of death. In Thailand 10,000 cases of tobacco related lung cancer were reported each year (Kyaing, 2003).

2.7 Myanmar migrants in Ratchaburi province

Ratchaburi province is situated in the central Thailand. It is also one out of ten provinces which border Myanmar. It covers 5,200 square kilometers and located 80 kilometers west of Bangkok and borders Myanmar to the west. The province is subdivided into 10 districts (amphoe). The districts are subdivided into 104 sub-districts (tambon) and 935 villages (muban).

Many migrants from Myanmar move to Ratchaburi province temporally or permanently for their survival. Most of them work in construction and in factories like noodle factories, doll factories, metal factories and some females are as housemaids.

In 2008, there are 20,307 registered Myanmar migrants in Ratchaburi province. 6,070 migrants have work permit and registered camp population is 8,353 people. But there are nearly 20,000 non-registered Myanmar migrants in Ratchaburi province (WHO, 2008b).

2.8 Knowledge about cigarette smoking

One of the studies in Myanmar described that knowledge of health hazards of smoking and smoking status was highly significant for ever smokers and current smokers ($p<0.001$)(Kyaing, 2001).

The study of prevalence and factors influencing smoking among primary school children in Malaysia stated that more than half (64.6%) of children had a good knowledge of smoking (Norbanee, 2004). The Global Adult Tobacco Survey in

Thailand described that 97.3% of adult smokers believe smoking causes serious illness (GATS, 2009).

The study of Tobacco use among youth in Magway Township, Myanmar revealed that 70% of the respondents had high level of knowledge, about one-fourth of the respondents had average knowledge and the rest was poor knowledge but there was no association between knowledge and tobacco use. (Thwin Aung, 2009).

2.9 Attitude towards cigarette smoking

The study of factors influencing smoking behaviors among male adolescent in Kuantan district, Malaysia stated that there was a highly significant association (p value= <0.001) between attitude towards smoking and smoking status. (Rapeah, 2008)

The study of students in Phuket province, Thailand showed that attitude of smoking behaviors in students was highly significant ($p<0.001$) (Dumluck, 2008).

A cross-sectional study of Myanmar migrant workers in Samut Sakhon province, Thailand revealed that most of the respondent (78.7%) had high level of attitude towards smoking, 19.3% had moderate attitude and only 2.0% had low level of attitude towards smoking(Zaw, 2008).

2.10 Demographic factors

2.10.1 Age

The study of smoking pattern and socio-demographic factors in 4,414 Chinese rural male residents found that smoking prevalence of male smoker age 25 years and above increased more than those under 25 years (Yang, 2008).

The study of medical students in Riyadh, Saudi Arabia revealed that senior students were more practiced of tobacco smoking than junior students ($p<0.0001$) (Ali, 2009).

2.10.2 Sex

One of the studies in United States in 2009 estimated that cigarette smoking is more common among men (23.5%) than women (17.9%) (CDC, 2009).

The Global Adult Tobacco Survey in Thailand described that tobacco smoking pattern among men (45.6%) was more common than women (3.1%) (GATS, 2009).

The study of medical students in Riyadh, Saudi Arabia described that tobacco smoking was more practiced by males than females ($p<0.0001$) (Ali, 2009).

2.10.3 Education

Education level of the subjects has highly significant effect on the tobacco use. The study of prevalence of smoking in Delhi described that men with no education were 1.8 times higher than men with college education (Narayan, 1996).

The study of Form four male students in Malaysia stated that students with poor academic performance were more likely to smoke than students with high academic performance (OR = 4.97, 95% CI= 2.99- 8.26). (Rapeah, 2008).

2.10.4 Income

The study of 5,598 Thai youth overall Thailand found that youths who had low income were less smokers than who had higher income. (Suppavong, 1997)

The study of tobacco used in Myanmar described that higher income people were more likely to be smokers than lower income people (Kyaing, 2001).

2.10.5 Marital Status

The study in China stated that married people or divorced people were 2.43 times and 1.63 times respectively more likely to smoke than unmarried people (Yang, 2008).

The study in Parkiston revealed that married men were more likely to smoke than unmarried men (Ali, 2006). But the study of Myanmar migrant workers in Samut Sakhon province, Thailand revealed that there was no significant difference between marital status and cigarette smoking behavior (p value = 0.324) (Zaw, 2008).

2.10.6 Occupation

The study in China showed that smoking was higher in farmers than in other workers such as floating worker and non-farm related workers (p value <0.001) (Yang, 2008).

The study among rural to urban migrate women in Beijing, China stated that cigarette smoking was much higher in sex workers than other types of jobs (Finch, 2009).

The study of Tobacco use among youth in Magway Township, Myanmar revealed that tobacco use was higher in employee than people with own job and dependent people (p value < 0.001) (Thwin Aung, 2009).

Chapter III

Research Methodology

3.1 Research Design

Cross-sectional study was used to measure demographic characteristics of adult Myanmar migrant workers, knowledge, attitude and practice of smoking among adult Myanmar migrant workers.

3.2 Study Area

This study was done in Bann Leuk and Nongree sub-districts, Ratchaburi province which is located in central Thailand on March, 2011. Ratchaburi province is also one of ten provinces in Thailand which border Myanmar.

3.3 Study Population

The study population was adult Myanmar migrant workers (age 18-59 years), both male and female living in Ratchaburi province, Thailand especially who work in the following factories.

1. C.J Factory , Bann Luek (Noodle factory)
2. S. Pattana Alloy Factory, Bann Luek (Metal factory)
3. Oo Sa Doll Factory, Bann Leuk (Doll factory)
4. Tao Fu Factory, Bann Leuk (Chinese Food)
5. Sweet Fish Factory, Bann Leuk (Fish factory)
6. Chor Ganchang Factory, Nongree (Construction)
7. Harson Sporting Goods Factory, Nongree (Football factory)
8. Bean Factory, Nongree.

3.4 Sample size

The sample size was calculated by the formula below:

$$n = \frac{Z^2_{\alpha/2}\,(p \times q)}{d^2}$$ (Daniel W W, 2005)

n = minimum sample size

$Z^2_{\alpha/2}$ = critical value for 95% confidence level = 1.96

d = error allowance = 0.05

p = prevalence of smoking in target population = 35.2%= 0.352 (prevalence of smoking among Myanmar migrant workers in Thailand, 2008) (Zaw, 2008)

q = 1 – p = 0.648

From above formula,

$$n = \frac{Z^2_{\alpha/2}\,(p \times q)}{d^2}$$

$$n = \frac{(1.96)^2\,(0.352 \times 0.648)}{(0.05)^2}$$

n= 350

Sample size = 350

Sample collected = 385 (after adding of 10% non-response rate)

3.5 Sampling technique

Factories were purposively selected because no similar research had been done at those factories before. Census sampling method was used to recruit the participants,

- Inclusion criteria
  - Adult Myanmar migrant workers aged between 18 – 59 years (both male and female)
  - Those who could speak Myanmar language fluently.
  - Those who were willingly to participate.
- Exclusion criteria
  - Those who had chronic illness and mental problems.

3.6 Measurement Tools

The data was collected by using the structured questionnaire which was translated from English to Myanmar language by a native Myanmar. The structured questionnaire includes 4 parts.

Part 1 – Demographic Characteristics:

It included questions about age, gender, ethnicity, marital status, education, occupation, and monthly income, duration of staying in Thailand and Thai language skill.

Part 2 – Knowledge about smoking

It included 16 questions and the 2nd, 6th, 9th and 15th questions were negative questions and the rests were positive questions. The score was 1 for correct answer and 0 for incorrect answer and do not know. The highest score was 16 and the lowest was 0.

The cutting point of knowledge and attitude was categorized into three groups according to Bloom's classification (Bloom, 1956). The cutting point of knowledge was categorized into three parts:

- High level of knowledge : >80% of total score
- Moderate level of knowledge : 60 - 80% of total score

- Low level of knowledge : <60% of total score

High knowledge level was noted while the total score of knowledge was more than 12.8 (80% of total score). Between 9.6 and 12.8 (60% - 80% of total score) was noted as moderate knowledge and then less than 9.6 (60% of total score) was also noted as low knowledge.

Part 3 – Attitude towards smoking

It included 14 questions and the 4th, 5th, 6th, 11th, 12th and 13th were negative questions and the others were positive questions.

Scores given for attitude were below:

For Positive Questions,		For Negative Questions,	
Choices	Scores	Choices	Scores
Agree	3	Agree	1
Uncertain	2	Uncertain	2
Disagree	1	Disagree	3

The cutting point of attitude was divided into three levels:

- High level of attitude : >80% of total score
- Moderate level of attitude : 60 - 80% of total score
- Low level attitude : <60% of total score

Less than 60% of total score (<25.5) was noted as low attitude. The score within 60 – 80% (25.2 – 33.6) refers to moderate attitude while more than 80% of total score (>33.6) was noted as high attitude.

Part 4 – Practice of smoking: smoking behaviors, health problems suffered from smoking and cessation of smoking.

3.7 Data Collection

The structured questionnaire was used to collect data and these questionnaires were translated into Myanmar language. The data was also collected by using face-to-face interview with subjects.

The data was collected by the help of four interviewers who are health-volunteers from Bann Luek health care center. Health volunteers had experiences about data collection and they were trained about this study including objectives, questionnaires, selection of participants, technique how to approach participants and face-to-face interview method was given to interviewers.

3.8 Data Analysis

For data analysis, Statistical Package of Social software SPSS version 16 (licensed for Chulalongkorn University) was used. Followings were the statistics in use:

Descriptive statistics: demographic characteristics, level of knowledge, attitudes and practices was presented by frequency, percentage, mean and standard deviation.

Inferential statistics: the relation between independent variables and dependent variables was presented by the use of Chi-square test.

3.9 Validity and Reliability

Validity Test

The structured interview questionnaire was checked by three experts from Ratchaprachasamasai Institute, Ministry of Public Health, for the accuracy, clarity, and appropriateness of the questionnaire. And the names of three experts were

(1) Thanapat Boonkrong, M.D.
(2) Ariyatat Eiamudomsuk, M.D.
(3) Yaowanit Samana (Nurse).

Reliability Test

Pre-test was conducted with 20 samples at Samut Sakhon province with adult Myanmar migrant workers. Cronbach's alpha coefficient was used to test the reliability of the questionnaire, and Cronbach's alpha coefficient was 0.79 in pre-test.

3.10 Ethical Consideration

According to the approval of Ethical Committee of Chulalongkorn University, this study was done. Singed informed consents as well as oral informed consents were taken from all the participants. Participants were informed about the general nature of the study as well as any potential harm or risk that the study may cause. They were assured of confidentiality, and they were also told that they can be withdrawn from the study if they cannot able to participate. They were also informed that the data will not be used for other purposes besides academic and presentation will be anonymous.

3.11 Limitation

This study was done among adult Myanmar migrant workers in Bann Leuk and Nongree sub-district, Ratchaburi province only so that the results cannot represent the whole Myanmar migrant workers in Thailand.

Health volunteers who helped in this study were Thai and they cannot speak Myanmar language while most of participants can speak Thai language. And they were trained by the help of a translator. Therefore there could be misunderstanding and communication problems with participants.

3.12 Expected Benefits

The study provided baseline information about knowledge, attitudes and practices of cigarette smoking among adult Myanmar migrant workers. In addition, further study can be done depending on the data of this study. Health promotion program can also be implemented depending on the study.

CHAPTER IV

RESULTS

This chapter is divided into two parts. The first part includes the distribution of socio-demographic characteristics, prevalence of cigarette smoking behavior, knowledge and attitude, reasons for cigarette smoking and accessibility to cigarette among adult Myanmar migrant workers in Ratchaburi province, Thailand. The second part consists of the relationship between socio-demographic characteristics, knowledge and attitude towards smoking and cigarette smoking behaviors.

The respondents in the study were adult Myanmar migrant workers who are the age between 18-59 years and who are living in Bann Leuk and Nongree sub-districts, Ratchaburi province, Thailand. Total number of subjects in the study was 385.

Part I: Descriptive Findings

4.1 Socio-demographic characteristics of adult Myanmar migrant workers

Table 1 shows the socio-demographic characteristics of adult Myanmar migrant workers (n=385) such as age, gender, ethnicity, marital status, education, occupation, monthly household income, duration of staying in Thailand and Thai language skill.

Age

The age of all participants were ranged from 18 to 54 years. The mean age of the participants was 27.38 years, median was 26 years and SD was 7.11. Forty seven point eight percent of the participants were the age group between 18-25 years and 38.7% were the age group between 26-35 years. 11.7% of the participants were between 36-45 years and 1.8% were the age group of >45 years respectively.

Gender

Among all the respondents, 66.8% were male and 33.2% were female.

Ethnicity

Among the adult Myanmar migrant workers who participated in the study, most of the participants were Burma (66%). Others ethnic groups were Shan (3.6%), Karen (11.9%) and Mon (18.4%) respectively.

Marital Status

Concerning about the marital status of the respondents, more than half of the respondents were single (53.8%) and 45.2% of the respondents were marriage. 0.3% and 0.8% of the respondents were widowed and separated respectively.

Education

Most of the respondents had primary education (41.3%) but 28.8% of the respondents were illiterate. 26.8% of the respondents had secondary education and 3.1% had high school education.

Occupation

Regarding the occupation of the respondents, majority were working in factories. 33.2% of the respondents were in food factories, 25.7% were working in metal factory and 21.6% were in dolls and football factories. But 11.2% were construction workers and 8.3% were housemaids.

Monthly household income

Total monthly household income ranged from 2,000 bahts to 10,000 bahts. Mean household income was 5,876.62 bahts, Median was 6,000 bahts and SD was 1461.654. Most of the participants (52.2%) had monthly income between 5,001 bahts and 7,000 bahts. 35.1% had monthly income of ≤ 5,000 bahts whereas 12.7% had >7,000 bahts of monthly income.

Is income enough for family expenses?

Ninety-three percent of the participants had enough income for their family expenses while 7% of the participants answered that their income was not enough for their family expenses.

Duration of staying in Thailand

Duration of staying in Thailand ranged from 1 year to 15 years. Mean of staying in Thailand was 4.89 years, median was 4 years and SD was 2.703. Half of the respondents (51.2%) were staying in Thailand for 3 to 5 years. 33% of respondents were staying in Thailand for more than 5 years and 15.8% were residing for 2 years and below.

Thai language skill

Concerning Thai language skill, more than half (67.5%) of the participants could speak Thai language basically. 26.2% of the participants could speaks Thai language fluently but could not read and write. 5.5% of the participants could not speak Thai language while 0.8% could read and write Thai language.

Table 1: Distribution of adult Myanmar migrant workers by socio-demographic characteristics (n=385)

Socio-demographic characteristics	Frequency (n=385)	Percentage (%)
Age (n= 385)		
18-25 years	184	47.8
26-35 years	149	38.7
36-45 years	45	11.7
>45 years	7	1.8
Mean=27.38, SD= 7.11, Range= 18 – 54		
Gender (n= 385)		
Male	257	66.8
Female	128	33.2

Socio-demographic characteristics	Frequency (n=385)	Percentage (%)
Ethnicity (n= 385)		
Burma	254	66
Shan	14	3.6
Karen	46	11.9
Mon	71	18.4
Marital Status (n= 385)		
Single	207	53.8
Marriage	174	45.2
Widowed	1	0.3
Separated	3	0.8
Education (n= 385)		
Illiterate	111	28.8
Primary education	159	41.3
Secondary education	103	26.8
High school level	12	3.1
Occupation (n= 385)		
Food factories	128	33.2
Metal factories	99	25.7
Dolls and Football factories	83	21.6
Construction workers	43	11.2
Housemaids	32	8.3
Monthly household income (n= 385)		
≤ 5,000 bahts		
5,001-7000 bahts	135	35.1
>7,000 bahts	201	52.2
Mean =5876.62, SD=1461.654	49	12.7
Range = 2,000 –10,000		
Is income enough for family expenses?		
Yes	358	93
No	27	7
Duration of Staying in Thailand (n=385)		
≤ 2years	61	15.8
3-5years	197	51.2
>5 years	127	33
Mean=4.89, Median=4, SD=2.703		
Range= 1 – 15 years		

Socio-demographic characteristics	Frequency (n=385)	Percentage (%)
Thai language skill (n= 385)		
Cannot speak Thai language	21	5.5
Can speak Thai language basically	260	67.5
Can speak Thai language fluently but cannot read and write	101	26.2
Fluently in Thai language	3	0.8

4.2 Prevalence of cigarette smoking behavior

Table 2 shows the smoking behavior and prevalence of cigarette smoking. From that table, 40% of the total participants were smokers and 60% were non-smoker. 55.3% of male participants and 9.4% of female participants were smokers. Among non-smokers, 44.7% were males and 90.6% were female.

Table 2: Prevalence of cigarette smoking behavior

	Smoker		Non-smoker	
	n	%	n	%
Over all prevalence	154	40	231	60
Male	142	55.3	115	44.7
Female	12	9.4	116	90.6

4.3 Level of knowledge about cigarette smoking in adult Myanmar migrant workers

The results as shown in Table 3 state that the numbers and percentage of adult Myanmar migrant workers who answered each question about knowledge of cigarette smoking correctly. Among them, only 24.7% of participants could answer correctly the statement “Smoking cannot cause air pollution at home or workplaces”. Forty-two percent of participants answered correctly the statement that cigarettes contain more than 4,000 substances which harmful to people’s health. The statement about cigarette smoking in public places which is prohibited by the law could be

answered correctly by 47.5% of respondents. The rest of questions were answered correctly by more than 50% of the participants.

Table 3: Number and percentage of adult Myanmar migrant workers who answered correctly to each question (n=385)

No.	Knowledge Statement	Frequency of respondents answered correctly	Percent
1	Cigarette smoking can cause respiratory diseases.	320	83.1
* 2	Cigarette smoking cannot cause lung cancer.	271	70.4
3	Cigarette smoking can cause larynx cancer.	294	76.4
4	Cigarette smoking can cause mouth cancer.	278	72.2
5	Cigarette smoking can cause ischemic heart disease.	278	72.2
* 6	Cigarette smoking cannot cause brown staining of the teeth.	275	71.4
7	Cigarette smoking in pregnant woman can affect on her pregnancy status.	303	78.7
8	Cigarette smoking in pregnant woman can disturbance on the physical and mental development of the born baby.	266	69.1
* 9	Cigarette smoking cannot affect the people who live around the smoker.	271	70.4
10	People who inhale smoking form the environment can cause lung cancer.	292	75.8
11	Smoking cannot cause air pollution at home or workplaces.	95	24.7
12	Stop smoking can improve your health.	299	77.7
13	Cigarettes contain more than 4,000 substances which harmful to people's health.	162	42.1
14	Cigarettes contain nicotine which causes addition.	254	66.0
*15	Cigarette smoking in public places is not prohibited by the law.	183	47.5
16	Selling cigarettes to children less than 18 years is prohibited by the law.	261	67.6

* Negative statement

Table 4 revealed that the knowledge level of adult Myanmar migrant workers who participated in the study. 29.9% of the participants had low level of knowledge about cigarette smoking but 30.4% had moderate level of knowledge as well as 39.7% had high level of knowledge concerning about cigarette smoking.

Table 4: Knowledge regarding cigarette smoking (n=385)

Knowledge level	Frequency	Percent
Low knowledge (<9.6)	115	29.9
Moderate knowledge (9.6 - 12.8)	117	30.4
High knowledge (>12.8)	153	39.7
Total	385	100.0

4.4 Level of attitude towards cigarette smoking in adult Myanmar migrant workers

Table 5 stated that the percentage of attitude towards each questions regarding about cigarette smoking behavior. 18.7% of participants disagreed that smoking is a bad habit. 4.4% of respondents also disagreed that diseases which caused due to smoking cannot be easily cured. 87.8% agreed that cigarette smoking is dangerous for smokers. Then 20.7 agreed that cigarette smoking is not dangerous for the persons near the smokers. Moreover, 38.2% of respondents agreed that cigarette smoking can relieve stress and anxiety and 40.8 agreed that cigarettes smoking makes the one's to be alert all the time. And the statement "Children should not smoke cigarettes" was disagreed only by 6.5%. 87.8% agreed that parents should prohibit smoking of their children. More than half of respondents (54.3%) agreed that someone should prohibit another from smoking. 29.4% of participants disagreed that smoking a few cigarettes will give adverse effects on one's health. 13% agreed that there is no benefit when quit cigarette smoking. The statement "The person who smokes cigarette is more attractive than others" was agreed by 18.2% of respondents. 11.4% agreed that cigarette smoking helps people to get involved with friends and society. At last, 42.3% of respondents agreed that smoking of favorite movie or pop stars makes people to smoke.

Table 5: Percentage of respondents' attitude towards each question about cigarette smoking (n=385)

No.	Attitude Statement	Agree		Uncertain		Disagree	
		n	%	n	%	n	%
1	Smoking is a bad habit.	262	68.1	51	13.2	72	18.7
2	Diseases which caused due to smoking cannot be easily cured.	311	80.8	57	14.8	17	4.4
3	Cigarette smoking is dangerous for smokers.	338	87.8	23	6.0	24	6.2
* 4	Cigarette smoking is not dangerous for the persons near the smokers.	78	20.7	47	12.2	260	67.5
*5	Cigarette smoking can relieve stress and anxiety.	147	38.2	142	36.9	96	24.9
*6	Cigarettes smoking makes the one's to be alert all the time.	157	40.8	126	32.7	102	26.5
7	Children should not smoke cigarettes.	347	90.1	13	3.4	25	6.5
8	Parents should prohibit smoking of their children.	338	87.8	30	7.8	17	4.4
9	Someone should prohibit another from smoking.	209	54.3	89	23.1	87	22.6
10	Smoking a few cigarettes will give adverse effects on one's health.	225	58.4	47	12.2	113	29.4
*11	There is no benefit when quit cigarette smoking.	50	13.0	40	10.4	295	76.6
*12	The person who smokes cigarette is more attractive than others.	70	18.2	119	30.9	196	50.9
*13	Cigarette smoking helps people to get involved with friends and society.	44	11.4	125	32.5	216	56.1
14	Smoking of favorite movie or pop stars makes people to smoke.	163	42.3	157	40.8	65	16.9

* Negative statement

Table 6 revealed that attitude level of adult Myanmar migrant workers who participated in the study. More than half (59%) of participants had high level of attitude. 37.4% of participants had moderate level of attitude while 3.6% had low level of attitude.

Table 6: Attitude towards cigarette smoking (n=385)

Attitude level	Frequency	Percent
Low attitude (<25.2)	14	3.6
Moderate attitude (25.2 – 33.6)	144	37.4
High attitude (>33.6)	277	59.0
Total	385	100.0

4.5 Distribution of smoking status among smokers (Answered by daily smoker, often smoker and occasional smoker)

In Table 7, smoking status and related variables such as numbers of cigarette smoking per day, smoking starting age, reason for smoking, accessibility of smoking, places of smoking, types of cigarette, money spent for smoking, health problems concerning cigarette smoking and reasons for cigarette smoking.

Among adult Myanmar migrant workers who participated in the study, 34.0% were daily smokers, 4.4% were often smokers and 1.6% was occasional smokers. But more than half (60%) of participants were non-smokers.

Mean of cigarette smoking per day was 4.09 and median was 4 and then SD was 2.069. Cigarette smoking per day ranged from 1 stick to 10 cigarettes. Sixty eight point two percent of smokers smoked 3 – 5 cigarettes per day. 20.1% of smokers smoked 2 cigarettes and below while 11.7% smoked more than 5 cigarettes per day.

Mean of the age which started smoking were 16.47 and SD was 2.235. The smoking starting age ranged from 12 years – 23 years. Seventy two point seven percent of smokers started smoking under the age of 18. But 27.3% of smokers started smoking over 18 years old.

Concerning about the reasons for smoking, 44.8% of smokers smoked due to being loneliness and 40.3% were due to stress. 18.7% of participants became smokers according to peer pressure. 1.9% smoked because of having family problems and 1.3% smoked due to parental smoking.

Regarding the accessibility of smoking, 89.6% of smokers bought cigarette from shops and 10.4% got cigarettes from friends.

For the place to smoke, 70.7% of smokers smoked wherever what they wanted. 15.58% smoked at home and 10.3% smoked at work and then 4.5% smoked at friend's home.

Most of smokers (66.2%) bought ingredients for hand-rolled cigarette. 33.1% bought cigarettes in loose forms while 0.6% bought cigarette in a pack or in a cartoon. Regarding about types of cigarette, 81.1% of smokers smoked hand-rolled cigarettes which were made by themselves and 18.8% smoked imported cigarettes; then 0.6% smoked cigarettes from Myanmar.

Concerning the money spent for smoking, 80.5% of smokers spent 11 – 30 bahts for smoking. 16.9% spent 10 bahts and below for smoking when 2.6% spent more than 30 bahts. Mean of money spent for smoking is 20.19 and SD was 7.045. Money spent for smoking ranged from 5 to 50 bahts.

Regarding the health problems due to smoking, 47.4% of smokers suffered from coughing and 46.1% suffered from tiredness while working. 9.7% of smokers respond that they felt of not getting enough air and 1.9% respond for decreasing sense of smell and taste.

50% of smokers tried to quit smoking. Among them, 70.1% wanted to quit smoking to save money. 27.2% stated that they wanted to quit because their family members did not like smoking. 9% tried to quit smoking according to advices from health care providers and 5.1% tried to quit due to warning pictures on cigarette packages.

Table 7: Frequency distribution of smoking behavior and related variables among smokers (Answered by current smokers only) (n= 154)

Variables	Frequency	Percentage
Cigarette smoking behavior (n=385)		
Daily smoker	131	34
Often smoker	17	4.4
Occasional smoker	6	1.6
Ex-smoker	0	0
Never smoke at all	231	60

Variables	Frequency	Percentage
Following were answered by current smokers only (n=154)		
Number of cigarette smoke per day (n=154)		
≤ 2 sticks	31	20.1
3 – 5 sticks	105	68.2
>5 sticks	18	11.7
Mean=4.09, SD=2.069, Range= 1 – 10 sticks		
Smoking starting age (n=154)		
<18 years	112	72.7
≥18 years	42	27.3
Mean=16.47, SD= 2.235, Range=12 – 23		
Reason for smoking (n=154)		
Due to being loneliness	69	44.8
Due to peer pressure	18	18.7
Due to having family problems	3	1.9
Due to parental smoking	2	1.3
Due to stress	62	40.3
How do you usually get cigarettes when you smoke? (n=154)		
Buy from a shop	138	89.6
Given by friends	16	10.4
Where do you usually smoke? (n=154)		
At home	24	15.58
At friend's house	7	4.5
At work	16	10.3
Wherever what I want	109	70.7
*Multiple response allowed		
How do you usually buy cigarette? (n=154)		
Buying Ingredients	102	66.2
In a loose form (per stick)	51	33.1
In a pack or in a cartoon	1	0.6
Types of cigarette (n=154)		
Cigarettes from Myanmar (Cheroots)	1	0.6
Hand-rolled cigarette (Make it by myself)	125	81.1
Imported cigarette	29	18.8
*Multiple response allowed		

Variables	Frequency	Percentage
How much money do you usually spend for cigarette smoking per day? (n=154)		
≤ 10 bahts	26	16.9
11 – 30 bahts	124	80.5
>30 bahts	4	2.6
Mean= 20.19, SD= 7.045, Range= 5 – 50bahts		
Health problems due to smoking (n=154)		
Coughing	73	47.4
Tiredness	71	46.1
Feeling of not getting enough air	15	9.7
Decrease sense of smell and taste	3	1.9
*Multiple response allowed		
Tried to quit smoking (n=154)		
Yes	77	50
No	77	50
Why do you want to quit smoking? (n=77)		
Family members do not like smoking	21	27.2
Save money	54	70.1
Advice from health care providers	7	9.0
Warning pictures on cigarette packages	4	5.1
*Multiple response allowed		

Part II: Relationship between socio-demographic characteristics, knowledge about smoking, attitude towards smoking and cigarette smoking behavior

4.6 Relationship between socio-demographic characteristics and cigarette smoking behavior

The relationship between socio-demographic characteristics and cigarette smoking behavior was determined by the use of Chi-square test. The level of statistical significant was 0.05. The results were shown in Table 8.

Age

Age of participants was compared with smoker and non-smoker. The results showed that there was highly significant difference between age and cigarette

smoking behavior ($p<0.001$). Among the age 15 years and below, 29.9% of participants were smokers and 70% were non-smokers. In the age between 26 to 35 years, 42.6% smoked cigarette and 58.4% did not smoke. Among the age over 35 years, 71.2% were smokers and 28.8% were non-smokers.

Gender

The gender of respondents was compared with smoking and non-smoking. There was also highly significant difference between gender and cigarette smoking behavior ($p<0.001$). Among male respondents, 55.3% were smokers and 44.7% were non-smokers. 9.4% were smokers and 90.6% were non-smokers in female respondents.

Ethnicity

The results showed that there was no significant difference between ethnicity and cigarette smoking behaviors ($p=0.598$). Among Burma migrant workers, smokers were 40.9% and non-smokers were 59.1%. Among other ethnicities (Shan, Karen, Mon), 38.2% were smokers and 68.1% were non-smokers.

Marital Status

The results revealed that there was no significant difference between marital status and cigarette smoking behaviors ($p=0.358$). Among single, widowed and separated respondents, 37.9% were smoking and 62.1% did not smoke at all. For married respondents, 42.5% were smokers and 57.5% were non-smokers.

Education

Respondents' education level and cigarette smoking behavior were compared in the study. The results described that there was no significant difference between education level and smoking behavior ($p=0.466$). There were 36% of smokers and 64% of non-smokers among illiterate respondents. In respondents who had primary education, 43.4% were smokers and 56.6% were non-smokers. Among

respondents who had secondary education and high school level education, 39.1% smoked and 60.9% did not smoke.

Occupation

The results stated that there is no significant difference between occupation and cigarette smoking behavior (p=0.431). Among factory workers, 39% of respondents smoked and 61% did not smoke. 44% of construction workers and housemaid smoked and 56% of those workers did not smoke at all.

Monthly household income

Regarding monthly household income of adult Myanmar migrant workers, the results stated that there is no significant difference between monthly household income of workers and cigarette smoking behavior (p=0.066). Among workers who got the income 5000 bahts and below, 32.6% were smokers and 67.4% were non-smokers. For the workers getting income from 5001 to 7000 bahts, 45.3% of workers smoked and 54.7% did not smoke. For the workers having above 7000 bahts, 38.8% were smokers and 61.2% were non-smokers.

Staying in Thailand

In terms of staying in Thailand, the results showed that there was highly significant difference between staying in Thailand and cigarette smoking behavior (p<0.001). For the workers who stayed from 3 to 5 years, 29.9% were smokers and 70.1% were non-smokers. Among workers staying 2 years and below, 37.7% smoked and 62.3% did not smoke. For the workers staying in Thailand for more than 5 years, 56.7% were smokers and 43.3% were non-smokers.

Thai language skill

Concerning about Thai language skill, the results showed that there is no significant difference between Thai language skill of workers and cigarette smoking behavior (p=0.252). For the workers who cannot speak Thai language, 23.8% were smokers and 76.2% were non-smokers. Among the workers who can speak Thai

language basically, 40% smoked and 60% did not smoke at all. For the workers who can speak Thai language fluently but cannot read and write and workers who were fluently in Thai language, 43.3% were smokers and 56.7% were non-smokers.

Table 8: Relationship between Socio-demographic characteristics and cigarette smoking behavior (n=385)

Characteristics	**Current Smoker**		**Non-smoker**		**X^2**	**p-value**
	Frequency	%	Frequency	%		
Age					29.024	<0.001
≤25 years	55	29.9	129	70.1		
26 – 35 years	62	42.6	87	58.4		
>35 years	37	71.2	15	28.8		
Gender					74.934	<0.001
Male	142	55.3	115	44.7		
Female	12	9.4	116	90.6		
Ethnicity					0.278	0.598
Burma	104	40.9	150	59.1		
Shan, Karen and Mon	50	38.2	81	68.1		
Marital status					0846	0.358
Single, Widowed and Separated	80	37.9	131	62.1		
Marriage	74	42.5	100	57.5		
Education					1.527	0.466
Illiterate	40	36.0	71	64.0		
Primary education	69	43.4	90	56.6		
Secondary education and high school level education	45	39.1	70	60.9		
Occupation					0.621	0.431
Factory workers (Noodle factory, Doll factory, Metal factory, Nut factory, Sweet fish factory, Chinese food factory and football factory)	121	39.0	189	61.0		
Construction workers and housemaids	33	44.0	42	56.0		

Characteristics	Current Smoker		Non-smoker		X^2	p-value
	Frequency	%	Frequency	%		
Monthly household income					5.446	0.066
≤ 5000 bahts	44	32.6	91	67.4		
5001 – 7000 bahts	91	45.3	110	54.7		
>7000 bahts	19	38.8	30	61.2		
Staying in Thailand					23.171	<0.001
≤ 2 years	23	37.7	38	62.3		
3 – 5 years	59	29.9	138	70.1		
>5 years	72	56.7	55	43.3		
Thai language skill					2.757	0.252
Cannot speak Thai language	5	23.8	16	76.2		
Can speak Thai language basically	104	40	156	60		
Can speak Thai language fluently but cannot read and write + fluently in Thai language	45	43.3	59	56.7		

4.7 Relationship between knowledge about smoking and cigarette smoking behavior

The relationship between knowledge about smoking and cigarette smoking behavior was determined by the use of Chi-square test. The level of statistical significant was 0.05. The results were shown in Table 9.

Concerning the knowledge about smoking, there was highly significant difference between knowledge of smoking and cigarette smoking behavior ($p<0.001$). For the respondents who had high level of knowledge, 32% were smokers and 68% were non-smokers. Among respondents who had moderate level of knowledge, 34.2% smoked and 65.8% did not smoke. In respondents who had low level of knowledge, 56.5% were smokers and 43.5% were non-smokers.

Table 9: Relationship between levels of knowledge and cigarette smoking behavior (n=385)

Characteristics	Current smoker		Non-smoker		X^2	p-value
	Frequency	%	Frequency	%		
Level of Knowledge					18.780	<0.001
High knowledge	49	32.0	104	68.0		
Moderate knowledge	40	34.2	77	65.8		
Low knowledge	65	56.5	50	43.5		

4.8 Relationship between attitude towards smoking and cigarette smoking behavior

The relationship between attitude towards smoking and cigarette smoking behavior was determined by the use of Chi-square test. The level of statistical significant was 0.05. The results were shown in Table 10.

Regarding the attitude towards smoking, there was highly significant difference between attitude towards smoking and cigarette smoking behavior ($p<0.001$). For the respondents who had high level of attitude, 24.2% were smokers and 75.8% were non-smokers. Among respondents who had moderate level of attitude, 62.5% smoked and 37.5% did not smoke. In respondents who had low level of knowledge, 64.3% were smokers and 35.7% were non-smokers.

Table 10: Relationship between levels of attitude and cigarette smoking behavior (n=385)

Characteristics	Current smoker		Non-smoker		X^2	p-value
	Frequency	%	Frequency	%		
Level of Attitude					57.340	<0.001
High attitude	55	24.2	172	75.8		
Moderate attitude	90	62.5	54	37.5		
Low attitude	9	64.3	5	35.7		

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Discussion

The main purpose of this study was to identify the prevalence of smoking and to identify the association between demographic characteristics, level of knowledge and attitudes with practices about smoking of adult Myanmar migrant workers. The study was done in Bann Leuk and Nongree sub-districts, Ratchaburi province, Thailand. The participants in the study were adult Myanmar migrant workers within the age of 18 – 59 years.

The overall prevalence of smoking among adult Myanmar migrant workers was 40% with the prevalence of males was 55.3% and of females was 9.4%. The prevalence of smoking was higher than the study done in 2008 for Myanmar migrant workers in Samut Sakhon province, Thailand in which overall prevalence was 35.2% and female prevalence was 8%. But in comparison for male smoking, the prevalence in this study was lower than the study done in Samut Sakhon province which has 59.2% of male prevalence (Zaw, 2008). The overall prevalence of smoking in this study was also increased as compared to the study in Myanmar which has the prevalence of 31.1% with the prevalence of male was 42.9%. But the prevalence of female was lower than the female prevalence in Myanmar (21.9%) in 2001 (Kyaing, 2001). The smoking prevalence in male was higher than the prevalence of male in Nepal and Thailand which has 40% and 49% respectively. But the smoking prevalence in male was lower than prevalence in male in Cambodia and China (60% and above) and nearly the same prevalence in Bangladesh (50% - 59%). For female, smoking prevalence in this study was nearly the same with female smoking prevalence in Thailand, Sri Lanka, India and Indonesia (<10%) (Mackay, 2002).

Among all the respondents, 86.5% were under the age of 35 years because all respondents came into Thailand for working and mostly were at working age. In the study, age and gender were significant relationship with cigarette smoking behavior.

The study done in Phuket province, Thailand stated that there was no association between age and smoking behavior (p=0,329) but there was high significant difference between gender and smoking behavior (p<0.001) (Dumluck, 2008). The results from the study done in Magway Township, Myanmar showed age was statistical significant with tobacco use (p=0.002) and there was high significant difference between gender and smoking behavior (p<0.001) (Thwin Aung, 2009). In this study, the proportion of male smoking was 55.3% and female was 9.4%. Male smoking was more common than female. In Myanmar society, smoking by adult men was acceptable as a normal behavior. Although 250 million female worldwide are daily smokers nowadays (WHO, 2007), smoking prevalence in female in the study was less because smoking by women was restricted by society in Myanmar.

Regarding the ethnicity of respondents, 66% were Burma and the rests were Shan, Karen and Mon because the west border of Ratchaburi province was Tanintharyi Division of Myanmar (Ratchaburi province, Wikipedia) where a lot of Burma were living. In this study, there was no significant association between ethnicity of migrant workers and smoking behavior (p=0.598). It was contradicted to the study done in Samut Sakhon province, Thailand (p=0.015) (Zaw, 2008).

In terms of marital status of migrant workers who participated in the study, 37.9% single, widowed and separated migrants were smokers and 42.5% married workers were smokers. Married workers smoked more than other workers. Married workers had to struggle for their family and they could face more stress than others and then it might become the reason for smoking. Marital status was not statistically associated with cigarette smoking behavior (p=0.358). It was similar to the study done in done in Samut Sakhon province, Thailand (p=0.324) (Zaw, 2008).

As the migrants from Myanmar tend to be less educated and less literate than their population of origin (Labor Migration in the Greater Mekong Sub-region, 2006), most of migrants had low level of education: 28.8% of workers were illiterate and 41.3% had primary education in this study. There were only 26.8% of secondary education and only a few percentages had high school education. Education level was not statistical significant with cigarette smoking behavior (p=0.466). It was similar to

the study done in in Samut Sakhon province, Thailand (p=0.68) (Zaw, 2008). But the study done in Phukhet province, Thailand described that there was high significant difference between education and smoking behavior (p<0.001) (Dumluck, 2008).

Concerning about occupation of migrant workers, there was no significance relationship with cigarette smoking behavior. It was consistant to the study done in Magway Township, Myanmar (Thwin Aung, 2009). But it was opposite to the study done in China (Yang, 2008) in which occupation of the participants had a significant relationship with smoking behavior.

More than half of the respondents (52.2%) had monthly income from 5001 bahts to 7000 bahts. This might be happened because most of respondents had low level of education and they had to work manual labors. There were a few respondents (12.7%) had monthly income of more than 7000 bahts. Monthly household income was not significant associated with cigarette smoking behaviors (p=0.066). But the results from the study done in Myanmar (Kyaing, 2001) and in China (Yang, 2008) stated that there was significant relationship between income and smoking behavior.

Regarding the duration of staying in Thailand, more than half of participants (51.2%) stayed in Thailand for 3 – 5 years and 33% stayed for more than 5 years. Many migrants from Myanmar have entered into Thailand for working since 2000 because of the economic disparity between Myanmar and Thailand (Huget & Punpuing, 2005). In this study, there was a statistical difference between the duration of staying in Thailand and smoking behavior (p<0.001). It was opposite to the study done in Samut Sakhon province, Thailand (p=0.143) (Zaw, 2008).

In terms of Thai language skill, 67.5% of migrants in this study could speak Thai language basically. It seemed to be occurred because 84.2% of migrants in the study stayed in Thailand for more than 3 years and they had to speak Thai language for communication. Cigarette smoking was 43.3% in migrants who can speak Thai language fluently but cannot read and write and who can speak fluently in Thai language. Smoking was 40% in migrants who can speak Thai language basically. Thai language skill in migrants was not significant associated with cigarette smoking

behavior in this study (p=0.252). It was similar to the study done in Samut Sakhon province, Thailand (p=0.557) (Zaw, 2008).

Concerning the knowledge of participants, 39.7% of participants had high level of knowledge, 30.4% had moderate level of knowledge and 29.9% had low level of knowledge. In this study, there was high significant difference between knowledge of smoking and cigarette smoking behavior (p<0.001). One of the studies in Pakistan stated that knowledge regarding smoking was statistical significant with smoking behavior in adult women (Ali & Ara, 2008). The study done in Myanmar described that knowledge of health hazards of smoking and smoking status was highly significant difference (p<0.001) (Kyaing, 2001). But in the study done in Samut Sakhon province, there was no significant relationship between knowledge and smoking behavior (p=0.207) (Zaw, 2008). And the study done in Magway Township, Myanmar stated that there is no significant association between knowledge and tobacco use (Thwin Aung, 2009). Although 70.1% had high and moderate level of knowledge, 32% in high knowledge and 34.2% in moderate knowledge were smokers. This could be occurred because of being loneliness, stress and being persuaded by friends. Therefore good knowledge cannot change smoking behavior; and community participation and perception about the danger of smoking is needed to reduce prevalence of smoking and also need to obey tobacco control laws.

Regarding the attitude toward smoking, 59% of respondents had high level of attitude. And there was high statistical difference between level of attitude and cigarette smoking behavior. It was consistent with the study done in Samut Sakhon province, Thailand (p<0.001) (Zaw, 2008). The study done in Phuket province, Thailand also had similar results that attitude towards smoking was high significant different with cigarette smoking behavior (p<0.001) (Dumluck, 2008). In high level of attitude, 75.8% were non-smokers and in low level of attitude, 64.3% were smokers. Therefore non-smokers had high score about positive and negative statements of attitude and smokers had low score about statements of attitude.

For the research hypothesis, (1) there were association between age, gender and duration of staying in Thailand which were included in socio-demographic

characteristics and cigarette smoking behavior. (2) There was also an association between knowledge of smoking and cigarette smoking behavior. (3) There was an association between attitude towards smoking and cigarette smoking behavior.

5.2 Conclusion

Each and every year, thousands of Myanmar people flee across the border to neighboring countries especially into Thailand (Labor Migration in Greater Mekong Sub-region, 2006). There are large numbers of registered Myanmar migrant people in Thailand and twice the figure of them are unregistered migrants. Those kinds of migration become the most political as well as health concern for Thailand. Ratchaburi province which is situated in the central Thailand is also one out of ten provinces which border Myanmar. Although there were a lot of Myanmar migrant workers in that province, there was no baseline data on smoking among Myanmar migrant workers.

The data from this study was collected in Bann Leuk and Nongree Districts in Ratchaburi province in March, 2011. The sample size of the study was 385. The study population was adult Myanmar migrant workers.

The study is a cross-sectional study and the main purpose of this study was to identify the prevalence of smoking and to identify the association between demographic characteristics, level of knowledge and attitudes with practices about smoking of adult Myanmar migrant workers who lived in Ratchaburi province, Thailand.

The statistical package of social science (SPSS) was used for analysis of the data of this study. Chi-square test was used to describe the relationship between independent variables and cigarette smoking behavior.

The study reported that the prevalence of cigarette smoking of adult Myanmar migrant workers in Ratchaburi province was 40% with the prevalence of males was 55.3% and of females was 9.4%. Although female smoking prevalence in world is

increasing, smoking prevalence among female Myanmar migrant workers was low in this study.

All the respondents in this study were in the age range from 18 to 54 years and 86.5% were under the age of 35 years. 66.8% of respondents were male and the rest were female. And 66% of all the respondents were Burma and more than half of respondents (53.8%) were single while 45.2% were marriage; then most of respondents had low level of education. In this study, monthly income of respondents ranged from 2000 bahts to 10000 bahts and more than half of respondents (52.2%) had monthly income from 5001 bahts to 7000 bahts. More than half of respondents (51.2%) stayed in Thailand for 3 to 5 years. Therefore 67.5% of respondent could speak Thai language basically.

In terms of knowledge about smoking, 39.7% of respondents had high level of knowledge while 30.4% had moderate level of knowledge. For attitude toward smoking, 59% of respondents had high level of attitude and 37.4% had moderate level of attitude.

The results of the study described that there is significant difference between age, gender and duration of staying in Thailand which were included in socio-demographic characteristics and cigarette smoking behavior. There was an association between knowledge of smoking and cigarette smoking behavior while there was also statistical different between attitude towards smoking and cigarette smoking behavior.

This study was done with the expectation that the information obtained from this study can be used as a baseline data for further studies. And interventions are needed to be considered for behavioral change and to conduct prevention and control measures of smoking among adult Myanmar migrant workers in Thailand. Affective interventions are needed to control and reduce smoking prevalence in all population. Non-Government organizations (NGOs), health authorities and staffs from Ministry of Public Health, authorities from Ministry of Interior, migrant health officers, volunteers and communities should be collaborate with each other to implement for intervention of smoking in all population.

5.3 Recommendation

The starting age of smoking was 12 years in this study 72.7% of respondents started smoking under the age of 18 years. Therefore the responsible officers should pay more attention to the laws implementation and regularly check about the shops distributing cigarette to younger ages (under 18 years old children).

Information about Tobacco Control Laws should be provided to Myanmar migrant workers because some migrant workers did not have knowledge about Tobacco Control Laws. Some free environments and workplaces should be implemented to reduce exposure to second-hand smoking.

Cigarette advertisements should be banned in the public places and restricted promotion. Scene of cigarette smoking should be banned in both local and foreign movies and films. Increased prices and tax of cigarette are the effective ways to reduce cigarette smoking. And duty free sales of cigarettes should be discouraged. Warning notices should be increased in both smoked and smokeless tobacco products.

Health education and health promotion program related to smoking should be implemented for Myanmar migrant workers especially for male workers and for workers who lived in Thailand for more than 5 years by the Ministry of Public Health of Thailand and other NGOs. And some social activities should be done under the guidance of local authorities during their holidays and their free time to avoid being loneliness and to reduce stress. And active participation of community is essential in these programs. To know the risk and consequences of smoking not only in the smokers but also among non-smokers is needed. Support from health providers, community support groups and friends is needed to help the people who want to quit smoking. Half of smokers in this study wanted to quit smoking so smoking cessation program should be provided for them.

Qualitative research including focus-group discussion or in-depth interview related to reason for smoking and accessibility of cigarettes should be carried out depending on the baseline data of this study.

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APPENDICES

APPENDIX A
Patient/Participant Information Sheet

Title of research project … **Knowledge, Attitudes and Practices (KAP) on cigarette smoking among adult Myanmar migrant workers: A case study in Ratchaburi province, Thailand** ……..

Principal researcher's name …Mr. Aung Myin Ko Ko... **Position** ….student...
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1. You are being invited to take part in this research project. Before you decide to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and do not hesitate to ask if anything is unclear to you or if you would like to have more information.

2. This research project involves "knowledge, belief, value and feeling of smoking that you have and your smoking behavior".

3. Objectives of the projects are
   3.1 To know the demographic characteristics of adult Myanmar migrant workers in Ratchaburi province, Thailand
   3.2 To know the level of knowledge, attitudes and practices about smoking of Myanmar migrant workers in Ratchaburi province, Thailand
   3.3 To know the association between demographic characteristics, level of knowledge and attitudes with level of practices about smoking of Myanmar migrant workers in Ratchaburi province, Thailand

4. Details of participant.
   - Characteristics of participant are *adult Myanmar migrant workers (age 18-59 years), both male and female living in Ratchaburi province, Thailand,*

   4.1 Including criteria
   · Adult Myanmar migrant workers (both male and female)
   · Those who can speak Myanmar language fluently.
   · Those who are willingly to participate.

   4.2 Exclusion criteria
   · Those who have chronically ill diseases or mental disorders.
   - Number of participants required is ***385***.

- The data will be collected by three interviewers who are health-volunteers from Bann Luek health care center. Four hour training about this study including objectives, questionnaires, selection of participants, technique how to approach participants and face-to-face interview method will be given to interviewers by the researcher.
- You are invited in this research because you are one of adult Myanmar migrant workers who live in Ratchaburi province, Thailand.

5. The assistant researchers who are health-volunteers from Bann Luek health care center have been recruited with the help of a translator. Assistant researchers already have proper four hours for discussing issues in the structured face-to-face interview and technique how to approach participants.

   The interview time will take about 20-30 minutes. The interview would be recorded by MP3 recorder and it will be deleted when the research project is finished. Your information will be kept confidential and the presentation of research result will be in an overall picture only. In some cases, after the interview, you may be asked for some more information by the researcher/assistant researcher which might take a few more minutes.

6. Process of providing information (which also be stated in the proposal):
   6.1 Researcher and assistant researchers will provide information about objective and benefits of the study to the potential participants. Researcher and research assistants will also ask your age, education, monthly income, etc and questions about knowledge, attitude and practices of smoking. There are 13 questions for age, education, occupation, monthly income, etc, 16 questions for knowledge of smoking, 14 questions for attitudes of smoking and 10 questions for practices of smoking.
   6.2 You will be asked the questions by researcher and assistant researchers during your free time apart from work hour especially in your holidays.

7. If you may feel uncomfortable or inconvenient to answer the questions, you can stop answering the questions and withdrawn any time throughout the interview.

8. Your participation in this research project is voluntary and you have the right to refuse this participation or to withdraw at any given time with no harm on your benefit and there will be no adverse impact on you.

9. There is no compensation or payment for participate in the research.

10. Information that is directly related to you will be kept confidential. Results of the study will be reported as an overall statement with anonymity.

11. Whether there is any compensation for time loss/inconvenience such as incurred transportation fee etc. The amount of the compensation should be appropriate (not too high as though the participant can be "bought" or not too low as though one will take advantage of the participants).

12. If the researcher does not treat you as stated in the patient's information sheet, you can write a report to the Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University (ECCU). Institute Building 2, 4th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th.

APPENDIX B
Informed Consent Form

Address ……

Date …….

Code number of the participant ……

I who have signed here below agree to participate in this research project

Title "…**Knowledge, Attitudes and Practices (KAP) on cigarette smoking among adult Myanmar migrant workers: A case study in Ratchaburi province, Thailand** …"

Principal researcher's name ……Mr. Aung Myin Ko Ko……

Contact address ..521/3-4 Soi Sriayuthaya 2-4, Sirayuthaya Road, Prayatai Distric, Rajthavee, Bangkok 10400…….

Telephone ……0896655087……...……

I have **(read or been informed)** about the rationale and objective(s) of the research project, about what I will engage in details, about the risk/ harm and the benefit of this research project. The researcher has explained to me and I **clearly understand with satisfaction.**

I willingly **agree** to participate in this research project and allow the researcher to ask a series of questions in this structured face to face interview which covers general information, living condition, working condition, speaking Thai language, knowledge about smoking, belief, value and feeling about smoking, smoking pattern, health problems suffered from smoking, and cessation of smoking.

For instance: The interview time will take about 20-30 minutes and will be done only one time.

I have **the right** to withdraw from this research project at any time at will without any clarification. This withdrawal **will not have any negative impact upon me.**

The researcher has confirmed that the procedure(s) will be exactly the same as indicated in the patient's information sheet. Any personal information will be **kept confidential.** Results of the study will be reported as an overall statement with anonymity.

If I am not treated as indicated in the patient's information sheet, I can report to the Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University (ECCU). Institute

Building 2, 4 th Floor, Soi Chulalongkorn 62, Phyathai Rd., Bangkok 10330, Thailand, Tel: 0-2218-8147 Fax: 0-2218-8147 E-mail: eccu@chula.ac.th.

I have also received a copy of patient's information sheet and an informed consent form.

Signature	Signature
……..……	……..……
(……Mr. Aung Myin Ko Ko……)	(……..……)
Researcher	Participant

Signature

……..……

(……..……)

Witness

APPENDIX C

Questionnaire

Questionnaire on "Knowledge, Attitudes and Practices (KAP) on cigarette smoking among adult Myanmar migrant workers: a case study in Ratchaburi Province, Thailand"

By. Mr. Aung Myin Ko Ko

Part I : Demographic Characteristics

Instruction: The following questions are about demographic information. Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. What is your age? …….age ……months

2. What is your gender?
   ( ) 1.Male
   ( ) 2.Female

3. What is your ethnicity?
   ( ) 1.Burma
   ( ) 2.Shan
   ( ) 3.Karen
   ( ) 4.Mon
   ( ) 5.Others (Please specify)……

4. What is your marital status?
   ( ) 1.Single
   ( ) 2.Marriage
   ( ) 3.Divorce
   ( ) 4.Widowed
   ( ) 5.Separated
   ( ) 6.Others (Please specify)……

5. What is your education?
   ( ) 1.Illiterate
   ( ) 2.Primary education
   ( ) 3.Secondary education
   ( ) 4.High school level

( ) 5.Higher level (University)

6. What is your occupation?
( ) 1.Noodle factory workers
( ) 2.Doll factory workers
( ) 3.Construction workers
( ) 4.Housemaid
( ) 5. Football factory workers
( ) 6.Others (Please specify)……

7. What is your monthly household income?
……..baht per month

8. Is income enough for your family expenses?
( ) 1.Yes
( ) 2.No

9. How long have you been staying in Thailand?
……years……..months

10. How is your Thai language skill?
( ) 1.Cannot speaks Thai language
( ) 2.Can speaks Thai language basically
( ) 3.Can speaks Thai language fluently but cannot read and write
( ) 4.Fluently in Thai language

Part II : Knowledge about smoking

Instruction: The following questions are about knowledge on cigarette smoking. Please mark √ in the column for the one best answer only.

Right means the statement is correct.

Wrong means the statement is not correct.

If answers cannot be decided whether correct or not, choose "Don't know"

Statement	**Right**	**Wrong**	**Don't know**
1. Cigarette smoking can cause respiratory			

diseases.			
2. Cigarette smoking cannot cause lung cancer.			
3. Cigarette smoking can cause larynx cancer.			
4. Cigarette smoking can cause mouth cancer.			
5. Cigarette smoking can cause ischemic heart disease.			
6. Cigarette smoking cannot cause brown staining of the teeth.			
7. Cigarette smoking in pregnant woman can affect on her pregnancy status.			
8. Cigarette smoking in pregnant woman can disturbance on the physical and mental development of the born baby.			
9. Cigarette smoking cannot affect the people who live around the smoker.			
10. People who inhale smoking form the environment can cause lung cancer.			
11. Smoking cannot cause air pollution at home or workplaces.			
12. Stop smoking can improve your health.			
13. Cigarettes contain more than 4,000 substances which harmful to people's health.			
14. Cigarettes contain nicotine which causes addition.			
15. Cigarette smoking in public places is not prohibited by the law.			
16. Selling cigarettes to children less than 18 years is prohibited by the law.			

Part III : Attitude towards smoking

Instruction: The following questions are about attitude towards cigarette smoking. Please mark √ in the column for the one best answer only.

Agree means the statement is correct.

Disagree means the statement is not correct.

If answers cannot be decided whether agree or disagree, choose "Uncertain"

	Agree	Uncertain	Disagree
1. Smoking is a bad habit.			
2. Diseases which caused due to smoking cannot be easily cured.			
3. Cigarette smoking is dangerous for smokers.			
4. Cigarette smoking is not dangerous for the persons near the smokers.			
5. Cigarette smoking can relieve stress and anxiety.			
6. Cigarettes smoking makes the one's to be alert all the time.			
7. Children should not smoke cigarettes.			
8. Parents should prohibit smoking of their children.			
9. Someone should prohibit another from smoking.			
10. Smoking a few cigarettes will give adverse effects on one's health.			
11. There is no benefit when quit cigarette smoking.			
12. The person who smokes cigarette is more attractive than others.			
13. Cigarette smoking helps people to get involved with friends and society.			
14. Smoking of favorite movie or pop stars makes people to smoke.			

Part IV : Practice about smoking

Instruction: The following questions are about practices of smoking. Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. What is your cigarette smoking behavior?
   ( ) 1.Daily smoker
   ( ) 2.Often smoker (more than three times a week)
   ( ) 3.Occasional smoker (one to three times a week)
   ( ) 4.Used to smoke formerly but now do not smoke at all
   ( ) 5.Never smoke at all (please stop here, no need to continue)

2. How many cigarettes do you smoke per day?
   …….sticks

3. When did you start smoking?
   ……..year of age

4. Why do you smoke? (can reply more than 1 answer)
   ( ) 1.Due to being loneliness
   ( ) 2.Due to peer pressure
   ( ) 3.Due to having family problems
   ( ) 4.Due to parental smoking
   ( ) 5.Due to stress
   ( ) 6.Others (Please specify)……

5. How do you usually get cigarettes when you smoke? (can reply more than 1 answer)
   ( ) 1.Buy from a shop
   ( ) 2.Given by friends
   ( ) 3.Given by family
   ( ) 4.Others (Please specify)……

6. Where do you usually smoke? (can reply more than 1 answer)
   ( ) 1.At home
   ( ) 2.At friend's house
   ( ) 3.At work

( ) 4.Wherever what I want

( ) 5.Others (Please specify)……

7. How do you usually buy cigarettes?

( ) 1.Buying Ingredients

( ) 2.In a loose form (per stick)

( ) 3.In a pack or in a carton

( ) 4.Others (Please specify)……

8. What types of cigarette do you usually smoke?

( ) 1. Cigarette from Myanmar (Cheroots)

( ) 2. Hand-rolled cigarette (Make it by myself)

( ) 3. Imported cigarette

9. How much money do you usually spend for cigarette smoking?

…….baht per day

10. What kind of health problem do you feel because of cigarette smoking? (can reply more than 1 answer)

( ) 1.Coughing

( ) 2.Tiredness

( ) 3.Feeling of not getting enough air

( ) 3.Decrease sense of smell and taste

( ) 4.Other (Please specify)……

11. Have you ever tried to quit smoking?

( ) 1.Yes

( ) 2.No

12. If you have quit smoking or tried to quit smoking, why do you want to quit smoking?

( ) 1.Family members do not like smoking

( ) 2.Save money

( ) 3.Advice from health care provider

( ) 4.Warning pictures on cigarette packages

( ) 5.Others (Please specify)……

APPENDIX D

Budget

No.	Activities	Unit	Price (Baht)	Unit (Number)	Total budget (Baht)
1	Pre-testing				
	Photocopy	Quest.	3/set	3×20	60
2	Data Collection				
	Copy Quest.	Quest.	3/set	3×400	1,200
	Interviewers per day	Person	300/day	4persons×14days	16,800
	Accommodation	Person	500/day	500×14days	7,000
	Transport cost	Trip/day	200/day	200×14days	2,800
				Subtotal	27,800
3	Document Printing				
	Paper+printing	Page	5/page	800 pages	4,000
	Copy (exam+final submit)	Page	0.5/page	12×400	2,400
	Stationary	Set	400/set	1	400
	Binding Paper	Set	200/set	6	1,200
				Subtotal	4,400
				Grand Total	32,260

APPENDIX E

Time Schedule

Procedure	Time Frame (Months)									
	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11
1. Literature review	■	■	■							
2. Writing thesis proposal			■	■						
3. Submission for proposal exam					■					
4. Ethical consideration from Chulalongkorn University(CPHS)					■	■	■			
5. Pretest questionnaires						■				
6. Field preparation and data collection								■		
7. Data analysis								■	■	
8. Thesis writing									■	
9. Final thesis exam									■	
10. Submission of article for publication										■
11. Submission of thesis										■

VITAE

Name	:	Mr. Aung Myin Ko Ko
Date of Birth	:	12th January, 1986
Place of Birth	:	Mandalay, Myanmar
Education	:	M.B.,B.S
		Graduated from University of Medicine, Mandalay, Myanmar in the year 2009
Work Experience	:	June 2009 – May 2010
		Worked in own private clinic at suburb in Mandalay, Myanmar