FACTORS RELATING TO CIGARETTE SMOKING BEHAVIOR OF THE CONSCRIPTS IN ADISORN FORT , SARABURI PROVINCE

NARUMOL NUNTHAPOL

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE (PUBLIC HEALTH)
MAJOR IN HEALTH EDUCATION AND BEHAVIORAL SCIENCES
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2003

ISBN 974-04-4031-2

Thesis
Entitled

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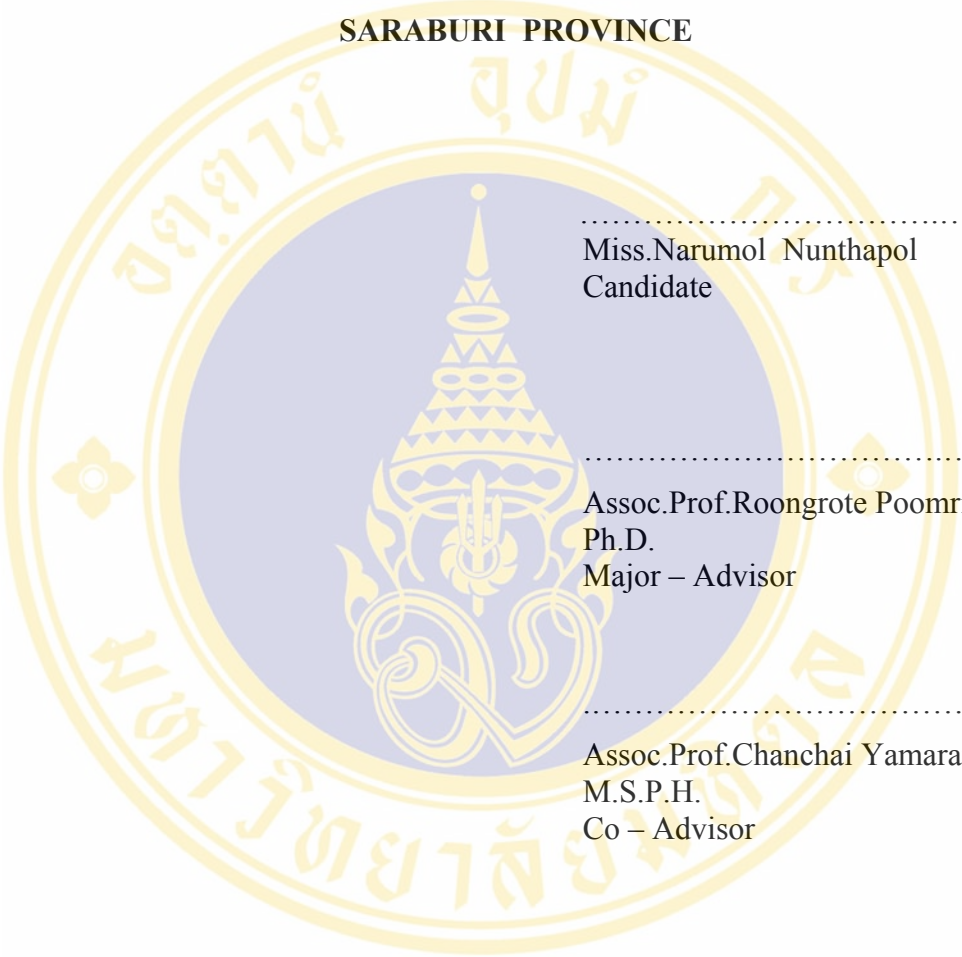

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was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Science (Public Health)
Major in Health Education and Behavioral Sciences
On
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ACKNOWLEDGEMENT

This thesis was successfully completed with the help of many faculty members. I respectfully thank to Associate Professor Dr.Roongrote Poomriew , my major-advisor, and all the committee members : Associate Professor Chanchai Yamarat, Associate Professor Tharadol Kengganpanich, and Dr.Nithat Sirichotiratana. I also deeply thank to Assistant Professor Dr.Chanvipa Diloksambandh, for external examiner of the thesis. I am deeply grateful for all the advice, recommendations, and corrections on all the steps of completing this thesis. I also thank all the faculty members of Health Education and Behavioral Sciences Department, who taught me and provided the knowledge which was important to conduct this research study.

I would like to thank the commander of the Calvary Center, who kindly gave permission to use the facility, and provided coordination and various help throughout the research study. I also thank commander of the Services Battalian, and Veterinary Section in Adisorn fort. Thankful is given to all the conscripts who participated in this research study. Thank to all of my classmates in Master of Science program at Health Education and Behavioral Sciences Department, who provided help, encouragement, and sharing experiences in this research study.

I do thank to my parents for their love, moral support, continuous encouragement, and concerns. I also thank to Miss Jumlong Tongkumpa, Mr.Marnop, and Mrs.Yuawareese Chaengkij, who provided help in this thesis until it was successfully completed.

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FACTORS RELATING TO CIGARETTE SMOKING BEHAVIOR OF THE CONSCRIPTS IN ADISORN FORT, SARABURI PROVINCE.

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ABSTRACT

The purpose of this survey was to explore factors relating to cigarette smoking behavior of the conscripts in Adisorn fort, Saraburi province. Two hundred and sixty four conscripts were selected for the study. Data collection was done by using questionnaires as a tool. The collected data were analyzed using percentage, mean, standard deviation, Pearson's Product Moment Correlation Coefficient, Fisher's Exact test and Chi-Square.

Results revealed that the majority of the respondents were 21-22 years of age; time duration of service between smokers and non-smokers was not different; income was between 2,000-2,300 baht per month; and levels of education were secondary school. Some of both groups had friends, fathers, mothers and brothers who smoked. A majority of the smoking group smoked before entering service. On average, the smoking duration while in service was 1.4 years. They smoked 6-10 cigarettes per day, and spent 80-300 baht per month.

The relationships between the factors and cigarette smoking behavior revealed that predisposing factors related to the cigarette smoking behavior were; perceived vulnerability, perceived severity, response efficacy and self-efficacy, but age, duration of service, income and level of education were not related to cigarette smoking behavior. The enabling factors related to cigarette smoking behavior were getting cigarettes from others and convenience for buying cigarettes, but availability of cigarette shops and leisure time were not related to cigarette smoking behavior. The reinforcing factors were seeing family members' smoking behavior, being persuaded by other conscripts, and being persuaded by close friends. However, being persuaded by supervisors and receiving information and suggestions about tobacco from medical / public health personnel were not related to cigarette smoking behavior.

This study should be used as an evidence based study for further intervention programs to solve the cigarette smoking behavior among conscripts,for a better quality of life.

KEY WORDS : CIGARETTE / SMOKING BEHAVIOR / CONSCRIPT

96 P. ISBN 974-04-4031-2

ปัจจัยที่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่ของทหารเกณฑ์ในค่ายอดิศร จังหวัดสระบุรี (FACTORS RELATING TO CIGARETTE SMOKING BEHAVIOR OF THE CONSCRIPTS IN ADISORN FORT, SARABURI PROVINCE.)

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วท.ม. (สาธารณสุขศาสตร์) สาขาวิชาเอกสุขศึกษาและพฤติกรรมศาสตร์

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บทคัดย่อ

การวิจัยครั้งนี้ เป็นการวิจัยเชิงสำรวจ มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่ของทหารเกณฑ์ในค่ายอดิศร จังหวัดสระบุรี จำนวน 264 คน ใช้แบบสอบถามที่ผู้วิจัยสร้างขึ้น เก็บข้อมูลแล้วนำมาวิเคราะห์ด้วยค่าสถิติ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน ทดสอบความสัมพันธ์ด้วยค่าสัมประสิทธิ์สหสัมพันธ์เพียรสัน Fisher's Exact testและค่าไค-สแควร์

ผลการวิจัย พบว่า กลุ่มตัวอย่างส่วนใหญ่ มีอายุอยู่ในช่วง 21-22 ปี ระยะเวลาที่เข้ามาเป็นทหารเกณฑ์ไม่แตกต่างกัน ระหว่างกลุ่มที่สูบและไม่สูบบุหรี่ รายได้อยู่ระหว่าง 2,000-2,300 บาทต่อเดือน และจบการศึกษาระดับมัธยมศึกษาคล้ายคลึงกัน กลุ่มตัวอย่างบางคนของทั้งสองกลุ่มมีเพื่อนเป็นผู้สูบบุหรี่ในค่าย และในครอบครัวมีบิดา มารดา พี่ น้องเป็นผู้สูบบุหรี่ กลุ่มตัวอย่างที่สูบบุหรี่ ส่วนมากสูบมาก่อนเข้าเป็นทหารเกณฑ์ ระยะเวลาสูบมานานเฉลี่ย 1.4 ปี ความถี่ของการสูบบุหรี่ ส่วนใหญ่สูบทุกวัน ๆ ละ 6-10 มวน ค่าใช้จ่ายในการซื้อบุหรี่สูบอยู่ประมาณ 80-300 บาทต่อเดือน ปัจจัยที่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่ คือ 1) ปัจจัยนำ ได้แก่ การรับรู้โอกาสเสี่ยงของการเกิดโรคจากการสูบบุหรี่ การรับรู้ความรุนแรงของโรคที่เกิดจากการสูบบุหรี่ ความคาดหวังในผลดีของการไม่สูบบุหรี่และความหวังในความสามารถของตนเองในการไม่สูบบุหรี่ ส่วนอายุ ระยะเวลาที่เข้ามาเป็นทหารเกณฑ์ รายได้และระดับการศึกษาไม่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่ 2) ปัจจัยเอื้อ ได้แก่ การเคยได้รับบุหรี่ ความสะดวกในการหาซื้อบุหรี่ ส่วนการมีแหล่งจำหน่ายบุหรี่ และการใช้เวลาว่าง ไม่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่ 3) ปัจจัยเสริม ได้แก่ การได้เห็นสมาชิกในครอบครัวสูบบุหรี่ การได้รับการชักชวนให้สูบบุหรี่จากเพื่อนทหาร การได้รับการชักชวนให้สูบบุหรี่จากเพื่อนสนิท ส่วนการได้รับการชักชวนให้สูบบุหรี่จากผู้บังคับบัญชา และการได้รับข้อมูลและคำแนะนำจากบุคลากรทางการแพทย์และสาธารณสุขไม่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่

ผลการวิจัยครั้งนี้สามารถนำไปเป็นแนวทางในการดำเนินการจัดกิจกรรม เพื่อแก้ปัญหาพฤติกรรมการสูบบุหรี่ในกลุ่มทหารเกณฑ์ในอนาคต อันจะมีผลทำให้ทหารเกณฑ์มีคุณภาพชีวิตที่ดีต่อไป

96 หน้า ISBN 974-04-4031-2

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CHAPTER I
INTRODUCTION

BACKGROUND AND SIGNIFICANCE OF THE PROBLEM

Because tobacco is one of the world's significant problems cooperation among every country to solve the problem is needed. According to the report of the World Health Organization WPRO, in 1995, there were 35 percent of the tobacco users worldwide in the Western Asia-Pacific Regional Organization (WPRO). In 2000, the number has been increased 56 percent or about 622 million from all 1,100 million worldwide. There were about 4.2 million cases of premature deaths due to tobacco use per year, another words, 7 percent of them died. It has been estimated that in the year 2020, there will be 8.4 million deaths from tobacco use and will be 10 million per year in the next 30 years. Among these, 70 percent of them will be in developing countries (Office of Tobacco Consumption Control, 2001 : inside cover). Tobacco causes health problem tremendously it was found that the number of deaths due to tobacco use is higher than all number of deaths due to AIDS, still births, accidents and homicides combined. Tobacco problem is one of medical/public health problems that is very difficult to control. Globally, there were no achievement in decreasing tobacco use at all, even though 91 countries have adopted tobacco control laws but there are many countries that do not have any tobacco control laws or ever they have, they have not been successful in controlling tobacco use (Suebwonglee,S. 2002 : 6)

In Thailand, the country health system has been changed gradually. The public health evolution, in accordance with The National Economic and Social Development Plan and The Public Health Plans 1-8, helped increase the life expectancy at birth of Thai people in 1998 to 70.1 years for males and 75.2 years for females, including the better health status of the people. But, if DALE

(Disability Adjusted Life Expectancy) was applied with Thailand to compare with other countries worldwide, whereby the World Health Organization has used this indicator to asses health status of the countries all over the world, Thailand was ranked 99 among 191 countries and was the 4th rank among 10 Asian countries. For the total health profile index, Thailand was in the 3-5th ranks among the Asian countries (The Ninth National Economic and Social Development Plan, 2002-2006 : 5). Besides, it was found that the large number of Thai people died from preventable situations and diseases. According to the study carried on in 1999, it was found that among 60 millions Thai, Here were some people facing with unhealthy statue (DAILY : Disability Adjusted Life Year), the value of DAILY was 9.5 million years. Among these, the DAILY for males due to bronchitis caused by tobacco use were about 156,861 years (7th rank) and for females were 93,387 years (10th rank) (Thailand Health Promotion Foundation, 1999 : 2-3)

The study carried out in 1996 showed that there were 11.53 million Thai adolescents aged 15-24 years, practiced unhealthy behavior, 1 in 6 of them started smoking when they were 15-19 years and still smoke presently (Kardgarnglai, Y. 1999 : 29).

According to the report of the National Statistics Bureau, 1999, it was found that the number of Thai people aged 11 years old and up, 51.3 million, who smoked regularly has been increased from 10.2 million to 10.6 million. Among children aged 15-24 years, the increased smoking rate for both males and females was increased. Among these, the smoking rate for males was increased from 24% in 1999 to 26% in 2003 and for females, from 0.3% in 1999 to 0.6% in 2001 (Suebwonglee,S. 2002 : 2).

It has been totally accepted among medical people that tobacco and smoke are dangerous for health of the smokers and other people as well. Tobacco causes cancer of lung and other organs, arteriosclerosis, etc. Cigarette smoking also causes diseases, for example, asthma, allergy. It was also found that second hand smokers can have the same health problems as the first-hand smokers. With

these problems, Thailand has adopted Tobacco Production Control Act B.E.2535 and Non-Smokers Health Protection Act B.E.2535.

Besides the aforementioned national Acts, Tobacco Production Control Act B.E.2535 and Non-Smokers Health Protection Act B.E.2535, many organizations both government and non-government have organized educational activities and campaigns to helped people understand the dangers of tobacco including promoting their health by practicing physical exercise through various kinds of media continuously, with the aim to enhance people knowledge, awareness and appropriate health behaviors by not using tobacco. The accomplishment of those mentioned campaigns and educational activities depends variety of factors besides legislation, for example, the reinforcement of laws, role-models among the well-known people, administrators, university instructors, school teachers, etc. Besides, 100 percent smoke-free zone has been set up as the public health laws by the Ministry of Public Health in November 8, 2002 (The 10th Public Health Laws of the Ministry of Public Health B.E. 2545), with the aim to protect the non-smokers right. According to that public health laws, the smoke-free zone covers all government and semi-government organizations except for personal rooms of the personnel. Smoke-areas can be set up and the said organizations must follow the laws strictly (Keyuraphan,S. 2002 : 5).

The conscript group composed of males aged 18-25 years old who are healthy and had spent their life freely before coming to stay together within the army for 24 hours throughout 1-2 yeas, under the strict rules and regulations. This soldier group is one of the important source of national power of the Thai Army to protect the country. After completion of their services, they will be the labor-force group of the community who can help to improve community in many aspects by applying their experiences gained while they were with the Army. Therefore, this group of conscript should be positive health role-models of the community. The data from the pilot study carried out by the researcher regarding smoking behavior of conscript in Adisorn fort, Saraburi province, in November, 2002, showed that among all of 4 batches of conscript, under 4 Army units : of 1, 176 persons in

Services Battalian, 806 persons smoked and 370 persons did not smoke ; of 883 persons in Student Regiment, 635 persons smoker while 248 persons did not smoke ; of 155 persons in 22nd Cavalry Squadron, 101 person smoked and 54 persons did not smoke ; and of 54 persons of Veterinary Section, 38 persons smoked and 16 persons did not smoke. Totally, among 2,268 persons, there were 1,580 persons who smoked (69.66%) and 688 persons did not smoke (30.34%). The datas from the indepth interviews carried on with 30 conscripts, showed that : the smoking rate was 85.2% ; 73.3 percent indicated that they have started smoking when they were 10-12 years old ; and the reasons for smoking were indicated as having been persuaded by friends, loneliness, stress because of missing family, did not have anything to do, etc. It was also found that 90.56 percent indicated that they got information about the dangers of tobacco use from television's advertisement but they still smoke because they believed that : they will not be sick with severe illness ; they have never had any illness ; they were still healthy ; cigarette smoking is legalized ; cigarette is easy to get and cheaper than other drugs.

From the aforementioned background and significance of the problem, the researcher has realized the importance of smoking problems among conscripts of Adisorn fort with regards to finding the effective and sustainable methods to solve the problems since many methods have been done but the success was not satisfactory. The data analysis showed that in the past, before the tobacco control program started in this camp, no study regarding causes or factors relating to smoking behaviors has not been carried out. Thus, the researcher with the co – operation of Adisorn fort was interested in assessing the factors relating smoking behaviors of conscripts with the aim to present the data to the administrators and policy makers in order to plan an appropriate program for preventing and solving smoking problems which will lead to not smoking among conscripts ; improving their health status ; decreasing unnecessary budgets ; and preparing them to be the significant force for country's development in the future.

Research Question

What are the factors relating smoking behaviors among conscripts in Adisorn fort, Saraburi province.

Research Objectives

General Objective

To study the factors relating smoking behaviors among conscripts in Adisorn fort, Saraburi province.

Specific Objectives

1. To study smoking behaviors of the conscripts in Adisorn fort, Saraburi province.

2. To study the relationship of the following factors and smoking behavior of the conscripts in Adisorn fort, Saraburi province :

2.1 Predisposing Factors

2.1.1 Socio-demographic characteristics : age, time duration of service, income, and educational level.

2.1.2 Perception and expectation levels of the sample regarding perceived vulnerability of getting smoking related diseases, perceived severity of smoking related diseases, response efficacy of non-smoking, and self-efficacy expectation of non-smoking.

2.2 Enabling Factors : getting cigarettes, accessibility to the cigarette market and leisure.

2.3 Reinforcing Factors : smoking behaviors of family members, having been persuaded by supervisors, having been persuaded by other conscripts, having been persuaded by close friends, receiving information about tobacco from

medical/public health personnel, and seeing patients with Pulmonary emphysema through various media.

Research Hypotheses

1. There was a relationship between predisposing factors and smoking behavior of the conscripts in Adisorn fort, Saraburi province.

2. There was a relationship between enabling factors and smoking behavior of the conscripts in Adisorn fort, Saraburi province.

3. There was a relationship between reinforcing factors and smoking behavior of the conscripts in Adisorn fort, Saraburi province.

Research Variables

Independent Variables :

1. Predisposing Factors : The variables might directly affect smoking behavior of the sampled conscripts, were composed of the following 8 variables :

1.1 Age
1.2 Time duration for service
1.3 Income
1.4 Educational level
1.5 Perceived vulnerability of getting smoking related diseases
1.6 Perceived severity of smoking related diseases
1.7 Response efficacy of non-smoking
1.8 Self-efficacy expectation of non-smoking

2. Enabling Factors : Resources/materials that are essential for forming smoking behavior of conscripts, were composed of the following 3 variables :

2.1 Getting cigarettes from others

2.2 Accessibility to the market place i.e. cigarette shops, convenience for buying cigarettes

2.3 Leisure

3. Reinforcing Factors : Seeing, being persuaded by others, getting information, being encouraged, getting suggestions from media and other persons, which encourage and support conscripts to smoke. There were 6 variables as follows :

3.1 Seeing family members' smoking behavior

3.2 Having been persuaded by supervisors

3.3 Having been persuaded by other conscripts

3.4 Having been persuaded by close friends

3.5 Receiving information and suggestions about tobacco from medical / public health personnel

3.6 Seeing patients with Pulmonary emphysema through media.

Dependent Variables :

Smoking behavior of the conscripts in Adisorn fort, Saraburi province.

Scope of the Research

This study was carried out with the sampled conscripts in Adisorn fort, Saraburi province. They were from 2 units : Services Battalian. (1,176 cases, 806 cases smoked and 370 cases did not smoke) and Veterinary Section. (54 cases, 38 cases smoked and 16 cases did not smoke). This study was done in April 2003.

Operational Definitions of Variables

1. **Tobacco** : Cigarette, cigar, chopped unmanufactured tobacco, etc.

2. **Smoking behavior** : Smoking or non-smoking
   2.1 Smoking : Any type of practices that makes smoke from burning tobacco ; the current smoking practice which may be or may not be regular one, addicted or not addicted.
   2.2 Non-smoking : Not currently practice, but the sample may ever smoked before.

3. **Conscript** : Thai male citizen who was recruited through government regulations and who was being trained in the Services Battalian and Veterinary Section in Adisorn fort, Saraburi province.

4. **Perceived Vulnerability of Getting Smoking Related Diseases** : The conscripts' perception of risk or vulnerability of having smoking related diseases, e.g. cough, having sputum, getting tired, difficulty in breathing, etc. including other diseases e.g. lung cancer, Pulmonary emphysema , heart diseases, ect.

5. **Perceived Severity of Smoking Related Diseases**: conscripts' perception of the seriousness of the dangers caused by smoking including smoking related diseases, which may result in disability, death, complex medical treatment, suffers, time consuming for treatment, high cost, negative impacts on family and society as well.

6. **Response Efficacy of Non-Smoking** : The opinions and expectation of the sampled conscripts that non-smoking was beneficial for their physical health, not getting/discovering from disease/illness caused by smoking, and other benefits related to e.g. economic, social, and family.

7. **Self-Efficacy Expectation of Non–Smoking** : The sampled conscripts' estimation, confidence, or expected ability to non-smoking.

Research Conceptual Framework

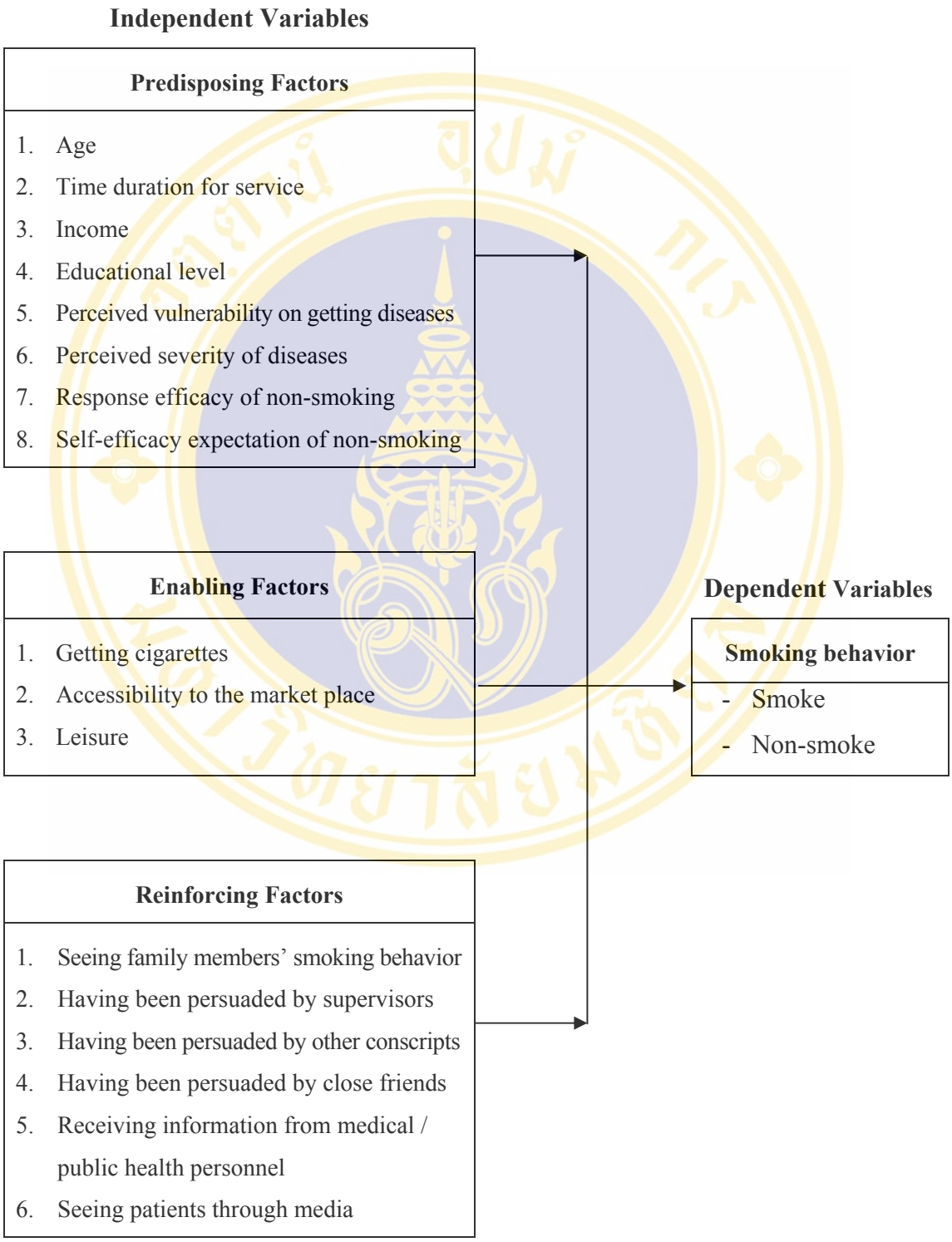


Figure 1 : Research Conceptual Framework

CHAPTER II
LITERATURE REVIEW

The literature review was organized in three parts. Firstly, knowledge about cigarette, what is cigarette, substances in cigarette, danger of smoking, cause of smoking habit, smoking behavior. Secondly, theories and principles, meaning and concept of behavior, protection motivation theory, PRECEDE-PROCEED model. Lastly, studies related to smoking in Thailand and other countries.

1. Knowledge about Cigarette

1.1 What is cigarette?

According to Non–Smoker' s Health Protection Act B.E. 2535 (1992), cigarette is one kind of addictive drug. World Health Organization defines "the addictive drug" as drug or chemical substance which is consumed into human body by eating, inhaling, smelling or other ways in a period of time and then affects the consumer's body and mind. The consumer will want to consume it regularly in the increasing amount each time.

1.2 Substances in cigarette

The cigarette consists of more than 4,000 substances. Some of those directly affect the organs and body systems depending on its character, some are toxic, some affects the cells, some causes cancer, and some auto immunity (Kachacheewa,U. 1987:37) The significant substances that is harmful to human body are:

1.2.1 Nicotine is a natural substance found only in tobacco. It looks like oil and colorless. It is the addictive substances which make people addicted to smoking. At the beginning, nicotine stimulates brain and central nervous system. Afterward, nicotine consumption leads to the destruction of artery mucosa. It is the main factor which causes cardiovascular disease.

1.2.2 Tar is a thick, sticky and brown to black liquid, that consisted of hundreds of chemical substance. It is a carcinogen substance. Study in animal found that tar caused cancer at the exposed skin, and caused lung cancer to the cigarette smoke exposure. The relative risk was as high as the amount of tar exposed.

1.2.3 Carbon monoxide is the gas which destroys the red blood cells' character as an oxygen carriage to the whole body. When the red blood cell cannot capture sufficient oxygen, the body will be tired or dizzy, which is leading to cardiovascular disease.

1.2.4 Hydrogen cyanide is the gas that destroys the membrane – ciliated cell. This ciliated cell is the natural prevention organ to capture and eliminate dust and germs that have been inhaled into the body. The destruction of the ciliated cell disables body capacity to resist those dust and germs that cling to the bronchi. And this will cause infection and leads to bronchitis, chronic cough and sputum-especially in the morning.

1.2.5 Ammonia disturbs organ's tissue, sore eye, sore nose, bronchitis, cough and sputum.

1.2.6 Radioactive substances: Tobacco smoke contains Polonium 210, which has Alpha ray, which cause lung cancer. Smoke is the severe carrier of radioactivity to passive smokers when they inhale this toxic gas.

1.3 Danger of smoking

Smoking is a cause of disease which is dangerous to the smoker and people who receive the smoke. The danger of smoking are as follows :

1.3.1 Cancer

Among different types of cancer, lung cancer is mostly found, 90 % of lung cancer causes by smoking; as well as other types of cancer – throat larynx cancer, oral cavity cancer, and esophagus. Besides, carcinogen, which is absorbed into the body, has been transferred to other part of body by blood flowing. It is referred to a report that smokers have higher risk to have liver cancer, bladder cancer, and leukemia, and cervix cancer than non smoker.

1.3.2 Cardiovascular disease

Cigarette contains the substances that affect the heart and blood vessel. They are nicotine, carbon monoxide, hydrogen cyanide, and tar. Particularly, nicotine can destroy mucosa of the red blood vessel. If this process is repeated and together with the lack of oxygen causes by carbon monoxide, the cell are destroyed more. The destruction of cell enables fat to easily attach to the coronary wall. Besides, smokes combine the platelet together, shorten platelet's life, rapid blood coagulation and condense. All of these can cause blood clot that obstruct the red blood vessel with fat clinging at the inner of the vessel mucosa or atrophy blood vessel. Then, the obstruction will lead to myocardial infarction, myocardiolysis or sudden death. In case of having myocardial infarction and still continue smoking, the person can end up with coronary artery disease, peripheral arthritis and thrombosis. These diseases will lack of blood flow such as arms and legs and it may be painful or lead to amputation (Kachacheewa,U. 1987: 37-40).

1.3.3 Respiratory disease

Cigarette cough is so common that it is accepted as normal rather than as the warning of damage to the lungs that it actually is. Shortness of breath and the nagging smoker's cough are the cumulative effect of toxic chemicals found in

tobacco smoke. Tars, nicotine, hydrogen cyanide, and nitrous oxides are associated with the lung disease of chronic bronchitis and emphysema, known together as chronic obstructive pulmonary disease (COPD).

1.3.4 Digestive system disease

Smoking stimulates stomach to produce more acid that irritates the stomach itself. It may be peptic ulcer or stomach infested. It is found that smokers are 2.9 times at higher risk of dying from peptic ulcer than non-smokers. Besides, the stomach bleeding rate is also higher, the wound takes longer time to be healed.

1.3.5 Tooth and gum

Smokers have more problems with tooth and gum than non-smokers. Smoking can cause plaque (yellow or gray) and also causes bad breath and tooth decayed.

1.3.6 Reproductive system

Pregnant women who smoke are more likely to have miscarriages or stillborn babies than nonsmoking women. In addition, other complications of pregnancy can result including excessive bleeding during delivery and premature birth. For men it is found that smoking can reduce sexual efficiency because arteriosclerosis occurs at sex organ.

1.3.7 Other persons around the smoker

Smoking not only hurt the smoker but also hurt people around the smoker. The chemicals in cigarette smoke are derived from two sources: mainstream smoke and sidestream smoke. Mainstream smoke is inhaled from the burning tobacco by the user, and sidestream smoke rises from the cigarette, cigar, or pipe as it burns. Since each individual has a particular technique of smoking different concentrations of substances are found in exhaled mainstream smoke, depending on the tobacco product, the composition of the tobacco, and the degree

of inhalation by the smoker. These concentrations, together with the harmful sidestream smoke, put the nonsmoker in a dangerous position when exposed to another person's smoke. Regardless of the controversy surrounding this issue, "passive smoking" or "involuntary smoking" can harm the non smoker's health.

Anyone who breathes the smoke from another person's cigarette, cigar, or pipe is a passive smoker. A passive smoker is usually in more danger of respiratory problems than the smoker, because the smoker will just puff at a cigarette to get the nicotine while the people surrounding the smoker will deeply inhale the smoke. Tobacco smoke can harm passive smokers in the following ways:

1) Young children are more likely to have respiratory problems and require medical attention if raised by smoking than nonsmoking parents.

2) Adults who have never smoked are significantly more likely to get lung cancer if married to smokers than if not.

3) Many people suffer eye and nose irritation when exposed to tobacco smoke.

1.4 Goodness of non-smoking

1.4.1 Impact of cigarette to economic

Thai people smoke cigarettes not less than 30,000 million rolls in each year, with the cost of more than 150,000 million baht. At the present there are 11.4 million of Thai people that smoke cigarettes, one fifth of the whole people. If one percent of them are ill from smoking like lung cancer, is ischemic heart disease and pulmonary emphysema etc, they must be cured 100,000 persons in each year. The government must pay 10,000 baht per head per year, the total of 1,000 million baht. Lost of labors from illness and human resource with low potential from cigarette smoking will also occur.

1.4.2 Impact of cigarette to social

Cigarette smoking is related to various narcotics. It was found that as percents of adolescents that are cocaine and heroin addicted, 75 percents of and opium addicted, 62 percents are alcoholism started from cigarette smoking in all cases. These lead to drug used problems that are important and social impact.

1.4.3 Impact of cigarette to environment

Cigarettes not only make city dirty, the smokes also cause air pollution, especially in cloudy areas. These are dangerous to human body. Cigarettes are also the cause of fire that lose of human lives and properties.

1.5 Cause of smoking habit

The smoking initiation in adolescents involves both internal and external factors. Internal factors may include searching for identity, lack of self confidence, curiosity or model imitation. As for external factors, they are considered as enforcement factors that attract adolescents to want and try, such as cultural beliefs, social norms, environment, etc. From the study of the factors associated with adolescent smoking behavior, it was found that the causes of the first attempt to smoke include: the desire to try, peer influence, moral, attitude, imitating parents, other family members or favorite actors, positive beliefs about smoking, rebelliousness

Nevertheless, the development of tobacco dependence is not sudden, and the process of initiating tobacco use is a gradual one that probably begins early in adolescence or pre-adolescence. Having reviewed literature about initiation and development of smoking habit, the researcher found that there were various factors that lead adolescent smoke. The cigarette smoking may be caused by one or more factors which may eventually develop into a habit among adolescents can be summarized as followed.

1.5.1 Curiosity : Adolescents are usually anxious to try things to know for themselves. They are enthusiastic to gain new experience or try new things which is part of the development process. As mentioned above, smoking is among the things often experimented by adolescents. When they actually try smoking, they take the risk of addiction.

1.5.2 Identity : This is the age where adolescents search for self-image. Adolescents want to be identified with friends, parents, teachers, singers, actors, etc., so they can be like others as well as being accepted. Unfortunately, smoking is not a behavior that they should be identified with. However, peer influence, peer pressure and especially peer approval have been consistently identified as factors that influence smoking among adolescents.

1.5.3 Modeling : An exhibition of behavior which can be adopted by those observing. Part of the learning process in adolescents occurs by observation and imitation. It occurs when a person imitates or copies the behavior of another person.

1.5.4 Reference group: Adolescents have strong tendency to follow the reference group. There can be thoughts, feelings, or actions for the sense of identifying with the group and eventually being accepted. Consequently, if the reference group smokes cigarettes, the non-smokers also have tendency to smoke.

1.5.5 Masculine appearance: Many adolescents have wrong beliefs regarding manhood. They think that unless they smoke, they are not considered masculine. Adolescents who do not smoke are often considered childish or chicken. In order to avoid being called names, they resolve to cigarette smoking.

1.5.6 Culture and social norms : Cigarette smoking is among the many social activities accepted by society and considered to be a normal social behavior. Young people who do smoke, usually smoke with friends, especially the best friends who smoke are a strong influence to adolescent smoking for to them smoking clearly represents an acceptable social activity. Furthermore, the society accepts that adults can smoke. Consequently, the adolescents try smoking cigarettes in order to show that they are adults. In addition, drinking and smoking are examples

often seen in social functions. Therefore, young people who wish to be recognized as social members often see cigarette smoking as an entry way to society.

1.5.7 Mental mechanism : A great number of people use cigarette smoking as a means to cope with stress. Some even go as far as believing that smoking enables them to concentrate better and have clearer mind. Furthermore Dechthai,T. (1980:39-42) concluded that the causes of smoking were positive and negative ways. The positive way indicated that the smokers wanted satisfaction, happiness as well as relaxation. On the other hand, the negative way indicated that the smokers smoked due to mental stress, disappointment and restlessness.

1.5.8 Environment and advertisement : The important external factors that lead adolescents to smoke are environment whereby people smoke, ability to purchase cigarettes easily and cigarette advertisement. Even though Thailand has laws that prohibit cigarette advertising and sale of cigarettes to adolescents under age 18, but there is no enforcement. In addition, foreign tobacco companies use subtle strategies to advertise cigarettes which show one's sophistication through things that adolescents like to use, such as purse, hat, key chain, clothes, ect. Consequently, cigarettes are still generally available and sold everywhere. Therefore, it is easy for adolescents to try cigarette smoking.

1.6 Types of smoking behaviors

As stated previously, there are many factors contributing to the causes or ways that attract adolescents to be familiar with cigarette smoking and a desire to try smoking. Tomkins (cited in Junmolee, S.,1983 : 38-39) mentioned about these types of smoking behaviors as follows:

1.6.1 Habitual smoking behavior : This type of smoker will always have a cigarette in his/her mouth, whether it is lighted or not, or will keep cigarettes with him/her or nearby all the time for it makes them feel comfortable and look smart. Consequently, it has become a daily activity. Furthermore, as they

desire to stop smoking, they will need to understand their habitual smoking behavior before actually stop smoking.

1.6.2 Positive affect smoking behavior : This type of smokers believe that cigarette smoking stimulates, creates satisfaction, brings happiness and excitement, or relaxation, especially smoking after taking a meal. It was found that the most favorable times to smoke were after rising up in the morning, after meal, when socializing with close friends and while being alone. People who report that smoking produces relaxation often demonstrate autonomic arousal, which is inconsistent with a state of relaxation. Some are happy just to hold a cigarette or to fell the smoke which comes out of the mouth or the nose. It requires a lot of motivation to convince this type of smoker to quit.

1.6.3 Negative affect smoking behavior : This type of smokers smoke occasionally but not continuously. They resolve to smoking when a change of mood takes place, being pressured, facing problems, or just to calm down emotion. To some, smoking depends on circumstances, such as excitement, fear, happiness, sadness, shyness, socializing, being alone, while driving, etc. Moreover, some of them smoke only when something happens and it varies as people are different. Quitting is easier for this type of smoker. They only need to discover when the urge for cigarette occurs and try to replace the urge for cigarette with something else.

1.6.4 Addictive smoking behavior : This type of smokers realize that he/she depends on cigarette smoking. When a cigarette smoked, nicotine is rapidly extracted. After the pulmonary circulation it is pumped to the aorta where it stimulates the aorta and carotid chemoreceptors. At this point, reflex stimulation of the respiration and cardiovascular centers in the brainstem may occur. In this case, smoking brings belief, elevates satisfaction and decreases tension. Yet, if they do not smoke, they will feel restless of uncomfortable. The symptom characteristics of nicotine withdrawal include irritability, anxiety, inability to concentrate, disturbance of arousal, and intensified craving. Consequently, cigarette smoking increases the nicotine in the blood, which is turn, reinforces. To this group, quitting may be

difficult. Furthermore, they will need to rely on special power of determination is use different strategies to help them quit.

2. Theories and principles

In this research, the researcher used theories and principles related to smoking behavior as follow.:

2.1 Behavior concept

Bloom (cited in Suwan, P., 1983 : 156-161) defined the meaning of "Behavior" was every activities of human included appearing and disappearing actions, for example; working of heart, working of muscle, walking, talking, thinking, feeling. These behavior compost of 3 parts.

2.1.1 Cognitive domain

This behavior related to knowledge, memories facts including development of skills, decision. This behavior started from basic knowledge and develop more and more.

2.1.2 Affective domain

This behavior mean feeling, interesting, manner, like, hate, accepting or changing the concept. This behavior occur in mind that difficult to be measured.

2.1.3 Psychomotor domain

This behavior is ability to using body to act, include activities of behavior that can be noticed. This behavior is the last aim of the study which is related to the previous behaviors. This behavior can easily be evaluated when acting appear.

2.2 Protection motivation theory (Rogers & Prentice-Dunn,1986: 153-161; Egger, et a1.,1990: 25-27)

Originally proposed to provide conceptual clarity to the understanding of fear appeals, Protection Motivation Theory (PMT) shares the Health Belief Model's (HBM) emphasis on the cognitive processes mediating attitudinal and behavioral change. The theory was initially formulated in 1975. The reader is referred to the above sources for the fuller discussion of the theoretical foundation and mechanisms of PMT.

Environmental or interpersonal sources of information about a health threat initiates two cognitive processes, threat appraisal and coping appraisal. The threat appraisal process evaluates the factors that increase or decrease the probability of making the maladaptive response. The maladaptive action can be a behavior that could be enacted, such as beginning to smoke, or it could be a current behavior such as wearing a seat-belt. Variables that increase the likelihood of the maladaptive response are intrinsic rewards (e.g. bodily pleasure) and extrinsic rewards (e.g. social approval). Factors reducing the probability of the maladaptive response are the assessed severity of the threat and perceived vulnerability to the threat. Fear arousal influences perceived severity but has only an indirect effect on the eventual behavior enacted. The total threat appraisal is an algebraic sum of the variables that increase and decrease the maladaptive behavior likelihood.

In addition to the evaluating threat, the individual also makes a coping appraisal. This consists partially of judgements about the efficacy of a preventive response that will avert the perceived threat (response efficacy) plus the assessment one's ability to successfully initiate and complete the adaptive response (self-efficacy) component is crucial to the successful avoidance of the threatening situation. An important feature of PMT, the explicit role of personal mastery has been neglected in virtually all expectancy-value theories. Thus, the implication is that the existence of the effective alternative to the maladaptive health behavior is not sufficient; one must also believe himself or herself capable of carrying out the preventive regimen. It should be noted that an individual' sense of self-efficacy is

conceptually independent of the 'barrier' referred to in the HBM. Thus, a person with a strong sense of self-efficacy might easily overcome any barriers (e.g. inconvenience, expense), while a person with a weak sense of self-efficacy might be overwhelmed by the same barriers. Self-efficacy influences not only the initiation of the coping response, but also the amount of energy expended and the person's persistence in the face of obstacles.

Response efficacy and self-efficacy evaluations are actors increasing the probability of making the adaptive response. Decreasing that likelihood are response costs. Response costs may consist of 'inconvenience, expense, unpleasantness, difficulty, complexity, side effects, disruption of daily life, and overcoming habit strength. Coping appraisal is totaled from a sum of the efficacy components minus any costs with the adaptive response.

Figure 2 indicates that threat appraisal and coping appraisal are combined to form protection motivation. As an intervention variable, protection motivation initiates, sustains and directs behavior. A coping response produced by protection motivation may be an explicit behavior (e.g. beginning an aerobic exercise program) or the inhibition of and action (e.g. ceasing to smoke).

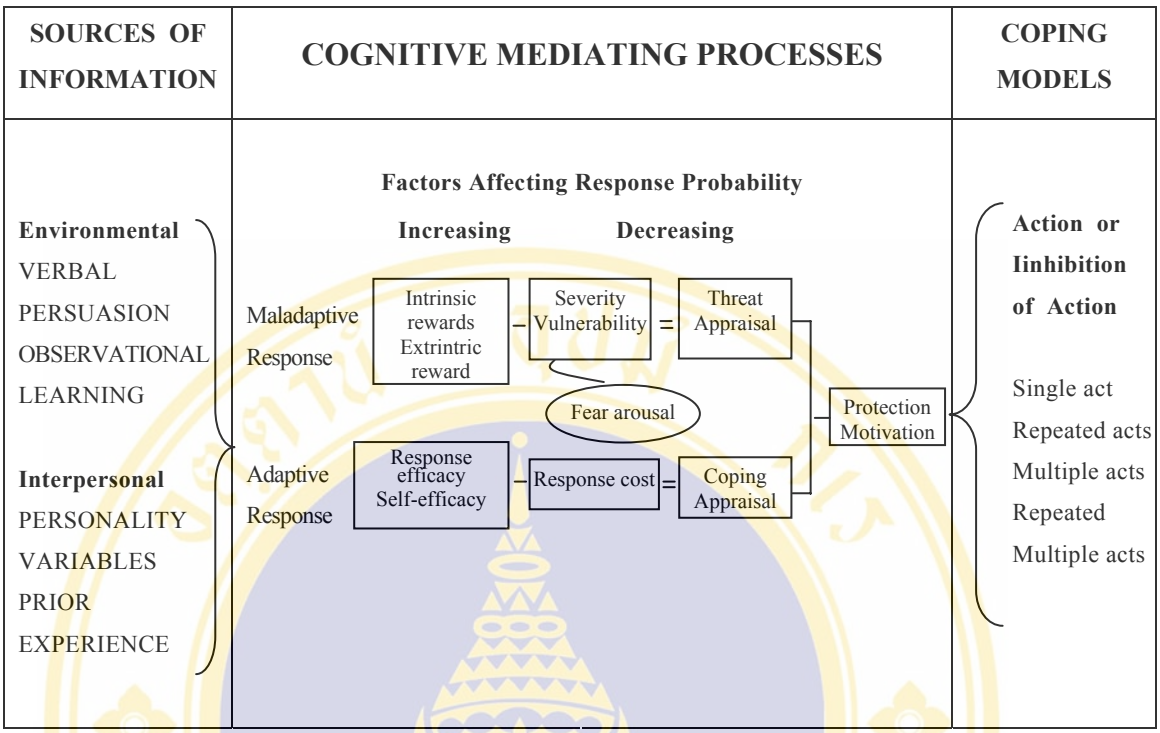


Figure 2 : Scheme of Protection Motivation Theory (reproduced from Prentice-Dunn & Rogers, 1986: 155).

As an intervention variable, protection motivation may be measured by a variety of methods. However, an assumption of PMT is that it is most appropriately assessed by behavioral intentions. PMT developed from theory and research on fear arousing communications and attitude change. Traditionally, attitudes have directional and dynamic (i.e. motivation) influences on behavior. Furthermore, the traditional dependent measure in this area has been attitude change, the internalized acceptance of the communicators 's recommendation. The current concept that best retains these characteristics is behavioral intentions. Although we are not arguing that intentions are a completely satisfactory substitute for single-act, repeated-acts, or multiple-acts of behavioral criteria, we agree with Fishbein and his colleagues that intentions accurately predict behavior if (i) they are measured at the same level of the specificity; (ii) the intentions remain stable; and (iii) the behavior in question is under volitional control. For example, Harrison found that intentions not only predicted college attendance

among high school students some 2 - 3 years after initial measurements were taken, but also successfully predicted the ultimate educational level attained 15 years later. Such results should allay concerns about the choice of behavioral intentions as the appropriate tool for evaluating the impact of protection motivation.

In summary, PMT assumes that protection motivation is maximized when: (i) the treat to health is severe: (ii) the individual feels vulnerable: (iii) the adaptive response is believed to be an effective means for averting the threat: (iv) the person is confident in his or her abilities to complete successfully the adaptive response: (v) the rewards associated with the maladaptive behavior are small: (vi) the costs associated with the adaptive response are small. Such factors produce protection motivation and, subsequently, the enactment of the adaptive, or coping response.

An additive model holds within each appraisal process. When combining components occur between the protection and coping appraisal processes, interaction effects will occur. It is assumed that if response efficacy and/or self-efficacy are high, then increases in severity and/or vulnerability will produce a positive main effect on intentions; on the other hand, if response efficacy and/or self-efficacy are low, increases in severity and / or vulnerability will either have no effect or a boomerang effect, actually reducing intentions to comply with the health recommendation. Thus, the theory predicts outcomes that violate a completely rational decision-making process. There are at least two conditions in which individuals feel incapable of protecting themselves: (i) if the only available coping response is ineffective (i.e. low response efficacy); and (ii) if they believe they cannot perform the necessary coping response (i.e. low efficacy). Research has confirmed this predicted interaction effect between vulnerability and response efficacy. If the recommended coping response was a highly effective preventive response, then increasing belief in vulnerability to the danger increased intentions to adopt that practice; but, if the response was believed to be ineffective, increasing feelings of vulnerability decreased intentions to adopt the response, producing a boomerang effect (i.e. smokers actually intended to

increase their cigarette consumption, and social drinkers to increase their alcohol consumption.

Rogers, (1983: 842) revised Protection Motivation Theory (PMT) as a major theory in health psychology which attempts to explain the cognitive mediation process of behavioral change in terms of threat and coping appraisal. The PMT model's threat appraisal component depends on: (1) the person's estimate of the threat of the disease (perceived severity); and, (2) his or her estimate of the chance of contracting the disease (perceived vulnerability). The model's coping appraisal consists of (1) the individual's expectancy that carrying out recommendations can remove the threat (response efficacy); and, (2) belief in one's capability to execute the recommended course of action successfully (self-efficacy). PMT assumes that the motivation to protect oneself from danger is a positive linear function of the four cognitive beliefs where the individual perceives: (1) the threat is severe; (2) one is personally vulnerable to the threat; (3) the coping response is effective in averting the threat; and (4) one has the ability to perform the coping response. According to the theory, the emotional state of fear influences attitudes and behavior change indirectly through the appraisal of the severity of danger as shown in Figure. 3. (Plotnikoff & Higginbotham, 1995: 399).

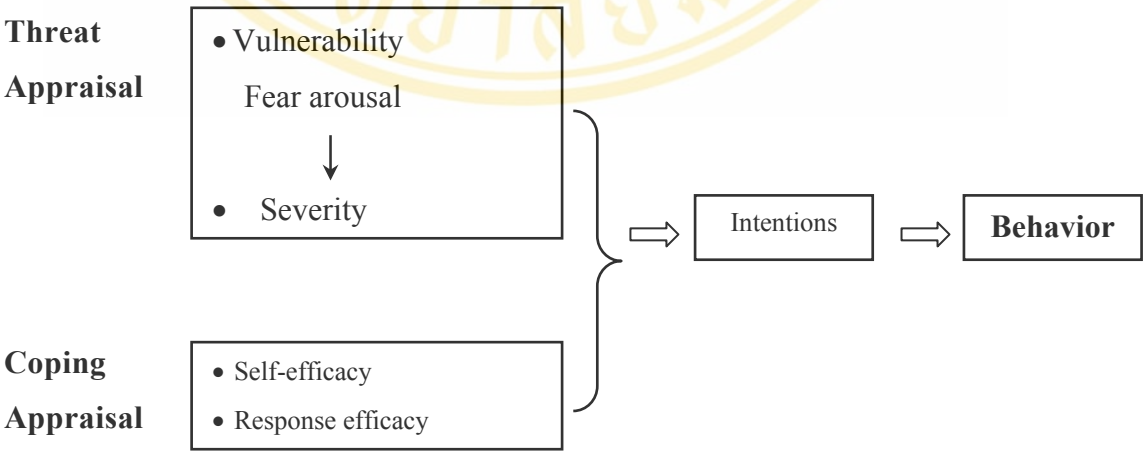


Figure 3 : Protection Motivation Theory (reproduced from Plotnikoff & Higginbotham, 1995: 399).

The strength of Protection Motivation is estimated through measuring intentions to adopt the recommended behavior. Thus, the cognitive mediators (severity, vulnerability, response efficacy and self-efficacy) should have significant associations with the intentions to perform the desired behavior. However, recent studies have measured self-reported and/or actual behavior as the outcome variable of Protection Motivation. Justification of measuring behavior as PMT's outcome variable appears to have developed from Ajzen and Fishbein's model.: Theory of Reasoned Action . A main concept of Ajzen and Fishbein's model is that intentions predict behavior, of which there is supporting empirical evidence.

PMT and Health Enhancement

At times we engage in preventive health behaviors not because of fear, but due to anticipation of positive consequences. For example, many people report that their participation in regimens of aerobic exercise is motivated most by the concomitant increases in self-esteem and conditioning. Stanley and Maddux have noted the emphasis in theories of health decision making on disease prevention rather than health enhancement. Indeed, most attempts to change health attitudes are premised on negative appeals rather than on messages emphasizing the beneficial consequences of accepting the adaptive recommendation.

Robertson and Rogers used the PMT framework to investigate the effects of three message valences (positive versus negative versus a combination of the two) and two appeal targets (health versus self-esteem) on intentions of a regular exercise program. Although no main effect for valence or appeal target was found, significant interaction was discovered. Negative appeals were more effective than positive appeals, compared with a control group, when the message targeted health. As noted by the authors "Apparently the allure of obtaining the benefits of health enhancement does not have the persuasive appeal for avoiding the negative consequences". When the appeal was directed toward self-esteem, positive appeals were more effective than negativeness in strengthening intentions to exercise.

Results of their investigation led Robertson and Rogers to advocate attention to issues in constructing preventive health messages. When the emphasis is placed on health enhancement, positive appeals can be used. In contrast, a disease prevention emphasis should be accompanied by negative appeals. Because people are motivated to protect themselves from danger, whether the danger is physical, psychological or social, people may be persuaded to adopt healthy lifestyles for reasons other than health (e.g. self-esteem).

The aforementioned study indicates that values such as self-esteem can be instrumental in persuading people to pursue good health. PMT provides a convenient framework for understanding both illness avoidance and health enhancement. Indeed the results corroborate Beck's assertion that PMT has "utility for explaining protective decisions in areas other than just personal health issues".

In conclusion, preventive health psychology is based on two crucial assumptions: (i) behaviors increase the risk of certain chronic diseases: and (ii) changes in behaviors can reduce the probability of risk of certain diseases. Kaplan cogently reminds us that such premises do not always hold. While keeping such caution in mind, health researchers and educators have persistently sought models of self-protective behavior that may be applied to the vast numbers of human lives in which the above assumptions are true. PMT offers a very promising vehicle for that application.

2.3 The PRECEDE-PROCEED Model. (Green & Kreuter,1999 : 32-43)

PRECEDE stands for Predisposing, Reinforcing, Enabling, and Causes in Education Diagnosis and Evaluation. This PRECEDE framework, proposed and developed by Green, was used to evaluate health education programs. Later, Green, et. al. improved and used for diagnosis and evaluation of health education programs and health promotion programs.

PROCEED stands for Policy, Regulatory, and Organization Constructs in Educational and Environmental Development.

The PRECEDE framework, developed by Green, Kreuter, Deeds and Patridge (1980), take into account the multiple factors that shape health status and helps the planner arrive at highly focused subset of those factors as targets for intervention. PRECEDE also generates specific objectives and criteria of evaluation. But it has been replaced by the PRECEDE-PROCEED Models. The PROCEED framework provides additional steps for developing policy and initiating the implementation and evaluation process.

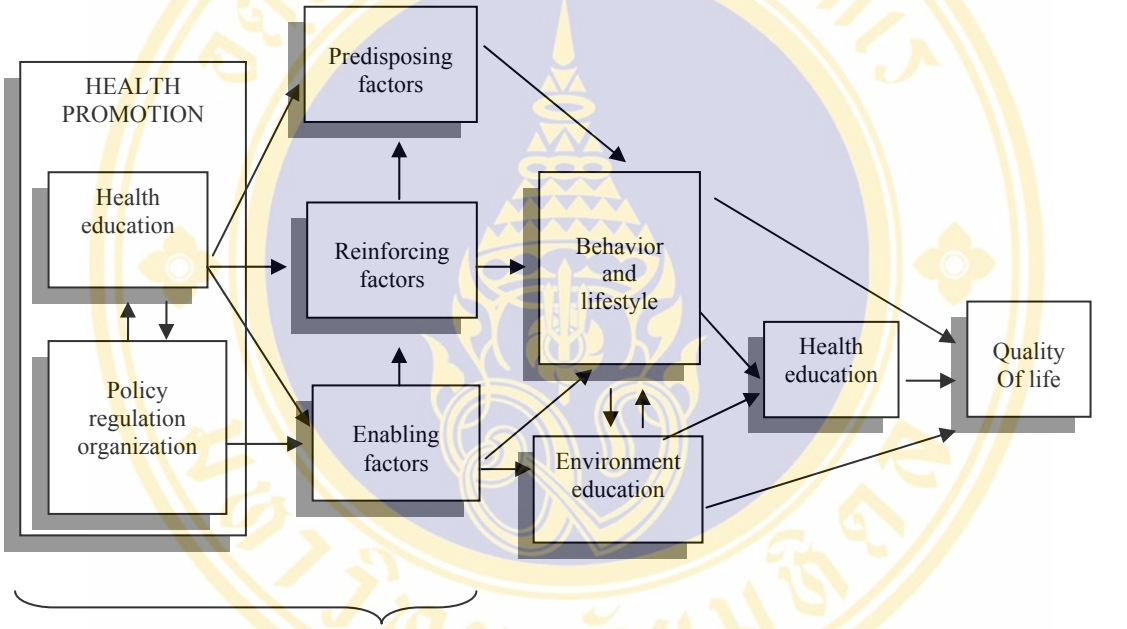
PRECEDE and PROCEED work intended, providing a continuous series of steps or phase in the planning, implementation, and evaluation process. The identification process of priorities and setting of objectives in the PRECEDE phase provide the objects and criteria for policy, implementation, and evaluation in the PROCEED phase.

PRECEDE-PROCEED is a theoretical robust model that addresses a major acknowledge need in health promotion and health education. It is robust in sense that applies to health promotion in a variety of situations. It has served as a successful model. In a number of rigorously evaluated, randomized clinical and field trials, as a guide to the development of local health department program adopted by several state health departments, as a federal guide to the planning, as an analytical tool for health education policy, and as an organizational frame work for curriculum development or training in health education and interdisciplinary training for behavioral scientists and health educators.

The title of the new model PRECEDE-PROCEED is summarized by the phases within the model. PRECEDE is an acronym for Predisposing, Reinforcing, and Enabling Constructs in Educational/ Environmental Diagnosis and Evaluation. PROCEED stands for Policy, Regulatory and Organizational Constructs in Educational and Environmental as shown in figure 4.

PRECEDE

Phase 5 Administrative and policy diagnosis	**Phase 4** Educational and organizational diagnosis	**Phase 3** Behavioral and environmental diagnosis	**Phase 2** Epidemiological diagnosis	**Phase 1** Social diagnosis



Phase 6 Implementation	**Phase 7** Process evaluation	**Phase 8** Impact evaluation	**Phase 9** Outcome evaluation

PROCEED

Figure 4 : The PRECEDE – PROCEED Model for health promotion planning and evaluation. (Green and Kreuter,1999 : 41)

The Nine Phases of PRECEDE-PROCEED

1. Social Diagnosis

The first phase in this model is called social diagnosis and seeks defines subjectively the quality of life of those in the target population, begin with a consideration of quality of life by assessing some of the general hopes or problems. The designer of this model suggest that the best accomplished by involving individuals in the target population in self-study of their own needs and aspiration. The kind of social problems in community experiences are a practical and accurate barometer of its quality of life. Some of the indicators of these subjectively defined problems and priorities are listed as follow:

- Absenteeism	- Achievement	- Aesthetics	- Alienation
- Comfort	- Crime	- Crowding	- Discrimination
- Happiness	- Hostility	- Illegitimacy	- Performance
- Riots	- Self-esteem	- Unemployment	

2. Epidemiological Diagnosis

Phase 2 is to identify the specific health goals or problems that man contribute to the social goals or problems noted in Phase 1. Using available data, information generated by appropriate investigations, and epidemiological and medical findings, the planner ranks the several health problems. To determine which health problems should be received priority, one has to describe and quantify health problems insufficient detail. The classic indicators of health problems are mortality (death), morbidity (disease), and disability (dysfunction). Sometimes discomfort and dissatisfaction are added, making a list of “five D’s” including quality of life measures. In addition, there are positive indicators of health status such as life expectancy and fitness. Mortality has been expressed increasingly in recent years as years potential life lost give grater weight deaths at younger ages.

3. Behavioral and Environmental Diagnosis

Phase 3 consists of identifying the specific health-related behavioral and environmental factors that could be linked to the health problems chosen as most deserving of attention in Phase 2. Because there are the risk factors that the intervention is tailored to affect, they must be very specifically identified and carefully ranked. Environmental are those external to and individual often beyond his or her personal control, that can be modified to support the behavior, health or quality of life of the person or others affected by the person's actions.

3.1 Five Steps in Behavioral Diagnosis

The behavioral diagnosis are using the following steps:

Step 1. Separating behavioral and non behavioral causes of the health problem.

Step 2. Developing an inventory of behaviors.

a. Identify the behaviors associated with promoting health, preventing the health problem, or controlling the sequel of the health problem.

b. Identify and list sequentially the actions or treatment procedures for the health goal or problem.

Step 3. Rating behavior in term of importance.

Step 4. Rating behavior in term of change ability.

Step 5. Choosing behavioral targets.

3.2 The Five Steps in Environmental Diagnosis

The steps in environmental diagnosis parallel with the steps in behavioral diagnosis; and in fact, the first step is the same.

Step 1. Separating behavioral and non behavioral causes of the health problem. This step produces a list of behavioral and a list of non behavioral factors.

Step 2. Eliminating non behavioral causes that cannot be changed.

From the list of non behavioral factors identified in step 1., we now eliminate the genetic, demographic, and historical factors in which little if any change can be expected, even with sweeping policy reforms, The results is an inventory of organizational, economic, and environmental factors that are known to contribute to the health or quality-of-life problem or goal, either directly or indirectly through behavior.

Step 3. Rating environmental factors in terms of importance

The inventory of environmental factors influencing the health goal or problem is likely to be too long to be manageable within the scope of a health promotion program or policy change. Select the factors that are more important than others according to one or both of the twice criteria:

- the strength of the relationship of the environmental factor to the health or quality of the environmental factor to the health or quality-of-life goal or problem;

- the prevalence, or number of people affected by the environmental factor.

Step 4. Rating environmental factors in terms of change ability

Step 5. Choosing environmental targets

4. Educational and Organizational Diagnosis : Factors Affecting Health-Related Behavior and Environments.

We can identify three categories of factors affecting individual or collective behavior, including organizational actions interrelation to the environment, each of which has a different type of influence on behavior :

- **Predisposing factors** are those antecedents to behavior that provide the rational or motivation for the behavior e.g. Knowledge, awareness, beliefs, values, attitudes, confidence.

- Enabling factors are the antecedents to behavior that enable motivation be realized. e.g. availability of health resources, accessibility of health resources, community / government laws, priority, and commitment to health, health-related skills.

- Reinforcing factors are subsequent to a behavior that provide the continuing reward or incentive for the behavior and contribute to its persistence or repletion. e.g. family, peers, teachers, teachers, employers, health providers, community leaders.

Selecting factors and setting priorities

This process has three basic steps:

1) Identifying and sorting factors into the three categories,
2) Setting priorities among categories, and
3) Establishing priorities within categories

5. Administrative and Policy Diagnosis

Administrative diagnosis refers here to an analysis of the policies, resources, and circumstances prevailing in the organizational situation that could facilitate or hinder the development of the health promotion program. Policy refer to the set of objectives and rules guiding the activities of an organization or an administration. Regulation refers to the act of implementing policies and enforcing rules or laws. Organization refers to act of marshaling and coordinating the resource of necessary to implement a program.

5.1 Administrative Diagnosis

Step 1. Assessment of resources needed

Step 2. Assessment of available resources

Step 3. Assessment of barriers to implementation

5.2 Policy Diagnosis

Step 1. Assessment of policies, regulations, and organizations

Step 2. Assessment of political forces

6. Implementation

Implementation refers to the act of converting policies and program objectives into actions through administration, regulation, and organization.

7. Process Evaluation

8. Impact Evaluation

9. Outcome Evaluation

3. Studies Related to smoking in Thailand and Other Countries

3.1 Studies in Thailand

Rucksapram,M. (1983:49) studied on social and psychological factors predicting smoking intention of secondary education male students. The study found that social factors (e.g.: age) had no statistically significant influence on smoking intention of students.

Wongkraisritong,W. (1986:59-76) studied on factors influencing the smoking behavior of monks. The results indicated that 53.5 percent of monks in Bangkok smoked cigarette before being monk, the factors related to smoking was someone in their family smoke. During being monk, monks who had religious practice smoked less than monks who had not religious practice and education level also related to smoking behavior.

Yencham,N. (1993:50-55) Studied on health belief and health practice to quit smoking of male personnel in the hospital. The study showed that being member in the smoking family, knowing risk of the disease, health and health belief had positive relation with smoking cessation. But knowing severiy of the

disease, knowing useful and harmful of smoking had no relation with stop smoking. Ages and incomes had negative relation with stop smoking.

Srinual,K. (1993:73-80,113-119) Studied on factors influencing smoking behavior among Thai monks in Ratchaburi province. The results showed that 53.4 percent of monks smoke every day with 6 to 10 cigarettes. The monks who smoked before being a monk were 16 to 20 years old. Cause of smoking was testing. The duration of monkhood, education level, knowledge, the normative belief and value about smoking were the main factors affected smoking behavior, and the subordinate factors were having smoking people in family. Acception of smoking from the senior or higher position monk and others monks in the temple was significantly related to smoking habit.

Thitibenjapol,L. (1993:90) studied on the effectiveness of health education program with social support on smoking cessation among male secondary school students in Nonthaburi province. The results showed that the cessation practice of smoking was significantly correlated with knowledge and self-efficacy about smoking and the health education program in combination with social support had an effect on altering behavior in the right way and the voluntary cessation program helped smokers who wanted to quit smoking.

Kulanit,N. (1995:68-78) studied on the factors effected to start and stop smoking in secondary school in Chiang Mai. The result showed that convenience for buying cigarettes was important to smoking, social factors and smoking environment had relation with smoking were social factors on smoking and cigarette smoking imitation from friends.

Na Pompecth,B. (1996:109-115) studied on the factors effected to smoking behavior among male students in certificate, Department of Vacational Education , Bangkok Metropolis. The study found that Predisposing factors including knowledge and attitude, had correlation with smoking behavior. Enabling factors which got a lot of money from their parents and smoking area

had correlation with smoking behavior. Reinforcing factors were smoking with closed friends, the parent's attention and some population's structure factors such as ages parent's occupation, had correlation with smoking behavior.

Soysuwan,J. (1996:98-107) studied on the factors that related to Rajabhat Institutes Council male student's smoking behavior in North-east region. The study showed that Predisposing factors smoking attitude and normative belief Enabling factors : cigarette's price, student's income, getting cigarettes from others, cigarette's shops area and smoking area were closed friend's smoking, teacher's non smoking, parent's warning, institute's non smoking rules, practicaly on Non–Smoker' s Health Protection Act B.E. 2535 (1992) and some population's structure factors such as ages, family's incomes and parent's occupation had related with smoking behavior.

Nakkarug,K. (1997:108) studied on the stages of change model applied to a smoking cessation program among male junior high school students in Bangkok. The findings of this study showed that the experimental group increased in attitude of smoking, the perceived susceptibility to diseases caused by smoking, self-efficacy to quit smoking, and quitting smoking behavior than compared group. It was also found that self-efficacy was significantly correlated to quitting smoking practices.

Kingkawkantong,S. (1997:79-80) studied on selected factors affecting smoking behaviors in women in Bangkok Metropolis. The study showed that belief in risks associated with smoking and health deterioration belief were not related with smoking behavior in women

Khanasa, Y. (1998:96-99) studied on factors affecting smoking and non-smoking behavior among female students of high secondary schools and vocational education colleges in Bangkok Metropolis. The study showed that the perceived peer influence product affected smoking behavior while perceived internal locus of control and external locus of control affected non-smoking.

Pandee, S. (1999 :50) studied application of motivation theory in diseases prevention, together with social support, for smoking cessation among high school students in Suratthani province. Research results indicated that, the experimental group increased in perceived severity, perceived susceptibility, self-efficacy expectation, response effectiveness expectation, attention on smoking, cessation, and smoking cessation behaviors, than compared group.

3.2 Studies in other countries.

Lecorn (1964:1-7) found in his study that smoker who smoked over one pack, the cigarette's toxicity informations had no effect on smoking cessation, but the motivation for smoking cessation was the diseases caused by his cigarettes.

Weinberger and others (1981:1253-1255) studied on correlation between health belief and smoking behavior, the study showed that perceived the risk and severity of diseases caused by cigarettes were related to smoking cessation behavior.

Pederson and others (1984:573-580) studied on the factors related to the pulmonary disease patient smoking cessation by perceived susceptibility and severity and practice on doctor's advisory of 308 samples. The studied showed that the health's belief model was related to the practice on doctor's advisory and could predict about smoking cessation on 3-6 months after advised.

Bolla (1984:3112-13) studied on sex and environment's influence to smoking behavior and found that the high risk's perception, the toxicity of cigarette were related to smoking cessation behavior. The successful of smoking cessation related to the closed friend.

CHAPTER III
MATERIALS AND METHODS

This research was aimed to study factors relating smoking behavior of the conscripts in Adisorn fort , Saraburi province.

Research Design

This study was a crossectional survey research by collecting data from the sampled conscripts in Adisorn fort, Saraburi province through the use of questionnaire developed by the researcher.

Population and Sample

The population of this study was composed of 1,230 conscripts, 844 cases smoked and 386 cases did not smoke. They were from 2 units as follows:

- Services Battalian. There were 1,176 cases, 806 cases smoked and 370 cases did not smoke.
- Veterinary Section. There were 54 cases, 38 cases smoked and 16 cases did not smoke.

Steps in Selecting the Sample

Step 1: Determining the Sample Size

In order to determine the sample size, the information regarding family members' smoking behavior, as studied by Srinual, K. (1993:81), was used to calculate the sample size. The data showed that among the smoking group, 68.3% of their fathers smoked and among those who did not smoke, 50.8 percent of their fathers smoked. The data were used to calculate the sample size as follows: (Fleiss, 1981:44-45)

$$n = n'/4 \,*[1+\sqrt{1+2\,(C+1)\,/\,(n'C\,|\,p2-p1\,)\,|}\,]^2$$

with

$$n' = \frac{[Z\,(1-\alpha/2)\,\sqrt{(C+1)\,p\,(1-p)} + Z\;(1-\beta)\;\sqrt{C*p1\,(1-p1)+p2(1-p2)}]^2}{C\,*\,(p2-p1)^2}$$

$p = (p1 + Cp2) / (1+C)$

p1 : prevalence in group 1

p2 : prevalence in group 2

C : ratio of group 1 / group 2

$Z\,\alpha$: alpha risk

$Z\,(1-\beta)$: desired power

The sample size of 264 was gotten from the calculation which was divided into 2 groups, 132 cases for each of the "smoking" and "non-smoking" group.

Step 2: Sampling technique

The samples were selected from 2 units of Adisorn fort:- Services Battalian and Veterinary Section by using stratified sampling method. In each unit, the conscripts were grouped into 2 groups: - smoking and non- smoking. Then the

sample size was calculated for each stratified group by using the ratio accordingly to the following formula (Piriyakul,M. cited in Silapasuwan,P. et al., 1996:191)

$$n_h = \frac{n \times N_h}{N}$$

n = Total sample size
N_h = Population size in each group
N = Total population size
n_h = Sample size in each group

The detail of the sample in this study, as presented in Table 1.

Table 1 Sample size that needs to be drawn

The unit	Number of the conscripts		Smoked		Did not Smoke	
	Population size	Sample size	Population size	Sample size	Population size	Sample size
Services Battalian	1,176	253	806	(132x806)/844 = **126**	370	(132x370)/386 = **127**
Veterinary Section	54	11	38	(132x38)/844 = **6**	16	(132x16)/386 = **5**
Total	1,230	264	844	132	386	132

The simple random sampling was used by listing the names of the conscripts who smoked and did not smoke in each unit then simple random sampling was done until reaching the numbers needed. The sampling steps were summarized in Figure 5.

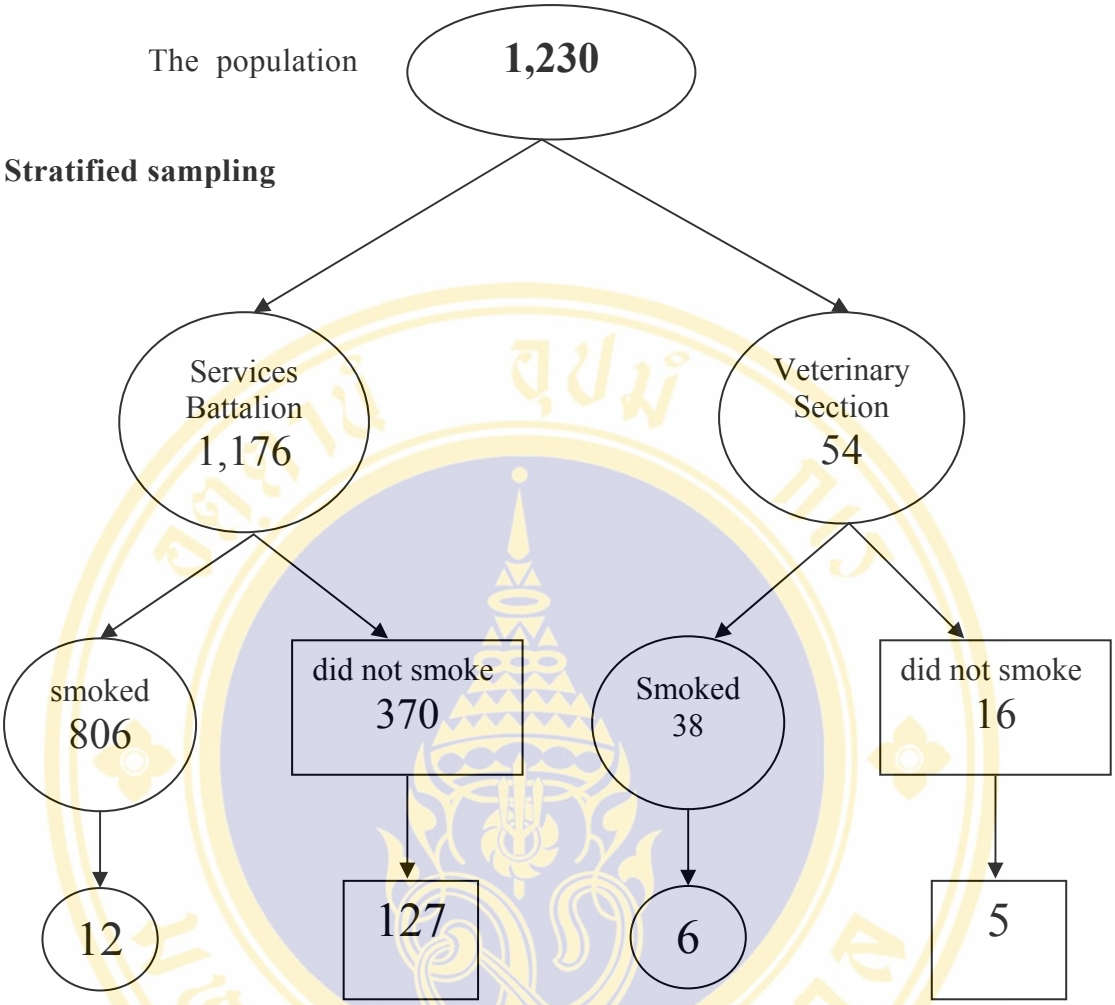


Figure 5 : The sampling steps

Research Instrument

The instrument of this research was a set of questionnaire which was developed by the researcher, based on the research conceptual framework and research objectives. These were 3 parts as follows :

Part 1 : General Characteristics of the Sample. This part was consisted of questions regarding age, time duration of service with the unit, income, educational level, knowing about who smoke in the unit, family members' smoking behavior, For those who smoked, the other questions were asked about current

smoking as related to smoking duration, number of days per week, number of cigarettes smoked per day, expense for cigarettes, reasons for smoking, how to get cigarettes, how to buy cigarettes, and convenience of buying cigarettes. The total of 16 questions were used, with close-ended questions and open-ended questions.

Part 2 : Questions Regarding Perception and Expectation in accordance with the Protection Motivation Theory. The rating scale, 1-3 scoring system was used, and composed of both the positive and negative statements. This part was composed of 4 section as follows:

Section 1 : Perceived Vulnerability of Getting Smoking Related Diseases. This section was composed of 11 statements, 6 positive statements (statements number 1, 3, 4, 6, 7, 9) and 5 negative statements (statements number 2, 5, 8, 10, 11) The range of score was 11–33 The following scoring system was used :

Choice	Score of the Positive Statement	Score of the Negative Statement
Agree	3	1
Uncertain	2	2
Disagree	1	3

Criteria for Score Level

The score was grouped into 3 levels. The criteria used was applied from the criteria developed by Lacharoj,S. (1994 : 65 - 68), as follows :

Criteria (%)	Score range	Meaning
Less than 60	11 – 24	Low
60 – 80	25 – 28	Moderate
Higher than 80	29 – 33	High

Section 2 : Perceived Severity of Smoking Related Diseases. This section was composed of 14 statements, 10 positive statements (statements number 1, 2, 4, 5, 6, 8, 9, 11, 14) and 4 negative statements (statements number 3, 7, 12, 13). The score range was 14 - 42. The following scoring system was used:

Choice	Score of the Positive Statement	Score of the Negative Statement
Agree	3	1
Uncertain	2	2
Disagree	1	3

Criteria for Score Level

The score was grouped into 3 levels. The criteria developed by Lacharoj,S. (1994 : 65 - 68) was applied to group the score, as follows :

Criteria (%)	Score range	Meaning
Less than 60	14 - 30	Low
60 – 80	31 - 36	Moderate
Higher than 80	37 - 42	High

Section 3 : Response Efficacy of Non-smoking. This section was composed of 12 statements, 7 positive statements (statements number 1, 2, 4, 7, 10, 11, 12) and 5 negative statements (statements number 3, 5, 6, 8, 9). The score range was 12 - 36. The scoring system was as follows:

Choice	Score of the Positive Statement	Score of the Negative Statement
Agree	3	1
Uncertain	2	2
Disagree	1	3

Criteria for Score Level

The score was then grouped into 3 levels. The criteria developed by Lacharoj,S. (1994 : 65 - 68) was applied as follows:

Criteria (%)	Score range	Meaning
Less than 60	12 - 26	Low
60 – 80	27 - 31	Moderate
Higher than 80	32 - 36	High

Section 4 : Self-efficacy Expectation of Non-Smoking. This section was composed of 11 statements, 9 positive statements (statements number 1, 2, 4, 5, 6, 7, 8, 10, 11) and 2 negative statements (statements number 3 and 9). The score range was 11 - 33. The following scoring system was used :

Choice	Score of the Positive Statement	Score of the Negative Statement
Agree	3	1
Uncertain	2	2
Disagree	1	3

Criteria for Score Level

The score was grouped into 3 levels. The criteria developed by Lacharoj,S. (1994 : 65 - 68) was applied as follows :

Criteria (%)	Score range	Meaning
Less than 60	11 – 24	Low
60 – 80	25 - 28	Moderate
Higher than 80	29 - 33	High

Part 3 : Enabling Factors. This part was composed of questions regarding getting cigarettes from others, accessibility to the market place, and leisure . The total of 4 close-ended and open-ended questions were used.

The Development of Research Instruments. The following steps were used to develop the research instruments:

1. Studying the concepts, contents, theories and related researches from articles, texts and documents.

2. Identifying the scopes and structures of the contents of the questionnaire and making the contents cover research objectives and research hypotheses.

3. Developing the questions and statements and setting the appropriate criteria needed.

Checking the Quality of the Instruments. The quality of the research instruments was checked by following the steps :

1. Content Validity. The questionnaire was checked by the thesis committee members in regard with content validity, language, and theoretical appropriateness. The questionnaire was then revised accordingly with comments and suggestions.

2. Reliability of the Instrument. The revised questionnaire was tried out with the group of 30 conscripts in Adisorn fort , who were similar to the sampled group. The group was composed of 15 cigarette smokers and 15 non-smokers. The data from the try-out were analyzed by computing Cronbach's Alpha Coefficient, by using program computer . The results were presented as follows :

Variable	Reliability
2.1 Perceived vulnerability of getting smoking related diseases	0.7018
2.2 Perceived severity of smoking related diseases	0.7769
2.3 Response efficacy of non-smoking	0.7141
2.4 Self-efficacy expectation of non-smoking	0.8992

3. The questionnaire was revised accordingly with the data analysis and other comments and submitted to the thesis committee members for approval before preparing the final version for field survey.

Data Collection. The data were collected by using the following steps:

1. Submitting the official letter of the Graduate studies school, Mahidol University to the administration of the Adisorn fort , Saraburi province in order to get permission to do the project.

2. Collection data from the sampled conscripts of Services Battalian and Veterinary Section in Adisorn fort , Saraburi province, as the following steps :

2.1 Getting the permission to do the project from the heads of Services Battalian and Veterinary Section and asking for the name list of all conscripts, both who smoked and did not smoke.

2.2 The researcher introduced herself with the sampled group, developed good rapport and explain the objectives of the data collection.

2.3 The researcher explained about how to answer the questionnaire to the sampled group and collected the questionnaires back after they completed answering them.

2.4 Check the questionnaires for their completeness and make sure all questions have been answered.

Data Analysis. The following statistics were computed :

1. Analysis of means, percentage, frequency, and standard deviation of the variables studied.

2. The relationship between predisposing factors, enabling factors, reinforcing factors, and smoking behavior of the samples was analyzed by computing Chi-square, Fisher Exact 2-tailed test, and Pearson’s Product Moment Correlation Coefficient.

CHAPTER IV
RESULTS

This study of the factors relating smoking behavior was carried out among the sampled conscripts in Adisorn fort, Saraburi province. After data collection, data analysis was performed by using computer program. The results were presented in 5 parts as follows:

Part 1 The sample's Characteristics

Part 2 Levels of Perception and Expectation of the Sample

Part 3 Relationship Between Predisposing Factors and Smoking Behavior

Part 4 Relationship Between Enabling Factors and Smoking Behavior

Part 5 Relationship Between Reinforcing Factors and Smoking Behavior

Part 1 The Sample's Characteristics

The sample was composed of 264 conscripts in Adisorn fort, Saraburi province. Among this group there were 132 cases who smoked and 132 cases who did not smoke. The results of data analysis were as follows :

1.1 The characteristics of the two samples were as follows: (See Table 2)

1.1.1 Age. The high percentage of both groups, who smoked and did not smoked, aged between 21-22 years (63.6% and 62.9% respectively). The average age of those who smoked was 22.12 years compared with the average age of 21.68 years of those who did not smoke.

1.1.2 Time Duration of Service. About 54.6 percent of the sample who smoked has joined the army fore more than 12 months and the average year of service was 14.55 months. But among the group who did not smoke, 54.6 percent has joined the army for 1–12 months and the average year of service was 13.27 months.

1.1.3 Income (Baht/month). More than half of the both groups, who smoked and did not smoke (53.0% and 59.8%) had income of 2,000 - 2,300 Baht. The average income of the group who smoked and who did not smoke ware 2,336.39 Baht and 2,307.35 Baht respectively. About half of both groups (51.5% and 50.8% respectively) indicated that their income was enough and could safe some money.

1.1.4 Educational Level. For both groups, about 3 fourth of them (72.7% and 75.8%) finished secondary school.

1.1.5 Smoking Behavior of other Persons. High percentage of both groups (93.2%) mentioned that their friends smoked cigarette.

1.1.6 Smoking Behavior of Family Members. High percentage of both groups (69.0% and 63.6%) indicated that their fathers, mothers, and siblings smoked cigarettes.

Table 2 Distribution of number and percentage of the sample who smoked and did not smoke by their general characteristics

Characteristics	The group who smoked (n=132)		The group who did not smoke (n=132)	
	Number	Percent	Number	Percent
Age (year)				
19 - 20	3	2.3	16	12.1
21 - 22	84	63.6	83	62.9
> 22	45	34.1	33	25.0
$\bar{x}$, S.D.	22.12, 1.40		21.68, 1.24	
Min, Max	19, 30		19, 28	
Time duration of Services (month)				
1 – 6	30	22.7	36	27.3
7 – 12	30	22.7	36	27.3
13 – 18	36	27.3	34	25.7
19 – 24	36	27.3	26	19.7
$\bar{x}$, S.D.	14.55, 6.71		13.27, 6.53	
Min, Max	5, 23		5, 23	
Income (Baht/month)				
2,000 – 2,300	70	53.0	79	59.8
> 2,300	62	47.0	53	40.2
$\bar{x}$, S.D.	2336.3, 227.16		2307.35, 80.90	
Min, Max	2100, 3690		2100, 2800	
Adequacy of Income				
Adequate and have savings	68	51.5	67	50.8
Adequate buy have no savings	51	38.6	59	44.7
Not adequate	13	9.9	6	4.5
Educational Level				
Lower than secondary school	26	19.7	20	15.2
Secondary school	96	72.7	100	75.8
Higher than secondary school	10	7.6	12	9.0

Table 2 Distribution of number and percentage of the sample who smoked and did not smoke by their general characteristics (continued)

Characteristics	The group who smoked (n=132)		The group who did not smoke (n=132)	
	Number	Percent	Number	Percent
Persons in the camp who smoked				
Friend	132	93.2	123	93.2
Superior	9	6.8	8	6.0
Nobody	0	0.0	1	0.8
Persons in the camp who smoked				
Father/Mother/Siblings	91	69.0	84	63.6
Nobody	32	24.2	41	31.1
Relative	9	6.8	7	5.3

1.2 The "Smoking Group" The data regarding smoking behavior of the group who smoked were as follows : (See Table 3)

1.2.1 Smoking History. It was found that the high percentage of them (93.9%) have smoked before joining the army service.

1.2.2 Years of Smoking. It was found that 63.6 percent of them have smoked for 0 – 5 years and the average year was 1.4 years

1.2.3 Frequency of Smoking. High percentage of this group (84.1%) smoked 6–10 cigarettes per day and the average number of cigarettes was 9.24 per day.

1.2.4 Expense for Cigarettes. About 58 percent of them indicated that they spent about 80–300 Baht per month, the average of 355.38 Baht per month.

1.2.5 Reasons for Smoking. It was found that 43.2 percent of them mentioned that they smoked because they wanted to release their stress.

1.2.6 Sources of Cigarettes. High percentage of the sample indicated that they bought cigarettes by their own money and 79.6 percent told that they could buy cigarettes like buying other goods.

1.2.7 Accessibility to the market place. It was found that about half of them (53.0%) answered that there was a shop nearby the camp.

Table 3 Distribution of number and percentage of the sample who smoked by smoking information

Information Regarding Smoking	Number (n = 132)	Percent
Smoking History		
Ever smoked before joining the Army	124	93.9
Smoked after joining the Army	8	6.1
Years of Smoking		
0 - 5	84	63.6
6 - 10	43	32.6
More than 10	5	3.8
$\bar{x}$, S.D.	1.40, 0.56	
Min, Max	0.08, 20.33	
Frequency of Smoking (day/wk.)		
1 - 3	3	2.3
4 - 6	18	13.6
Everyday	111	84.1
$\bar{x}$, S.D.	6.59, 1.03	
Min, Max	2, 7	
Number of Cigarettes Smoked Per Day		
1 - 5	48	36.4
6 - 10	50	37.9
More than 10	34	25.7
$\bar{x}$, S.D.	9.24, 5.64	
Min, Max	1, 20	

Table 3 Distribution of number and percentage of the sample who smoked by smoking information (continued)

Information Regarding Smoking	Number (n = 132)	Percent
Expense for Cigarettes (Baht/month)		
0 – 300	76	57.6
301 – 500	40	30.3
More than 500	16	12.1
$\bar{x}$, S.D.	355.38, 86.90	
Min, Max	80, 1200	
Reasons for Smoking		
Releasing Stress	57	43.2
Want to try	32	24.2
Nothing to do	28	21.2
Persuaded by friends	8	6.1
Increasing self-confidence	4	3.0
Given by close friends	2	1.5
Feeling of being smart	1	0.8
Sources of Cigarettes		
Bought cigarettes by them selves	117	88.6
Got them free (sometimes)	15	11.4
Behavior During Buying Cigarettes		
Buying cigarettes like other goods	105	79.6
Buying cigarettes while buying other goods	17	12.9
Having a company with	6	4.5
Buying cigarettes while no customer	4	3.0
Accessibility to the Market Place		
Having cigarette shop nearby	70	53.0
Having many cigarette shops	30	22.7
No problem of buying by myself	28	21.3
Asking somebody to buy cigarettes	4	3.0

Part 2 Level of Perception and Expectation of the Sample

The detailed information about level of perception and expectation of the sample was presented in Table 4. It was found that :

2.1 Perceived Vulnerability of Getting Smoking Related Diseases.

About one-third of the sample who smoked perceived vulnerability of getting smoking related diseases at moderate level, with the mean score of 27.48.

Among those who did not smoke, about half of them (42.4%) perceived vulnerability of getting smoking related diseases at high level with the mean score perceived vulnerability of 27.48

2.2 Perceived Severity of Smoking Related Diseases.

Among the sample who smoked, about half of them (40.2%) perceived severity of smoking related diseases at high level and moderate level (the percentage of each is the same). And the mean score of perceived severity of smoking related diseases was 34.97.

For those who did not smoke, more than half of them (53.8%) perceived severity of smoking related diseases at high level, with the mean score of perceived severity of 36.48.

2.3 Response Efficacy of Non-Smoking

Among the sample who smoked, it was found that about one-third (39.4) of them perceived response efficacy of non-smoking at the moderate level, with the mean score of perceived response efficacy of 28.92.

Among those who did not smoke, more than half of them (56.1%) perceived response efficacy of non-smoking at the high level, with the mean score of 31.42.

2.4 Self-Efficacy Expectation of Non-Smoking.

Among the group who smoked, more than half of them (52.3%) perceived self-efficacy expectation of non-smoking at the low level, with the mean score of self-efficacy expectation of 24.30.

For those who did not smoke, high percentage of them (90.2%) perceived self-efficacy expectation of non-smoking at the high level, with the mean score of self-efficacy expectation of 30.72.

Table 4 Distribution of number and percentage of the samples who smoked and did not smoke by level of perception and expectation

Variable	Smoking Behavior			
	Smoked		Did not Smoke	
	Number	Percent	Number	Percent
Perceived Vulnerability Level				
High	45	34.1	56	42.4
Moderate	47	35.6	51	38.6
Low	40	30.3	25	19.0
$\bar{x}$, S.D.	26.83 , 3.45		27.48 , 2.81	
Min , Max	17 , 33		20 , 32	
Perceived Severity Level				
High	53	40.2	71	53.8
Moderate	53	40.2	53	40.1
Low	26	19.6	8	6.1
$\bar{x}$, S.D.	34.97 , 4.61		36.48 , 3.38	
Min , Max	21 , 42		25 , 42	

Table 4 Distribution of number and percentage of the samples who smoked and did not smoke by level of perception and expectation (continued)

Variable	Smoking Behavior			
	Smoked		Did not Smoke	
	Number	Percent	Number	Percent
Response Efficacy Level				
High	40	30.3	74	56.1
Moderate	52	39.4	46	34.8
Low	40	30.3	12	9.1
$\bar{x}$, S.D.	28.92 , 4.16		31.42 , 3.09	
Min, Max	19 , 36		23 , 36	
Self-Efficacy Expectation Level				
High	28	21.2	119	90.2
Moderate	35	26.5	9	6.8
Low	69	52.3	4	3.0
$\bar{x}$, S.D.	24.30 , 4.95		30.72 , 2.41	
Min, Max	11 , 33		18 , 33	

Part 3 Relationship Between Predisposing Factors and Smoking Behavior

The results of the relationship analysis between predisposing factors regarding age, income, time duration of service, perceived vulnerability of getting smoking related diseases, perceived severity of smoking related diseases, response efficacy of non-smoking, and self-efficacy expectation of non-smoking, and smoking behavior, were presented as follows :

3.1 It was found that there was no significant relationship between age, years of joining the service, income and smoking behavior among the samples.

3.2 There was a low level of relationship between perceived vulnerability of getting smoking related diseases, perceived severity of smoking related diseases and smoking behavior, $r = 0.126$ and 0.196 respectively, ($p < 0.05$ and $p < 0.001$ respectively).

3.3 There was a significant relationship between response-efficacy of non-smoking and smoking behavior at the low level, $r = 0.310$, $p < 0.001$.

3.4 There was a significant relationship between self-efficacy expectation of non-smoking and smoking behavior at the high level ($r=0.680$, $p<0.001$). It was found that self-efficacy expectation of non-smoking was the significant variable of the most influent variable of behavior. See detailed information in Table 5.

Table 5 The relationship between predisposing factors and smoking behavior of the sampled group (n = 264)

Predisposing Factors	Coefficient Correlation (r)	p-value
Age	- 0.099	0.106
Time duration for service	- 0.091	0.141
Income	- 0.069	0.266
Perceived vulnerability of getting smoking related diseases	0.126	0.041
Perceived severity of smoking related diseases	0.196	0.001
Response efficacy of non-smoking	0.310	< 0.001
Self-efficacy expectation of non-smoking	0.680	< 0.001

3.5 Educational Level. It was found that no relationship was found between educational level and smoking behavior of the sampled group. See detailed information in Table 6.

Table 6 The relationship between predisposing factors and smoking behavior of the sampled group (n = 264)

Educational Level	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Lower than Secondary School	26	56.5	20	43.5			
Secondary School	96	49.0	100	51.0	1.05	2	0.592
Higher than Secondary School	10	45.5	12	54.5			

Summary of the Relationship Between Predisposing Factors and Smoking Behavior of the Sample

The predisposing factors that found to be related with smoking behavior of the sample were perceived vulnerability of getting smoking related diseases, perceived severity of smoking related diseases, response efficacy of non-smoking, and self-efficacy expectation of non-smoking. But no relationship was found between smoking behavior and predisposing factors as related to age, years of joining the service, income, and educational level.

Part 4 Relationship Between Enabling Factors and Smoking Behavior

The relationship analysis was made between enabling factors relating to getting cigarettes from others, accessibility to the market place, leisure time, and smoking behavior, the results were presented as follows :

4.1 Getting Cigarettes from Others

Among the group who smoked, it was found that the high percentage of them (78.6%) indicated that they had ever received cigarettes from others. Among those who received from others, most of them (92.0%) received from friends. For those who did not smoke, almost of them (93.3%) said that they never got any cigarettes from any body. The significant relationship between "getting cigarettes from other persons" and smoking behavior ($p < 0.001$). See detailed information in Table 7.

Table 7 The relationship between getting cigarettes from other persons and smoking behavior

Getting Cigarettes	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never	125	78.6	34	21.4	130.95	1	< 0.001
Ever	7	6.7	98	93.3			
Sources :							
- ever got from friends sometimes	78	62.4	32	94			
- get regularly from friends	37	29.6	0	0.0			
- ever got from other persons sometimes	6	4.8	1	3			
- ever got from father and friends sometimes	3	2.4	0	0.0			
- get regularly from father	1	0.8	1	3			

4.2 Accessibility of Cigarette Market

There was no difference of accessibility to cigarette market between the two sampled groups. Significant relationship was found between convenience of buying cigarettes and smoking behavior of the sampled groups ($p<0.002$). See Table 8.

Table 8 The relationship between accessibility to the cigarette market and smoking behavior

Accessibility To the cigarette market	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
There was a cigarette shop	131	50.0	131	50.0	Fisher ' s Exact		
There was no shop	1	50.0	1	50.0	2 - tailed = 1.00		
It was easy to buy/convenient	95	45.2	115	54.8	9.31	1	0.002
It was difficult to buy/inconvenient	37	68.5	17	31.5			

4.3 Leisure

The result showed that there was no relationship between activities of the leisure and smoking behavior of the sampled groups. Most of the two groups had their leisure to watch television (73.1% and 78.6% respectively). Another activities were physical exercise/sports, listening to radio/music, talking with friends, etc. See Table 9 for detailed information.

Table 9 The relationship between leisure and smoking behavior

Leisure (Can answer more than one choice)	Smoking Behavior				Fisher's Exact Test
	Smoked		Did not Smoke		
	Number	Percent	Number	Percent	
Did not do any thing	2	66.7	1	33.3	Fisher's Exact
Did some activities	130	49.8	131	50.2	2 - tailed = 1.00
Activities :					
- Watching TV	95	73.1	103	78.6	
- Physical Exercise/Sports	85	65.4	97	74.0	
- Listening to Radio/music	83	63.9	92	70.2	
- Talking with friends	82	63.1	87	66.4	
- Smoking	56	43.1	5	3.82	
- Reading book	49	37.7	60	45.8	
- Watching movies	39	30.0	61	46.6	
- Singing a song	33	25.4	45	34.4	
- Playing music	22	16.9	29	22.1	
- Drinking liquor/beer	19	14.6	16	12.2	
- Planting	11	8.5	15	11.5	
- Going to Pub/Discotheque	11	8.5	6	4.6	
- Playing cards	5	3.9	0	0.0	
- Others	1	0.8	1	0.8	

Summary. The analysis of the relationship between enabling factors and smoking behavior showed that :

The enabling factors that related to smoking behavior were "getting cigarettes from others", and "convenience of buying cigarettes" whereby no relationship was found between sources of cigarette selling, leisure and smoking behavior.

Part 5 Relationship Between Reinforcing Factors and Smoking Behavior

The results of the study of the relationship between reinforcing factors : seeing family numbers smoked, having been persuaded by superiors, having been persuaded by friends, having been persuaded by close friends, receiving information about tobacco from medical/public health personnel, seeing patients with pulmonary emphysema through various media, and smoking behavior were presented as follows :

5.1 Seeing Family Members Smoked

Among the samples who smoked, 54.6 percent of them have ever seen their family members smoked while among those who did not smoke, 63.2 percent indicated that they have never seen there family members smoked. There was a significant relationship between seeing there family members smoked and smoking behavior (p = 0.011). See Table 10.

Table 10 Relationship between seeing family member smoked and smoking behavior

Seeing Family Members Smoked	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never seen	25	36.8	43	63.2	6.42	1	0.011
Ever seen	107	54.6	89	45.4			
Frequency of Seeing							
- Less than 3 times/wk	58	54.2	40	44.9			
- More than 3 times/wk	49	45.8	49	55.1			

5.2 Having Been Persuaded by Supervisors

For the samples who smoked, it was found that 57.7 percent indicated that they have been persuaded by supervisors while 50.8 percent of those who did not smoke never been persuaded by their supervisors, No significant relationship was found between having been persuaded by supervisors and smoking behavior. It was also found that the high percentage of both groups (73.3 and 100.0%) have been persuaded less than 3 times/week. See Table 11.

Table 11 Relationship between having been persuaded by superiors and smoking behavior

Having been Persuaded by superiors	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never been persuaded	117	49.2	121	50.8	0.68	1	0.409
Ever been persuaded	15	57.7	11	42.3			
Frequency of Persuasion							
- Less than 3 days/wk	11	73.3	11	100			
- More than 3 days/wk	4	26.7	0	0.0			

5.3 Having Been Persuaded by Other Conscripts

Among those who smoked, it was found that 63.5 percent have been persuaded by other conscripts while 56.4 percent of those who did not smoke have never been persuaded. Significant relationship was found between having been persuaded to smoke by other conscripts and smoking behavior ($p = 0.002$). It was also found that the high percentage of both groups (70.4% and 90.3%) have been persuaded less than 3 days/week. See Table 12.

Table12 Relationship between having been persuaded by other conscript and smoking behavior

Having been persuaded by other conscripts	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never been persuaded	78	43.6	101	56.4	9.18	1	0.002
Ever been persuaded	54	63.5	31	36.5			
Frequency of Persuasion							
- Less than 3 days/wk	38	70.4	28	90.3			
- More than 3 days/wk	16	29.6	3	9.7			

5.4 Having Been Persuaded by Close Friends

Among the samples who smoked, 69.7 percent of them indicated that they have been persuaded by their close friends while 58.0 percent of those who did not smoke mentioned that they never been persuaded by their close friends. Significant relationship was found between having been persuaded by close friends and smoking behavior of the sampled conscripts (p = 0.001). It was found that the highest percentage of both groups (66.0% and 82.6%) have been persuaded less then 3 times per week. See Table 13.

Table 13 Relationship between having been persuaded by close friends and smoking behavior

Having been Persuaded By close friends	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never been persuaded	79	42.0	109	58.0	16.63	1	< 0.001
Ever been persuaded	53	69.7	23	30.3			
Frequency of Persuasion							
- Less than 3 days/wk	35	66.0	19	82.6			
- More than 3 days/wk	18	34.0	4	17.4			

5.5 Receiving Information and Suggestions about Tobacco from Medical/ Public Health Personnel

Among the samples conscripts who smoked, 51.2 percent of them mentioned that they never received information or suggestions about tobacco from medical /public health personnel while 50.6 percent of those who did not smoked indicated that they have ever received information and suggestions about tobacco from medical/public health personnel. No significant relationship was found between receiving information and suggestions about tobacco from medical/public health personnel and smoking behavior ($p = 0.793$). It was also found the high percentage of both groups (90.9% and 94.4%) received the information less than 3 days per week. See Table 14.

Table 14 Relationship between receiving information and suggestion about tobacco from medical/public health personnel and health behavior

Receiving information/ suggestions about tobacco from medical/public health personnel	Smoking Behavior				χ^2	df	p-value
	Smoked		Did not Smoke				
	Number	Percent	Number	Percent			
Never	44	51.2	42	48.8	0.07	1	0.793
Ever	88	49.4	90	50.6			
Frequency of Receiving Information							
- Less than 3 days/wk	80	90.9	85	94.4			
- More than 3 days/wk	8	9.1	5	5.6			

5.6 Seeing Patients with Pulmonary Emphysema Through Various Media

There was a high percentage of both groups of the respondents, who smoked and did not smoked, (99.2% and 100.0% respectively) who ever seen patients with pulmonary emphysema from various types of media less than 3 days per week. There was one case in the "smoking" group responded that he never seen the patient with pulmonary emphysema through media. See Table 15 for detailed information.

Table 15 Distribution of number and percentage of conscripts who smoked and did not smoke by seeing patients with pulmonary emphysema through media

Ever seen patients with Pulmonary emphysema through media	Smoking Behavior			
	Smoked		Did not Smoke	
	Number	Percent	Number	Percent
Never	1	0.8	0	0.0
Ever…Less than 3 days/wk	131	99.2	132	100.0
Total	132	100.0	132	100.0

Summary of the Study of Relationship Between Reinforcing Factors and Smoking Behavior. It can be concluded that :

The reinforcing factors that related significantly with smoking behavior were : seeing family members ; having been persuaded from other conscripts ; and having been persuaded from close friends. The reinforcing factors that did not relate significantly with smoking behavior were “having been persuaded from supervisors’ and “receiving information and suggestion from medical/public health personnel.

CHAPTER V
DICUSSION

The study of the factors relating smoking behavior was carried out with 264 conscripts of Adisorn fort, Saraburi province. The sample was consisted of 132 conscripts who smoked and 132 conscripts who did not smoke. The discussions of the results accordingly with the hypothesis stated were presented as follows :

Hypothesis 1 : There was a relationship between predisposing factors and smoking behavior of the sampled conscripts, Adisorn fort, Saraburi province.

1.1 Age. The high percentage of both groups of conscripts, who smoked and did not smoke, aged between 21-22 years, 63.6% and 62.9% respectively. The mean age of those who smoked was 22.12 years and of those who did not smoke was 21.68 years. This finding was similar to the study of the National Statistics Bureau (2001: 3-4) regarding smoking behavior of Thai people, which was found that the highest smoking rate was found among the people aged 25-59 years (26.2%). But this finding contradicted with the finding by Sunthornvipak,P. (2000:31), who found that the highest rate of smoking was found among male teachers aged 50 years and older and the second rank was the 40-49 years old group.

No significant relationship was found between age and smoking behavior of the sampled conscripts, another words, no difference of smoking behavior was found among the younger or the older conscripts. This finding was congruent with the other studies who found that age did not affect the following variables : intention to quit smoking Rucksapram,M. (1983:49) ; smoking behavior of monks Srinual,K. (1993:117); smoking behavior of male teachers Sunthornvipak,P. (2000:38) ; and number of cigarettes smoked per day Soysuwan,J. (1996:101).

1.2 Time During of Service. More than half of the sampled conscripts who smoked have been recruited for longer than 12 months (54.6%), with the average of 14.55 months. Among those who did not smoke, 54.6 percent of then have been in service for 1-12 months, with the average of 13.27 months.

No significant relationship between time during of service and smoking behavior of the conscripts was found, this might be due to the fact that most of them have smoked before recruitment.

1.3 Income (Baht / month). More than half of the conscripts who smoked and did not smoke (53.0% and 59.8% respectively) earned their income between 2,000-2,300 Baht. On the average, the group who smoked had earned 2,336.39 Baht while those who did not smoked earned 2,307.35 baht . About half of them (51.5% and 50.8% respectively) responded that their income was adequate and they have some savings.

No significant relationship was found between income and smoking behavior, another words, whatever level of the conscripts' income was, their smoking behavior was the same. This finding was similar to the findings of Sunthornvipak,P. (2000:40) who found that income did not relate to smoking behavior of male teachers, and Prarasri,B. (2001:58), who also found that income did not relate to smoking behavior of sub-district public health personnel. But this finding was not congruent with the study by Soysuwan,J. (1996:104), who found the significant relationship between income and smoking behavior of male students of the Teacher Colleges. This finding may be due to the low value of money conceptualized by the students since most of them got money from their parents. Therefore, if they got a lot of money from their parents they could spend more money for buying cigarettes, which was different from the conscripts and other groups who earned their living by themselves.

1.4 Educational Level. Among both groups of the conscripts, about three third of them (72.7% and 75.8%) finished secondary school. No significant relationship was found between educational level and educational level. This finding should be due to the similar educational level of the sample. This finding was not congruent with the studies carried out by Srinual,K. (1993:118) and Wongkraisritong,W.(1985:61) which significant relationship was found between educational level, of regular and religions education system, and smoking behavior.

1.5 Perceived Vulnerability of Getting Smoking Related Diseases. It was found that there was a negative relationship between perceived vulnerability of getting smoking related diseases and smoking behavior ($r = 0.126$, $p < 0.05$). The finding showed that those who perceived high level of vulnerability of getting smoking related diseases smoked less. This finding was similar to the principles developed by Rosenstock (1974:355-385) that an individual will practice disease preventive behavior if he perceived the chance of getting that disease. As has been studied by Weinberger (1981:1253-1255), regarding the relationship between health belief and smoking behavior, significant relationship was found between perceived vulnerability of getting smoking related diseases and smoking cessation behavior. The study carried out by Soysuwan,J. (1996:107) showed that there was a negative relationship between perceived severity of smoking, number of cigarettes smoked per day and time duration of smoking. In conclusion, the sampled conscripts practiced low level of smoking because they perceived the vulnerability of getting smoking related diseases. This finding contradicted with the study carried out by Kingkawkantong,S. (1997:79-80), who found that there was no significant relationship between perceived vulnerability of getting smoking related diseases and smoking behavior.

1.6 There was a significant relationship between perceived severity of smoking related diseases and smoking behavior ($r=0.196$, $p< 0.001$). This finding was supported by the concept proposed by Rosenstock (1974:355-385) that an individual will practice disease prevention behavior if he/she perceived severity of that disease and its consequences to his/her living. As

Weinberger (1981:1253-1255) had studied the relationship between health belief and smoking behavior, and the result showed that there was a relationship between perceived severity of tobacco use and smoking cessation behavior. This finding contradicted to the study carried out by Kingkawkantong,S. (1997:79-80), which was found that there was no relationship between perceived severity of smoking related behavior and smoking behavior.

1.7 Response Efficacy of Non-smoking. The significant relationship was found between response efficacy of non-smoking and smoking behavior. This finding was similar to the concept developed by Rosenstock (1974:355-385) that an individual will practice disease prevention behavior if he/she perceived that behavior will give benefits for lower the risk of getting that disease or lower severity of the disease without any obstacles, for example, cost, pain, etc. The study carried out by Langlie (1975:114-116) showed that there was a relationship between response efficacy and disease prevention behaviors of the sample. But this finding contradicted with the study carried out by Kingkawkantong,S. (1997:79-80), who found that there was no relationship between perceived response efficacy of non-smoking and smoking behavior.

1.8 Self-Efficacy Expectation of Non-Smoking. There was a significant relationship between self-efficacy expectation of non-smoking and smoking behavior ($r = 0.680$ $p < 0.001$). This finding was congruent with the concept developed by Bandura (1977:191-215), which indicated that an individual will or will not decide to practice an action depends largely on his perceived self-efficacy expectation to achieve performing that action. The studies carried out by Thitibenjapol,L. (1993:90) Nakkarug,K. (1997:108) and Meetongpun,T. (2001:132-137) supported this finding that perceived self-efficacy expectation of smoking cessation related with smoking cessation behavior.

Hypothesis 2 : There was a relationship between enabling factors and smoking behavior of conscripts in Adisorn fort, Saraburi province.

2.1 Getting Cigarettes from others.

Among the conscripts who smoked, the high percentage of them (78.6%) indicated that they ever received cigarettes, and 62.4 percent of them mentioned that they received cigarettes from their friends sometimes. For those who did not smoke, almost all of them (93.3%) never received cigarettes from others.

There was a significant relationship between receiving cigarettes form others and smoking behavior ($p < 0.001$), which was different form the study carried out by Srinual,K. (1993:113) who found that receiving cigarettes had no relationship with smoking behavior among Buddhist monks. The study by Na. Pompetch,B. (1996:109) also showed no significant relationship between getting cigarettes and number of cigarettes smoked. The same finding was evidenced by the study carried out by Soysuwan,J. (1996:105), who found that there was no relationship between getting cigarettes and years of smoking.

2.2 Accessibility to the Cigarette Market Place. The analysis of data showed that there was a significant relationship between convenience for buying cigarettes and smoking behavior of the sampled conscripts. ($p < 0.05$). However ,the relationship was reverse-direction. Most of those who smoked (68.5%) had no convenience to buy cigarette .This finding was not similar to other studies e.g. Kullanit,N. (1995:78) who found that the easy finding of cigarettes was the most important factor of smoking, and Soysuwan,J. (1996:104) who found that there was a relationship between the sale points of cigarettes and smoking behavior.

2.3 Leisure.

No significant relationship was found between leisure and smoking behavior. Nevertheless, both groups had similar activities for their leisure. Most of the two groups had their leisure to watch television (73.1% and 78.6%). Another activities were physical activity/sports, listening to radio/music, talking with friends, etc. It was found that those conscripts who had their leisure in having activities did not smoke. This finding was similar to the result of the study carried out by Prarasri,B. (2001:60-61) who found that there was no relationship between leisure and smoking behavior of sub-district public health personnel. This finding was not congruent with the study of Sunthornvipak,P.(2000:43) who found that male teachers' smoking behavior related significantly with their leisure to chat with their friends after their daily work. This finding was also similar to the findings of Srinual,K. (1993:73-80) and Wongkraisritong,W.(1985:76), who found that the Buddist monks who prayed regularly smoked less than those who did not pray regularly and the more number of praying of the sampled Buddhist monks were the less smoking behavior of the monks was found.

Hypothesis 3 : There was a relationship between reinforcing factors and smoking behavior of conscripts in Adisorn fort, Saraburi province.

3.1 Seeing Family Members Smoked.

Among the sampled conscripts who smoked, 54.6 percent of them indicated that they have ever seen the family (members) smoked while 63.2 percent of those who did not smoke indicated that they never seen their family members smoked. It was also found that that was a significant relationship between "seeing family members smoked" and "smoking behavior" ($p = 0.011$). This finding was similar to the findings of other researchers, Srinual,K.(1993:119) who found that there was a relationship between "having family members smoked" and "smoking behavior" among Buddhist monks and Wongkraisritong,W.(1985:59) found that most of the fathers of the monks who smoked also smoked. But this

finding was not congruent with the finding of the study carried out by Khanasa,Y. (1998:96-99) which was found that smoking behavior of family members did not affect on smoking behavior of other members. Soysuwan,J. (1996:98); Na. Pompetch,B. (1996:115) also found that there was no relationship between family members' smoking and member of cigarettes smoked and years of smoking.

3.2 Having been Persuaded to Smoke by Supervisors.

Among the conscripts who smoked, 57.7 percent indicated that they have ever been persuaded to smoke by their supervisors while among those who did not smoke, 56.4 percent indicated that they have never been persuaded by their supervisors. No significant relationship was found between having been persuaded to smoke by supervisor and smoking behavior of the conscripts (p=0.409)

3.3 Having been Persuaded to Smoke by other Conscripts.

Among the conscripts who smoked, 63.5 percent responded that they having been persuaded to smoke by other conscripts while 56.4 percent of those who did not smoke indicated that they have never been persuaded by other conscripts. It was found that having been persuaded to smoke by other conscripts related significantly with smoking behavior of the sampled conscripts.

3.4 Having been Persuaded to Smoke by Close Friends.

The high percentage (69.7%) of the conscripts who smoked indicated that they have ever been persuaded to smoke by their close friends while 58.0 percent of those who did not smoke mentioned that they have never been persuaded to smoke by their close friends Significant relationship was found between having been persuaded to smoke by close friends and smoking behavior of conscripts ($p < 0.001$), another words, the conscripts who have been oftenly persuaded to smoke by close friends, have high level of smoking behavior. This finding was similar with the finding of the study carried out by Srinual,K. (1993:73-80), who found that the monks who had met and had activities with their

friends usually brought cigarettes and smoked together. Other studies also showed the similar finding Soysuwan,J. (1996:99) ; Khanasa,Y. (1998:99) The study carried out by Kullanit,N. (1995:68) showed that the most significant social factor affecting smoking behavior was persuasion of close friends, the next significant factor were “joining social activity with friends” and “imitation with friends”, respectively. The study by Na. Pompetch,B. (1996:115) showed that there was a positive relationship between having close friends who smoked and number of cigarettes smoked and years of smoking. The result of the study carried out by Bolla (1984:3112-3113) showed that ability to quit smoking depends on the important factor, “having close persons/friends smoked”, which will be the barrier to quit smoking. Another study carried out by Yencham,N. (1992:50-55) showed the same finding. But this finding was not congruent with the study by Na. Pompetch,B. (1996:115), whereby no relationship was found between having close friends smoked, years of smoking and effectiveness of smoking cessation.

3.5 Receiving Information and Suggestions About Tobacco from Medical Public Health Personnel.

Among the conscripts who smoked, about half of them indicated that they never received any information and suggestions about tobacco from medical/public health personnel while 50.6 percent of those conscripts who did not smoke indicated that they have ever received information and suggestions about tobacco from medical/public health personnel. No significant relationship was found between receiving information and suggestions and smoking behavior of conscripts (p-value = 0.793). This finding was not congruent with the result of the study carried out by Pederson (1984:573-580) which was found that there was a relationship between receiving suggestions from physician and smoking cessation among the sample.

CHAPTER VI
CONCLUSION AND RECOMMENDATION

This study was a cross-sectional survey research. Its aim was to study the factors relating to smoking behavior of conscripts, Adisorn fort, Saraburi province, by applying PRECEDE-PROCEED Model developed by Lawrence W.Green and Marshal W.Kreuter. The factors studied were composed of 3 groups : predisposing factors ; enabling factors ; and reinforcing factors. In each group, some selected factors were studied that the researcher thought they would relate to the dependent variable.

The samples of this study were 264 conscripts at Adisorn fort, Saraburi province. The samples were composed of 2 groups, 132 conscripts who smoked and 132 conscripts who did not smoke. The research instrument was a set of questionnaire, composed of 4 parts, as follows :

Part 1 : General characteristics of the sample

Part 2: Perception and expectation in accordance with the Protection Motivation Theory. This part was composed of : perceived vulnerability of getting smoking related diseases ; perceived severity of smoking related diseases ; response efficacy of non-smoking ; and self-efficacy expectation of non-smoking.

Part 3 : Enabling factor : getting cigarettes from others, accessibility to the market place, and leisure.

Part 4 : Reinforcing factors : seeing family members' smoking behavior ; having been persuaded by supervisors ; having been persuaded by other conscripts ; having been persuaded by other conscripts ; having been persuaded by close friends ; receiving information and suggestions about tobacco form medical/public health personnel ; and seeing patients with pulmonary emphysema through media.

The collected data were analyzed by using the programmed computed by using the following statistics : 1) descriptive statistics :- frequency, arithmetic means, percentage, standard deviation ; 2) relationship analysis Chi-Square Test, Fisher's Exact 2-tailed test, and Pearson's Product Moment Correlation Coefficient.

Conclusions The research conclusions were presented as follows :

Part 1 : General Characteristics of the Sample. It was found that :

1.1 Both groups of the sample had the similar characteristics, as follows :

1.1.1 Age. The highest percentage of the sampled conscripts who smoked and did not smoke (63.6% and 62.9 percent respectively) aged between 21-22 years. The average age of those who smoked was 22.12 years and of those who did not smoke was 21.68 years.

1.1.2 Time Duration of Service. Among the conscripts who smoked, 54.6 percent of them have joined the Army longer than 12 months with an average of 14.55 months. For those who did not smoke, 54.6 percent have joined the Army for 1-12 months with an average of 13.27 months.

1.1.3 Income (Baht/month). It was found that both groups earned their income between 2,000-2,300 Baht (53.0% and 59.8% respectively). The average income of those who smoked was 2,336.39 Baht and for those who did not smoke was 2,307.35 Baht. About half of them (51.5% and 50.8% respectively) indicated that their income was adequate and they have some savings.

1.1.4 Educational Level. For both groups of conscripts, about three-third of them (72.7% and 75.8%) finished secondary school.

1.1.5 Smoking Behavior of Other Persons. High Percentage of both groups (93.2%) indicated that they have friends who smoked.

1.1.6 Smoking Behavior of Family Members. High percentage (68.9% and 63.6%) of both groups indicated that their fathers, mothers and their siblings smoked.

1.2 Smoking Information of the Group of Conscripts Who Smoked.

1.2.1 Smoking History. Most of them (93.9%) have smoked before joining the service.

1.2.2 Years of Smoking. More than half of the sample (63.6%) have smoked for 0-5 years with an average of 1.4 years.

1.2.3 Frequency of Smoking. High percentage of this group (84.1%) indicated that they smoked everyday, 6-10 cigarettes per day with an average of 9.24 cigarettes per day.

1.2.4 Expense for Cigarettes. It was found that 57.6 percent of them mentioned that they spent about 80-300 Bahts per month with an average of 355.38 Bahts per month.

1.2.5 Reasons for Smoking. Almost half of those who smoked (43.6%) responded that they smoked because they wanted to release stress.

1.2.6 Source of Cigarettes. High percentage of them (88.6%) bought cigarettes by their own money and they mentioned that they bought cigarettes like buying other goods.

1.2.7 Accessibility to the Market Place. About half of the sample who smoked (53.0%) mentioned that there was a shop nearby the camp.

Part 2 : Level of Perception and Expectation.

2.1 Perceived Vulnerability of Getting Smoking Related Diseases.

About one-third of the conscripts who smoked (35.6%) hold the moderate level of perceived vulnerability of getting smoking related diseases

while 42.4 percent of those who did not smoked had the high level of perceived vulnerability of getting smoking related diseases.

2.2 Perceived Severity of Smoking Related Diseases.

About half of the conscripts who smoked (40.2%) hold the high and moderate levels of perceived severity of smoking related diseases while more than half of the conscripts who did not smoke (53.8%) hold the high level of perceived severity of smoking related diseases.

2.3 Response Efficacy of Non-Smoking.

Among the conscripts who smoked, it was found that about one-third (39.4%) hold the moderate level of response efficacy of non-smoking. For those who did not smoke, more than half of them (56.11%) had the high level of response efficacy of non-smoking.

2.4 Self-Efficacy Expectation of Non-Smoking.

Among the conscripts who smoked, about half of them (52.3%) hold the low level of self-efficacy expectation of non-smoking, while most of those who did not smoke (90.2%) had the high level of self-efficacy expectation of non-smoking.

Part 3 : Relationship Between Predisposing Factors and Smoking Behavior of the Sample.

No significant relations was found between the factors relation to age, time duration for service, income, and educational level, and smoking behavior of the sampled conscripts. Low relationship was found between perceived severity of smoking seated diseases, and smoking behavior. For response efficacy of non-smoking and self-efficacy expectation of non-smoking, low correlation and high correlation with smoking behavior were found

respectively. It was found that self-efficacy expectation of non-smoking was the most influential factor of smoking behavior of the sampled conscripts.

Part 4 : Relationship Between Enabling Factors and Smoking Behavior of the Sample.

It was found that 78.6 percent of the sampled conscripts who smoked indicated that they have ever received cigarettes and 62.4 percent have received cigarettes sometimes from their friends. For those who did not smoke, 93.3 percent indicated that they never received any cigarettes from others. It was found that there was a significant relationship between getting cigarettes from others and smoking behavior. There was no difference of accessibility to cigarette market between the two sampled groups while significant relationship was found between convenience of buying cigarettes and smoking behavior of the two sampled groups. No significant relationship between leisure and smoking behavior. Most of the sample had their leisure to watch television (73.1% and 78.6% respectively) and another activities were physical exercise/sports, listening to radio/music, chatting with friends, etc.

Part 5 : Relationship Between Reinforcing Factors and Smoking Behavior of the Sample.

It was found that 54.6 percent of the sample who smoked indicated that : they have seen their family members smoked ; 57.7 percent have been persuaded to smoke by their supervisors ; 63.5 percent have been persuaded to smoke by the other conscripts ; 69.7 percent have been persuaded to smoke by their close friends ; and 51.2 percent mentioned that they never received information/suggestions about tobacco from medical/public health personnel. Among the conscripts who did not smoke, it was found that 63.2 percent never seen their family members smoked , 50.8 never been persuaded to smoke by their supervisors ; 56.4 never been persuaded to smoke by other conscripts ; 58.0 percent never been persuaded to smoke by their close friends ; and 50.6 percent never received information/suggestions about tobacco

from medical/public health personnel. The factors that related significantly with smoking behavior of the sampled conscripts were seeing family members smoked, having been persuaded from other conscripts, and having been persuaded from close friends. No significant relation was found between smoking behavior and having persuaded to smoke by their about tobacco from medical/public health personnel.

It was also found that 99.2 percent and 100.0 percent of the conscripts who smoked and did not smoked mentioned that they have seen patients with pulmonary emphysema from media and only/case (0.8%) said that they never seen.

SUGGESTIONS FROM THE RESEARCH FINDINGS

1. Significant relationship was found between smoking behavior and predisposing factors relating to perceived vulnerability of getting smoking related diseases, perceived severity of smoking related diseases ; response efficacy of non-smoking; and self-efficacy expectation of non-smoking, thus the related organizations at the operational level, e.g. Army Forts and medical service centers of every Fort, should take the responsibility to cooperate and develop perception and expectation among conscripts in order to prevent tobacco consumption. Various activities should be organized regulary and continuously in order to enhance knowledge regarding dangers of tobacco, for example, educational campaigns in the Forts, exhibitions, etc., including regular reminding/encouraging activities for the conscripts.

2. Enabling factors as related to getting cigarettes from others and accessibility to the market place, were found to relate significantly with smoking behavior of the conscripts. Regarding accessibility to the cigarette selling point, the resolution could be done by forbidding the shop-owners to sale cigarettes and if possible, smoking should be prohibited in all Army Forts and having all Army Forts smoke free areas. And this regulation must be enforced.

3. Reinforcing factors related to seeing family members smoked and having been persuaded by supervisors, were found to relate significantly with smoking behavior of the conscripts, thus it is recommended that the following activities should

be done: developing the positive role-model of non-smoking , organizing a peer-to-peer program ; life-skills development program etc. These activities should be planned carefully to suit with different situations of each target group.

SUGGESTIONS FOR FURTHUR RESEARCH

1. The study was done with the conscripts in Adisorn fort, Sarabari province, whereby the samples are not the representatives of other conscript groups, thus further projects should be carried out with other groups of conscripts. Then, comparison should be made from those studies before the long-term plan can be developed.

2. Qualitative approach should be employed to collect data by using indepth interview in order to get more precised data.

3. Others factors, inner and outside factors, should be studied since an individual's behavior caused by multiple factors.

4. After identifying the factors that are the causes of smoking behavior of the conscripts. Quasi-experimental research design should be carried on in order to assess the effectiveness of various strategies for stopping smoking behavior.

5. The sample's personality should be assessed to study its relationship with smoking behavior, both smoking and non-smoking.

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APPENDIX

QUESTIONNAIRE

แบบสอบถาม

เรื่อง ปัจจัยที่มีความสัมพันธ์กับพฤติกรรมการสูบบุหรี่
ของทหารเกณฑ์ค่ายอดิศร จังหวัดสระบุรี

คำชี้แจง โปรดเขียนข้อความเติมลงในช่องว่างหรือทำเครื่องหมาย ✓ ลงใน ( ) หน้าข้อที่ตรงกับความเป็นจริงที่เกี่ยวกับตัวท่านมากที่สุด

ส่วนที่ 1. ข้อมูลทั่วไป

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1. ปัจจุบันท่านอายุ.....ปี

2. ท่านเข้าประจำการเป็นทหารเกณฑ์มาได้.....ปี.....เดือน

3. ปัจจุบันท่านมีรายได้เดือนละประมาณ.....บาท

4. รายได้ของท่านแต่ละเดือน
   - ( ) พอใช้จ่ายและมีเหลือเก็บ
   - ( ) พอใช้จ่ายแต่ไม่เหลือเก็บ
   - ( ) ไม่พอใช้จ่าย

5. ท่านสำเร็จการศึกษา ระดับชั้น
   - ( ) ไม่ได้เรียน ( ) ประถม 1 - 4
   - ( ) ประถม 5 - 6 ( ) มัธยมต้น
   - ( ) มัธยมปลาย ( ) อนุปริญญา
   - ( ) ปริญญาตรี หรือสูงกว่า ( ) อื่นๆ ระบุ.....

6. ในหน่วยทหารของท่านมีผู้สูบบุหรี่หรือไม่
   - ( ) ไม่มี ( ) มี ระบุความสัมพันธ์กับตัวท่าน (เป็นใคร).....

7. ในครอบครัวของท่านมีผู้สูบบุหรี่หรือไม่

( ) ไม่มี ( ) มี ระบุความสัมพันธ์กับตัวท่าน (เป็นใคร).....

8. ปัจจุบันท่านสูบบุหรี่หรือไม่

( ) ไม่สูบ

( ) สูบ

( ) เคยสูบบุหรี่ แต่ปัจจุบันเลิกสูบแล้ว

ข้อที่ 9 ถึง 16 สำหรับท่านที่สูบบุหรี่ หรือเคยสูบบุหรี่เป็นผู้ตอบ

9. ลักษณะการสูบบุหรี่ของท่าน

( ) ท่านสูบบุหรี่มาก่อนเข้าเป็นทหารเกณฑ์

( ) ท่านสูบบุหรี่เมื่อเข้าเป็นทหารเกณฑ์แล้ว

10. ระยะเวลาที่ท่านสูบบุหรี่ทั้งสิ้นนาน.....ปี.....เดือน

11. โดยเฉลี่ยท่านสูบบุหรี่สัปดาห์ละ.....วัน ๆ ละประมาณ.....มวน

12. ท่านเสียค่าใช้จ่ายในการซื้อบุหรี่ แต่ละเดือนประมาณ.....บาท

13. เหตุผลสำคัญที่ทำให้ท่านสูบบุหรี่ (กรุณาเลือกตอบเพียงข้อเดียว)

( ) คลายเครียด

( ) แก้เหงาในเวลาว่าง

( ) ตามเพื่อน

( ) อยากลอง

( ) เพิ่มความมั่นใจ

( ) เพื่อนหรือคนใกล้ชิดนำบุหรี่มาให้เสมอ

( ) อื่นๆ ระบุ.....

14. บุหรี่ที่ท่านสูบ ส่วนมากท่านได้มาอย่างไร (กรุณาเลือกตอบเพียงข้อเดียว)

( ) ซื้อด้วยเงินของตนเอง

( ) ขอผู้อื่น

( ) ได้ฟรีจากมีผู้นำมาให้ (ระบุ).....

15. วิธีการซื้อบุหรี่ ส่วนมากท่านปฏิบัติอย่างไร (กรุณาเลือกตอบเพียงข้อเดียว)

( ) ซื้อเหมือนปกติ

( ) ซื้อขณะที่ไม่มีลูกค้าอื่น

( ) ซื้อพร้อมกับการซื้อสินค้าอื่น

( ) ซื้อโดยมีเพื่อนไปด้วย

( ) ให้ผู้อื่นซื้อให้ (ระบุ).....

( ) อื่นๆ ระบุ.....

16. เวลาท่านซื้อบุหรี่ ท่านมีความสะดวกในการซื้อหรือไม่

( ) ไม่สะดวก เนื่องจาก.....

( ) สะดวก เนื่องจาก (กรุณาเลือกตอบเพียงข้อเดียว)

( ) มีร้านขายบุหรี่อยู่ใกล้บริเวณที่พักอาศัย เดินไปไม่ไกลนัก

( ) บริเวณที่พักอาศัยมีร้านขายบุหรี่หลายร้าน หาซื้อได้ไม่ลำบาก

( ) ฝากผู้อื่นซื้อให้ได้ ไม่ต้องไปซื้อเอง

( ) ไปซื้อด้วยตัวเองไม่ลำบาก

( ) อื่น ๆ ระบุ.....

ส่วนที่ 2 ข้อมูลด้านปัจจัยนำ (การรับรู้และความคาดหวัง)

ตอนที่ 1 การรับรู้โอกาสเสี่ยงของการเป็นโรคจากการสูบบุหรี่

คำชี้แจง โปรดอ่านข้อความแต่ละข้อแล้วทำเครื่องหมาย ✓ ลงในช่องท้ายข้อความที่ตรงกับความคิดเห็นของท่านมากที่สุด เพียงความคิดเห็นเดียว

ลำดับ	ข้อความ	จริง	ไม่แน่ใจ	ไม่จริง
1	การสูบบุหรี่มีโอกาสเสี่ยงต่อการเป็นโรคถุงลมโป่งพอง	.....	.....	.....
2	การสูบบุหรี่ไม่ส่งผลเสียถึงกับทำให้เกิดโรคหลอดลมอักเสบได้	.....	.....	.....
3	การไม่สูบบุหรี่ทำให้ปลอดภัยจากโรคที่มีสาเหตุมาจากบุหรี่	.....	.....	.....
4	ผู้ที่สูบบุหรี่มีโอกาสเป็นโรคมะเร็งปอด มากกว่าผู้ที่ไม่ได้สูบหลายเท่า	.....	.....	.....
5	ผู้ที่สูบบุหรี่ส่วนใหญ่ปอดยังสามารถทำงานได้ตามปกติ ไม่มีปัญหาต่อระบบหายใจ	.....	.....	.....
6	สารพิษในบุหรี่ทำให้ผู้ที่สูบบุหรี่มีโอกาสเสี่ยงต่อการเกิดเส้นเลือดในสมองแตก	.....	.....	.....
7	ผู้ที่สูบบุหรี่จะได้รับสารพิษจากบุหรี่ซึ่งเสี่ยงต่อการเป็นโรคความดันโลหิตสูง	.....	.....	.....
8	การสูบบุหรี่ก้นกรอง ช่วยลดโอกาสเป็นมะเร็งปอดได้	.....	.....	.....
9	ผู้ที่สูบบุหรี่มีโอกาสเสี่ยงเป็นโรคหัวใจวายเฉียบพลันได้	.....	.....	.....
10	การสูบบุหรี่ชนิดอ่อนๆ เป็นอันตรายต่อสุขภาพน้อยกว่าบุหรี่ปกติ	.....	.....	.....
11	ควันบุหรี่ไม่เป็นอันตรายต่อผู้ใกล้ชิด	.....	.....	.....

ตอนที่ 2 การรับรู้ความรุนแรงของโรคที่เกิดจากการสูบบุหรี่

คำชี้แจง โปรดอ่านข้อความแต่ละข้อแล้วทำเครื่องหมาย ✓ ลงในช่องท้ายข้อความที่ตรงกับความคิดเห็นของท่านมากที่สุด เพียงความคิดเห็นเดียว

ลำดับ	ข้อความ	จริง	ไม่แน่ใจ	ไม่จริง
1	การสูบบุหรี่มีอันตรายต่อสุขภาพของท่านและคนข้างเคียงท่านด้วย	…..	……	……..
2	การสูบบุหรี่ทำให้อาการของโรคปอดรุนแรงมากขึ้นและต้องใช้เวลาในการรักษานานกว่าปกติ	…..	……	…….
3	สารพิษจากการสูบบุหรี่ ไม่ร้ายแรงพอที่จะเป็นสาเหตุให้เสียชีวิตได้	.....	……	…….
4	สารพิษในบุหรี่มีผลทำให้หลอดเลือดตีบตันได้	.....	……	……..
5	ผู้ที่สูบบุหรี่ จะเสียชีวิตด้วยโรคปอดอุดตันเรื้อรังมากกว่าผู้ที่ไม่สูบบุหรี่	.....	……	……..
6	การสูบบุหรี่ทำให้เป็นอัมพาตจากเส้นเลือดในสมองแตกได้	…..	……	……..
7	การสูบบุหรี่วันละ 1-2 มวน ไม่เป็นอันตรายต่อปอดและหลอดลม	…..	..……..	……..
8	โรคถุงลมโป่งพองจากการสูบบุหรี่จะมีอาการหอบเหนื่อยทุกข์ทรมานมาก	…..	….....…	……..
9	โรคถุงลมโป่งพองจากการสูบบุหรี่เป็นโรคที่ไม่มีโอกาสหาย	…..	……..…	……..
10	การสูบบุหรี่ จะทำให้เป็นกระเพาะอาหารเป็นแผล และรักษาหายยาก	…..	..……..	……..
11	การสูบบุหรี่ เป็นเหตุการตายอย่างเฉียบพลันจากโรคหัวใจขาดเลือดได้	…..	..……..	……..
12	การสูบบุหรี่จะไม่เป็นอันตรายต่อสุขภาพ ถ้าได้ออกกำลังกายสม่ำเสมอ	…..	..……..	…….
13	การสูบบุหรี่ไม่น่าจะเป็นอันตรายเพราะแม้แต่แพทย์ก็ยังสูบบุหรี่	…..	…….	……..
14	การสูบบุหรี่เป็นการฆ่าตัวตายแบบผ่อนส่ง	…..	..……..	……..

คำชี้แจง โปรดอ่านข้อความแต่ละข้อแล้วทำเครื่องหมาย ✓ ลงในช่องท้ายข้อความที่ตรงกับความคิดเห็นของท่านมากที่สุด เพียงความคิดเห็นเดียว

ตอนที่ 3 ความคาดหวังในผลดีของการไม่สูบบุหรี่

ลำดับ	ข้อความ	จริง	ไม่แน่ใจ	ไม่จริง
1	การสูบบุหรี่เป็นการสิ้นเปลืองเงินโดยใช่เหตุ	…….	…….	……
2	การสูบบุหรี่จะนำไปสู่การติดยาเสพติดชนิดอื่นได้	……	…….	……
3	การสูบบุหรี่ทำให้มีเพื่อนมากขึ้น	……	…….	……
4	ผู้ที่ไม่สูบบุหรี่ เป็นบุคคลน่ายกย่องและเป็นตัวอย่างที่ดีของสังคม	……	…….	…….
5	การสูบบุหรี่ช่วยเพิ่มความอยากรับประทานอาหารมากขึ้น	……	……..	……..
6	การสูบบุหรี่ทำให้ไม่ง่วง	…….	…….	…….
7	การสูบบุหรี่ทำให้ท่านมีกลิ่นตัวและกลิ่นปากมากกว่าปกติ	…….	…….	…….
8	ผู้ที่สูบบุหรี่มานาน ถึงเลิกสูบบุหรี่ก็ไม่ช่วยให้สุขภาพดีขึ้น	…….	…….	…….
9	ถึงแม้ว่าการสูบบุหรี่จะทำให้สิ้นเปลือง แต่ก็คุ้มค่าเพราะทำให้หายเครียด	…….	…….	…….
10	การไม่สูบบุหรี่เป็นวิธีหนึ่งที่จะช่วยป้องกันโรคความดันโลหิตสูงได้	…….	…….	…….
11	การไม่สูบบุหรี่เป็นวิธีหนึ่งที่จะช่วยป้องกันโรคหัวใจได้	…….	……	…….
12	การไม่สูบบุหรี่เป็นวิธีหนึ่งที่จะช่วยป้องกันโรคมะเร็งต่างๆได้	…….	…….	…….

ตอนที่ 4 ความคาดหวังในความสามารถของตนเองในการไม่สูบบุหรี่

ลำดับ	ข้อความ	ทำได้	ไม่แน่ใจ	ทำไม่ได้
1	เมื่อตัดสินใจไม่สูบบุหรี่แล้วท่านจะไม่สูบเด็ดขาด	…….	……..	…….
2	เมื่อเพื่อนสนิทชักชวนให้สูบบุหรี่ท่านสามารถปฏิเสธได้ทันที	…….	…….	…….
3	การปฏิเสธบุหรี่จากเพื่อนเป็นเรื่องลำบากใจ	…….	..……	…….
4	เมื่อท่านมีเวลาว่าง ท่านจะไม่สูบบุหรี่	…….	……..	……
5	เมื่อท่านมีความเครียด ท่านจะไม่สูบบุหรี่	…….	……..	……
6	หลังรับประทานอาหาร ท่านจะไม่หยิบบุหรี่มาสูบ	…….	……..	……..
7	ถึงแม้ท่านจะเห็นเพื่อนสนิทสูบบุหรี่ ท่านสามารถควบคุมตนเองที่จะไม่สูบบุหรี่ตามเพื่อนได้	…….	..……	…….
8	ถึงแม้ท่านจะมีรายได้เพียงพอ ท่านจะไม่เสียเงินไปซื้อบุหรี่มาสูบเด็ดขาด	…….	…….	..……..
9	ท่านไม่สามารถหลีกเลี่ยงการสูบบุหรี่ที่ผู้อื่นยื่นให้สูบได้	…….	……..	…..…..
10	ท่านสามารถหลีกเลี่ยงการสูบบุหรี่ได้ด้วยตัวเองในทุกสถานการณ์	…….	..……	…….
11	ท่านสามารถหลีกเลี่ยงการสูบบุหรี่ เมื่อเข้าไปในที่ๆมีคนส่วนมากสูบบุหรี่ได้	…….	..……	…….

ส่วนที่ 3 ข้อมูลด้านปัจจัยเอื้อ

คำชี้แจง โปรดเขียนข้อความเติมลงในช่องว่างหรือทำเครื่องหมาย ✓ ลงใน ( ) หน้าข้อที่ตรงกับความเป็นจริงที่เกี่ยวกับตัวท่านมากที่สุด

1. ท่านเคยได้รับบุหรี่จากคนอื่นนำมาให้หรือไม่ (กรุณาเลือกตอบเพียงข้อเดียว)
   - ( ) ไม่เคยได้รับ
   - ( ) เคยได้รับประจำ จากใคร (ระบุ).....
   - ( ) เคยได้รับบางครั้ง จากใคร (ระบุ).....

2. ในหน่วยทหารของท่านมีบุหรี่จำหน่ายหรือไม่
   - ( ) ไม่มี ( ) มี จำนวน.....ร้าน

3. ท่านคิดว่าการหาซื้อบุหรี่ในหน่วยทหารของท่าน หาซื้อได้ยากหรือง่าย (กรุณาเลือกตอบเพียงข้อเดียว)
   - ( ) ซื้อได้ง่าย เนื่องจาก.....
     โดยซื้อจากสถานที่ต่อไปนี้ ได้แก่.....
   - ( ) ซื้อได้บ้าง ไม่ได้บ้าง เนื่องจาก.....
     โดยซื้อจากสถานที่ต่อไปนี้ ได้แก่.....
   - ( ) ซื้อได้ยาก เนื่องจาก.....
     โดยซื้อจากสถานที่ต่อไปนี้ ได้แก่.....

4. ปกติในแต่ละวันเมื่อมีเวลาว่าง ท่านชอบทำอะไรมากที่สุด (เลือกตอบได้มากกว่า 1 ข้อ โดยเรียงลำดับตามความชอบ)
   - ( ) ไม่ได้ทำอะไร อยู่เฉย ๆ
   - ( ) พูดคุยสังสรรค์กับเพื่อน
   - ( ) ดื่มเหล้า / เบียร์
   - ( ) สูบบุหรี่
   - ( ) อ่านหนังสือ
   - ( ) ดูโทรทัศน์
   - ( ) ดูภาพยนต์
   - ( ) ปลูกต้นไม้
   - ( ) ฟังวิทยุ / ฟังเพลง
   - ( ) เล่นดนตรี
   - ( ) ร้องเพลง
   - ( ) เที่ยวผับ / ดิสโก้เทค
   - ( ) เล่นไพ่
   - ( ) ออกกำลังกาย / เล่นกีฬา
   - ( ) อื่น ๆ ระบุ.....

ส่วนที่ 4 ข้อมูลด้านปัจจัยเสริม

คำชี้แจง โปรดอ่านข้อความแต่ละข้อแล้วทำเครื่องหมาย ✓ ลงในช่องท้ายข้อความที่ตรงกับความคิดเห็นของท่านมากที่สุด เพียงความคิดเห็นเดียว

ลำดับ	ข้อความ	มากกว่า 3 วัน ต่อสัปดาห์	น้อยกว่า 3 วัน ต่อสัปดาห์	ไม่เคยเลย
1	ท่านพบเห็นสมาชิกในครอบครัวของท่านสูบบุหรี่	.....	.....	.....
2	สมาชิกในครอบครัวของท่าน ชักชวนให้ท่านสูบบุหรี่	.....	.....	.....
3	ท่านพบเห็นผู้บังคับบัญชาของท่านสูบบุหรี่	.....	.....	.....
4	ท่านพบเห็นเพื่อนทหารของท่านสูบบุหรี่	.....	.....	.....
5	ท่านพบเห็นเพื่อนสนิทของท่านสูบบุหรี่	.....	.....	.....
6	ท่านได้รับการชักชวนให้สูบบุหรี่จากผู้บังคับบัญชา	.....	.....	.....
7	ท่านได้รับการชักชวนให้สูบบุหรี่จากเพื่อนทหาร	.....	.....	.....
8	ท่านได้รับการชักชวนให้สูบบุหรี่จากเพื่อนสนิท	.....	.....	.....
9	ท่านได้รับข้อมูลและคำแนะนำเกี่ยวกับบุหรี่จากบุคลากรทางการแพทย์และสาธารณสุข	.....	.....	.....
10	ท่านได้รับข้อมูลข่าวสารเกี่ยวกับบุหรี่จากสื่อต่างๆ เช่น วิทยุ โทรทัศน์ หนังสือพิมพ์ ฯลฯ	.....	.....	.....
11	ท่านพบเห็นผู้ป่วยโรคถุงลมโป่งพองจากการสูบบุหรี่ได้จากสื่อต่างๆ เช่น โทรทัศน์ หนังสือพิมพ์ ฯลฯ	.....	.....	.....

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