

**UTILIZATION OF THAI TRADITIONAL MASSAGE AT THE  
INSTITUTE OF THAI TRADITIONAL MEDICINE, DEPARTMENT  
FOR DEVELOPMENT OF THAI TRADITIONAL AND  
ALTERNATIVE MEDICINE, MINISTRY OF PUBLIC HEALTH**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF PRIMARY HEALTH CARE MANAGEMENT  
FACULTY OF GRADUATE STUDIES  
MAHIDOL UNIVERSITY**

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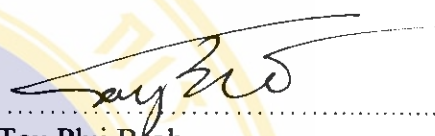
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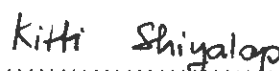
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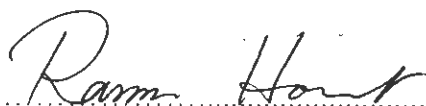
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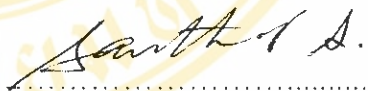
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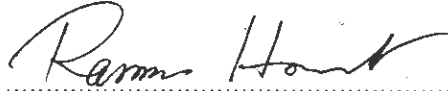
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Tou Plui Broh

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ABSTRACT

A cross-sectional study was designed and conducted at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. The objectives of this study were to describe the current situation of Thai Traditional Massage (TTM) service and related factors influencing the utilization of Thai Traditional Massage among clients. Four hundred sample individuals were interviewed with a structured questionnaire from January 7 to February 10, 2004. The data gathered included socio-demographic characteristics, accessibility and availability resources and information about TTM Services and health status within the last year. Moreover, the questionnaire also questioned knowledge of clients on Thai Traditional Massage, perceived health benefits of massage, utilization of Thai Traditional Massage and client satisfaction toward utilizing Thai Traditional Massage Services.

The result found that the mean age of respondents was 43.57 years, more than half (57.2%) of the respondents belonged to an adult age and 32.3% of them were middle aged, more than half (57.5%) had a fair level of knowledge on TTM. The majority of the respondents had an illness with the musculo-skeletal system. Most of respondents (92.5%) had a high satisfaction of utilizing TTM services. Nearly half (48.6%) of the respondents had been using Thai Traditional Massage two or more than two times per month. Somewhat more than half (57.2%) of respondents utilized TTM for treatment. One-fourth (24.5%) of them used TTM for relaxation and 18.3% used TTM for their health promotion. There were sixty-eight (68%) percent of respondents who used Royal massage, one-fourth (23.7%) of them used Folk massage. Further, age ( $P = 0.004$ ), knowledge on TTM ( $P = 0.020$ ) and waiting time to see a doctor ( $P = 0.001$ ) were the significant factors associated with the frequency of utilizing Thai Traditional Massage.

KEY WORDS: THAI TRADITIONAL MASSAGE, UTILIZATION

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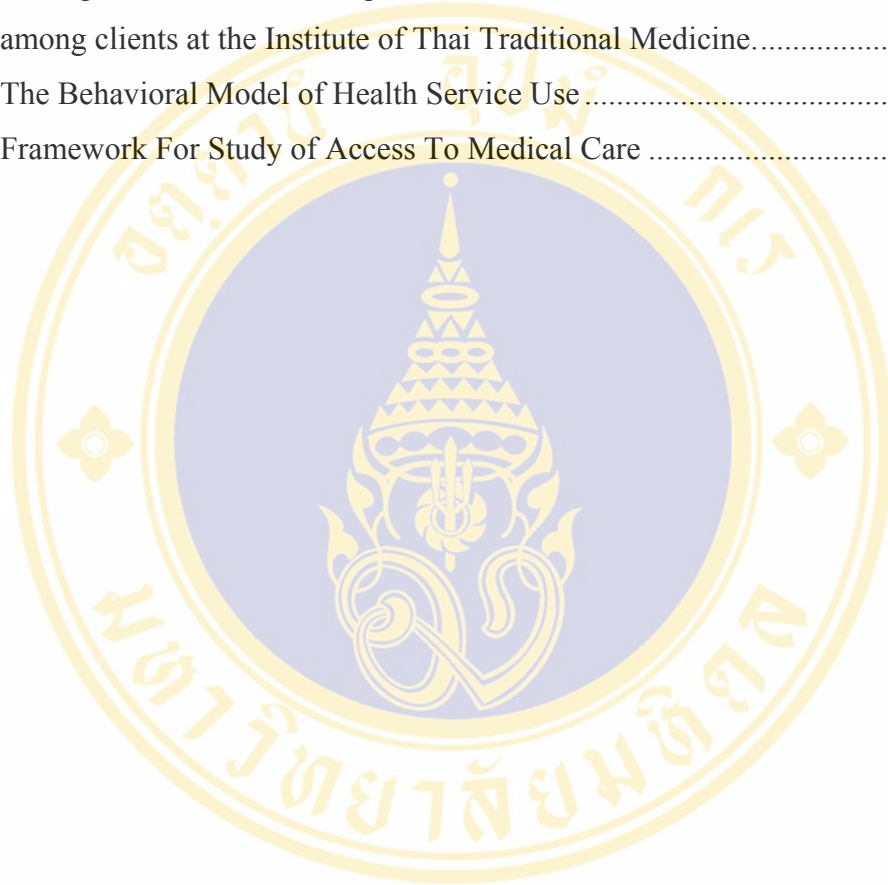
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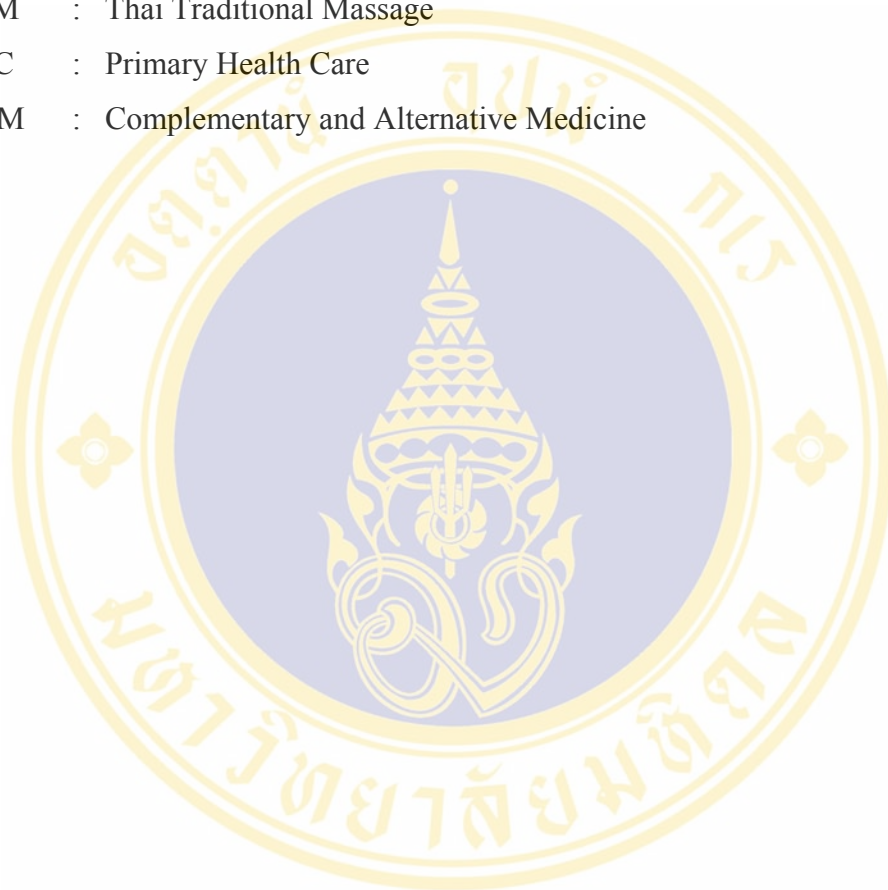
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## LIST OF ABBREVIATIONS

- MOPH : Ministry of Public Health  
TTM : Thai Traditional Massage  
PHC : Primary Health Care  
CAM : Complementary and Alternative Medicine



## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Rationale and Justification of the Study**

In the life of any human being, no one can avoid sickness. How people of each nation deal with their symptoms and diseases depend on their culture, tradition, and values. Of all diseases, approximately 30 percent are severe and thus require modern medicine and health care specialists. The other 70 percent are not serious and preventable and can be treated by self-care, using traditional or folk medicines (1).

##### **1.1.1 Worldwide utilization of complementary and alternative medicine**

Complementary and alternative medicine (CAM) has increased in popularity in countries such as the United States, Canada, and Western Europe (2, 3, 4). The estimated number of American visits to CAM practitioners increased from 427 million in 1990 to 629 million in 1997. In France and Germany, physicians routinely prescribe both herbal and homeopathic medicines along with conventional pharmaceuticals. In the UK, there has long been a tradition of homeopathy and following up the recent changes, unorthodox treatments are included in the National Health Service guidelines (3, 4).

CAM refers to the health care practices that are not an integral part of conventional medicine (National Center for Complementary and Alternative Medicine, 2000) (5). A practitioner or oneself can administer CAM therapies, for the purpose of disease diagnosis, treatment, or health promotion. Recent studies have revealed an increasing trend in the use of CAM, not only by patients with specific conditions, but also in the general population (6).

To date, the United States has conducted five national studies to measure utilization of CAM therapies in the general population (6, 7, 8). The estimated percentages of CAM users from these studies, however, were remarkably different, ranging from 8.3 percent to 42.0 percent, because CAM use may relate to one's cultural background and traditional beliefs in each country.

In the United States, the massage therapy profession and the public's use of massage continue to grow in quantity as well as quality. The most significant growth is in medical practitioners' and consumers' interest in and appreciation for massage therapy as an effective integrative and complementary modality. Mainstream acceptance of massage therapy continues to grow, indicating that massage therapy has become increasingly popular among consumers of all ages. More students have applied to become massage therapists because of this increasing demand. The growing demand of massage can be attributed to the growing population of the elderly for a desire to treat the effects of stress and sore muscles, and to reap the physiological benefits of "pressing the flesh" (9).

With the increasing demand and usage of CAM by the general public, it is vital that healthcare professionals make informed decisions when advising or referring their patients who wish to use CAM. Therefore, they might benefit from advice by CAM-providers as to which treatment can be recommended for which condition (10). Alternative medicine is popular mostly with groups of people with younger age, higher level of education and income. Preferring alternative care is connected to having more chronic, non-fatal illnesses while the numbers of fatal illnesses on one hand and activity restriction on the other have no significant role (11).

Moyad (3) argued that the increased prevalence of using CAM should provide a challenge to health care professionals to improve already existing services and communication between patients. The reality could be that CAM is providing a unique opportunity and insight to health care professionals on how to improve the current system.

### **1.1.2 Current situation of utilization of Thai massage in Thailand**

Thailand is a developing country where Thai traditional medicine and holistic health care has been popular and used for a long time. Today, Thai traditional medicine is spreading widely in almost every province in Thailand and has become integrated into hospitals in order to promote the idea of traditional medicine into a form of a self-reliant health care system. One of the most popular uses of Thai traditional medicine in Thailand is Thai traditional massage.

In Thailand, the ancient wisdom of Thai traditional massage has been the national arts and sciences of healing and remedy. Nowadays, it has been developed into part of the body knowledge of Thai traditional medicine, a holistic medicine. Thai traditional massage has a long history and has evolved and developed over many years. Thai traditional massage is not only for the treatment of some diseases such as paresthesia, hemiplegia and paralysis, but also a means of health care and health promotion based on the provision of caring touch by masseurs to their patients. Thai traditional massage influences the patients both physically and mentally. It increases regional blood flow, relaxes muscles tension, relieves muscle ache, relieves muscle fatigue, relieves back, neck pain and sprain, and causes mental relaxation, mood elevation, and relief of stress (1, 12).

Traditional Thai massage is an important aspect of the Primary Health Care system in Thailand. The foundation of the Primary Health Care System emphasizes the role of the individual and his responsibility for his health. By utilizing Traditional Thai massage as a means of preventive and curative care, the Thai community can inexpensively and actively take responsibility for their own health. Traditional Thai Medicine is an effective treatment for many different ailments used both in conjunction with other treatments and also alone (13).

At present, Thai massage has expanded to become a remarkable service of health care providers, as clients' demand has increased. Thai massage service places

have grown rapidly in every province and become standard in places such as hotels, beauty centers and restaurants.

In Bangkok, the service places spread in many areas such as *Sukhumvit*, *Pradipat Junction*, *Kaosan Road*, and *Banglumpu*. Most of them provide 3 types of massage: traditional Thai massage, reflexology (foot massage) and oil massage. These service places attach great importance to convenience, tidiness, cleanliness and privacy.

The massage customers are not only Thais but also foreigners. According to a survey made in the year 2000 at the four famous places for massage service in Bangkok (Traditional Thai practitioner Association -*Wat Pho*-, *Parinayok Temple*, Thai Traditional Practitioner In statute and *Ayuravade School*), there were 75,000 customers of which most of them are female at different ages, occupations and socio-economic backgrounds (14).

Popularity, information about Thai traditional massage is spreading rapidly through communication technology. Stories about Thai traditional massage are not only in tourist magazines and brochures but also on the Internet. The Internet has increasingly become an important source of information about Thai traditional massage. The website [http://www.thaiopro.com/dir/Thai/Thai\\_Massage\\_1.html](http://www.thaiopro.com/dir/Thai/Thai_Massage_1.html) lists various webpages for information on Thai massage. Many websites present basic knowledge, primary practice, and list the schools and places that provide Thai traditional massage training courses and services both in Thailand and abroad. This deluge of Internet information reveals that Thai massage has become a popular service business.

It is widely accepted that Thai traditional massage is a career that offers a lot of money. On the website [www.thaitrade.com](http://www.thaitrade.com), there is advice on the promotion of the business, the obstacles and promotion ideas for the Thai government. The website suggests that Thai massage be promoted through every media channel, with cooperation between domestic and overseas companies, especially among tourist

companies. Making a good impression on the customers and maintaining professional expertise are important when performing Thai massage. Thai massage is getting into the commercial stream, which is influenced by globalization.

Thai traditional massage service centers have seen an increasing number of trainees in the last couple of years. According to a year 2000 study of three Thai massage training schools in Bangkok, the Traditional Thai Medical School of *Prachetupon Vimomangkalaram Temple*, the *Ayuravade* School and the Traditional Thai Medical Institute of Ministry of Public Health, there were about 7,000 massage trainees, of which 40 percent were Thai and 60 percent were foreigners. But now the number of Thai trainees is increasing. In a two-year study of a traditional Thai Medical Institute, 5,000 people were trained to be masseurs, of which 80 percent were female, and there have already been 38 classes of trainees with each class consisting of 130 people. The increase of masseurs is influenced by consumer demand (14).

The situations above reveal that Thai massage is becoming mainstream and this impacts its patterns. Is this due to economic factors, to medical health problems in unhealthy people or to the demand and desires of clients for personalized attention for a good quality of life? This phenomenon is not an adjustment for survival as before, but a shift to new patterns. Thus, the analysis will focus on these relating factors.

## **1.2 Problem statement**

Thai people are now faced with over-consumption of Analgesic drugs. Many analgesic drugs are used widely and inappropriately. Some drugs can cause adverse side effects, such as stomach pain and bleeding. Thai people believe that Thai traditional massage can reduce these negative impacts by reducing inappropriate analgesic drug consumption. Using Thai traditional massage can save money from buying high-priced western drugs from companies in such foreign countries as England, America and Japan.

Although Thai massage cannot solve severe problems, it can help relieve problems related to bodily structures, such as muscles, bones, nerves and the blood flow system. Thai massage can also cure chronic diseases, such as paralysis and can alleviate muscles stress and fatigue (1).

Despite a growing number of people throughout Thailand using Thai traditional medicine (49.17 percent used Thai Traditional Massage, Subcharoen, 1999) (15), the factors related to the popularity of Thai massage is still a question that needs to be answered. This could be an indicator of the desire of people to address their health problems and to assess the personalized attention to maintain a satisfactory quality of life for the people.

As a result, few research has been done to date regarding the actual clinical use of Thai traditional massage among people, the understanding of what people who use Thai massage think about such use related to their health benefit of massage, and the examinations of why people seek out Thai massage services are not well understood and explored. In general, research on factors associated with the interest in the utilization of Thai massage is necessary to find out the demand and feedback from clients' side and also to identify the strengths and weakness of the current health delivery service from health providers' side.

This study would significantly contribute towards understanding such use among people. An improved understanding is needed not only because of the lack of such research in this area, but also because of the factors related to use among clients and the quality of service received, in order to maintain and improve the quality of service for the future.

Furthermore, understanding factors related to utilization of massage is important to identify health problems; to inform, educate and encourage the general public to utilize local traditional treatments, as well as to provide the needed information to help health care providers to formulate or update relevant health-related policies and programs (16, 17).

### **1.3 Research question**

What are the extent of the utilization Thai traditional massage among clients at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine at the Ministry of Public Health?

### **1.4 Research Objectives**

#### **1.4.1 General objective**

The general objective of this study is to investigate the current use of Thai traditional massage and to find out factors related to the utilization of Thai traditional massage among clients at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health

#### **1.4.2 Specific objectives**

To describe the predisposing factors such as age, gender occupation, and knowledge about Thai Traditional Massage.

To describe the enabling factors such as education, family income, accessibility (including distance, traveling time, mode of transportation and waiting time to see a doctor), and the availability of massage practitioners and instruments, such as massage beds and dressing clothes.

To describe the need factors such as health status and perceived health benefit of Thai Traditional Massage.

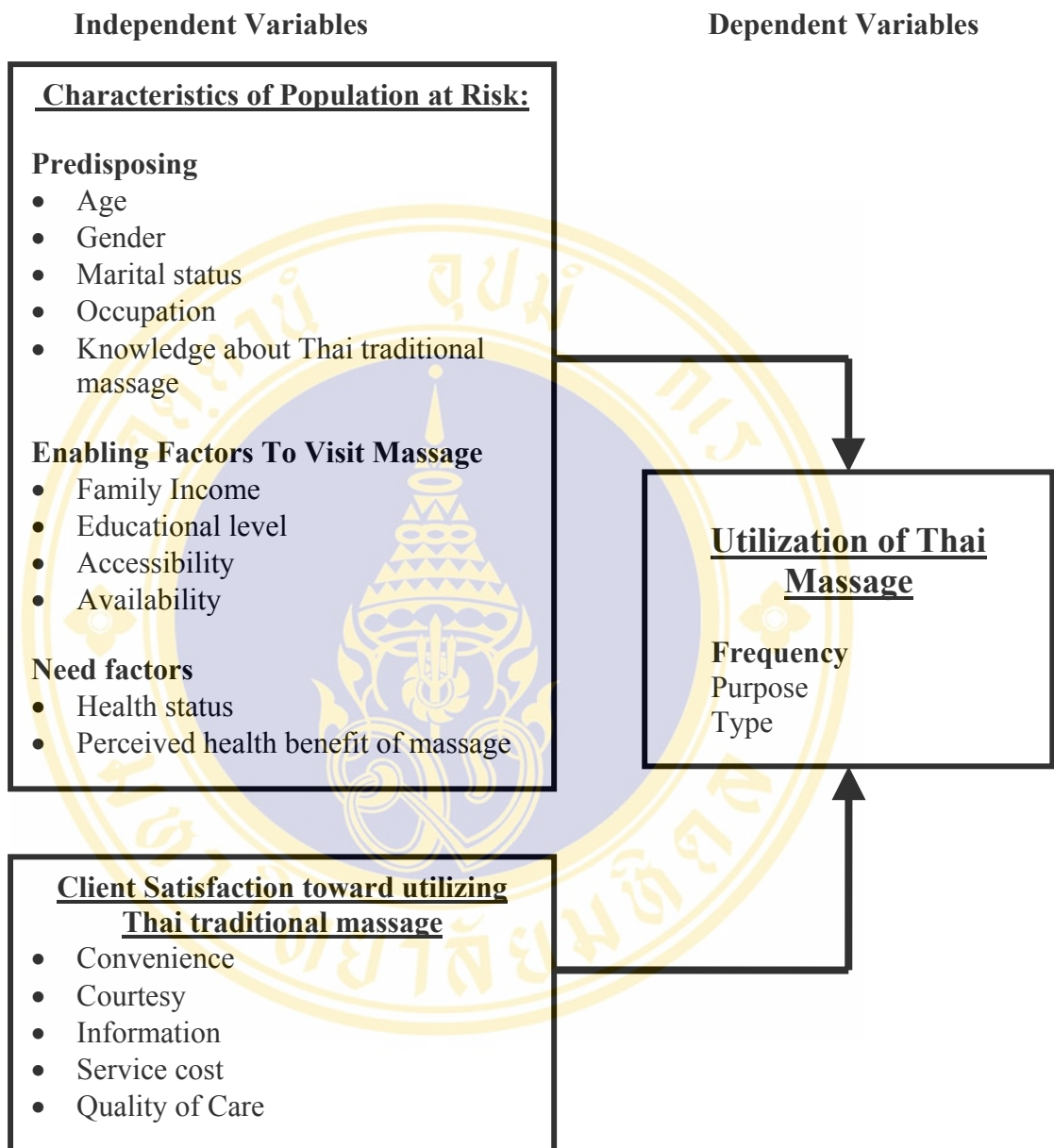
To describe client satisfaction toward utilizing Thai Traditional Massage in terms of convenience, courtesy, information, service cost and quality of care.

To investigate the association between related factors and the utilization of TTM in term of frequency and purpose.

## 1.5 Conceptual Framework

In order to investigate the utilization of Thai massage among clients, a new conceptual framework, based on Aday and Andersen's framework for study of access to medical care, will be created. However, some variables used to determine the utilization of Thai massage will be modified to fit with the characteristics of the study design. Other variables suggested by Aday and Andersen, including health policy and characteristics of the health delivery system, are beyond the scope of this study. The modified model includes three components (characteristics of population at risk, utilization of health services and client satisfaction) that are believed to be determinants of the utilization of Thai traditional massage among clients. It is also hypothesized that there are relationships between the three different components and the utilization of Thai traditional massage.

In this framework, it is assumed that many factors may influence the utilization of Thai traditional massage among clients. These factors include: 1) Predisposing and enabling factors which include socio-demographic factors, such as age, sex, education level, family income, occupation and knowledge about Thai traditional massage; 2) Need factors, namely health status, symptoms of illness, and perceived health benefits of massage; 3) Satisfaction toward utilizing Thai traditional massage in terms of convenience in access to massage services, cost of service, courtesy received and quality of care



**Figure 1** Conceptual framework to explain the utilization of Thai Traditional Massage among clients at the Institute of Thai Traditional Medicine.

## 1.6 Hypothesis

There is an association between health status, such as physical chronic disease, muscular pain, stress, depression, anxiety, and perceived health benefit of Thai traditional massage with the frequency of use of Thai Traditional Massage.

There is an association between age, gender, education attained and knowledge of respondents with the frequency of use of Thai Traditional Massage.

## 1.7 Operational Definitions of the Key Variables

### Independent Variables

**Age** refers to the number of years of a respondent since birth till at the day of the survey.

**Gender** refers to respondents' sexual identity at birth, which is classified into male and female.

**Marital status** refers to respondents' current status of being married or unmarried. It is classified into two main group married, unmarried (single, divorced or widowed), or separated (if divorce isn't final).

**Educational level** refers to the highest educational level of respondents in years of schooling. It is classified into illiterate, primary school, secondary school, higher education, college and university.

**Knowledge** about Thai massage refers to respondents' general understanding of Thai massage and its usefulness in health treatment and prevention.

**Occupation** refers to the main occupation, or job, of the respondents, which is categorized into farmer, employed worker, government officer, and others.

**Family Income** refers to respondents' household income per month in monetary units of Thai Baht.

**Availability** refers to the available access for respondents to get Thai Traditional Massage services. It includes the available resources of service such as masseurs/masseuse, instruments, massage rooms, massage bed, dressing cloth and sources of information about Thai Traditional Massage service.

**Accessibility** refers to whether the service site is convenient for respondents to receive the service. It includes distance, mode of transportation, travel time and office waiting time.

**Health Status** refers to self-assessment, awareness of respondents about their own health condition in general. It also refers to the respondents' perception and response to their illness or symptom of illness, both physical and psychological aspects at the time the respondent seeks care. The physical aspect includes symptoms such as chronic disease, diabetes, hypertension, musculo-skeletal pain, back pain and joint pain. The psychological aspect includes symptoms such as stress, depression and anxiety and its treatment within the last one year.

**Perceived Health Benefit of Thai traditional massage** refers to respondents' perception about massage advantages and the promotion of patient's well-being, in terms of both physical and mental health. It includes the general understanding of respondents on Thai massage and its usefulness in treatment.

**Client's Satisfaction toward utilizing Thai traditional massage** is the state of being satisfied. In this study, it refers to the attitude of those who have experienced (Aday, Andersen, 1975) receiving any kind of Thai massage or contact with Thai massage services, which meet their want and need of the respondents. The indicators of satisfaction in this study are convenience, courtesy, information, service cost and quality of care.

- Satisfaction on convenience: In this study, this refers to the accessibility of Thai massage services, which include the service system, working hours, availability of physicians, waiting time, and service location.
- Satisfaction on courtesy: This refers to the human relationship between respondents and physicians and health personnel about the kindness and friendliness at the massage service.
- Satisfaction on information: This refers to how the doctors, physicians and health personnel provide clear, sufficient information and explain the health problems and treatment.
- Satisfaction on quality of care: In this study, this refers to the respondents' perception about the doctor's and health personnel's time spent with the respondents, the length of time the respondents are given massage, doctors' knowledge and skills on doing diagnosis and treatment, and environment cleanliness of the massage service.
- Satisfaction on fee for service: This refers to the expenditure that respondents have for utilizing any type of Thai massage per one time visit. It includes fees for registration and health treatment.

### **Dependent Variables**

The utilization of Thai Traditional Massage is a dependent variable refers to the utilization of Thai Traditional Massage (TTM) among clients. We would like to explore in this study is mainly the frequency of utilizing TTM per month, apart from that we also describe the purpose of use TTM and type of massage as follows:

- Frequency refers to how often respondents come to seek Thai Traditional Massage per month.
- Purpose of using Thai Traditional Massage refers to the respondents' purpose, which is classified into treatment, relaxation and health promotion.
- Type of massage refers to the specific type of Thai Traditional Massage that respondents received at the time they seek care. It includes two main types of Thai

Traditional Massage: Royal massage and Folk massage, and including “applied massage” category

### **1.8 Limitation of study**

This study’s limitations included its cross-sectional nature. Cause and effect relationships cannot be assumed.

Limitations of the study were that the selection bias and information bias may occur during data collection. Information may have been modified to be understood by respondents. Because data collection is only conducted at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. The findings of this study may not be representative or reflect the real situation of the utilization of Thai traditional massage, and may not be generalizable to other places in Thailand. The association between independent variables and dependent variables may not be enough evidence to conclude a significant relationship. The time limitation may also influence the quality of data collected. Finally, this study only gathered the data and information from clients’ side with aim to assess the current services providing therefore the data and information from provider side was not included. It is also a limitation of the study.

### **1.9 Expected outcomes from the results of the study**

The expected outcomes from the results of the study would be the baseline data could be used to improve the quality of Thai Traditional Massage Service at the Institute of Thai Traditional Massage. These findings may update information about the current use of Thai traditional massage in order to introduce and facilitate health providers to promote Thai traditional massage in the general population. The promotion of the ancient wisdom of Thai Traditional Massage as the value of Thai culture will be very important. Because traditional and alternative medicine, leading people to self-reliance and self-care in the primary health care system.

## CHAPTER II

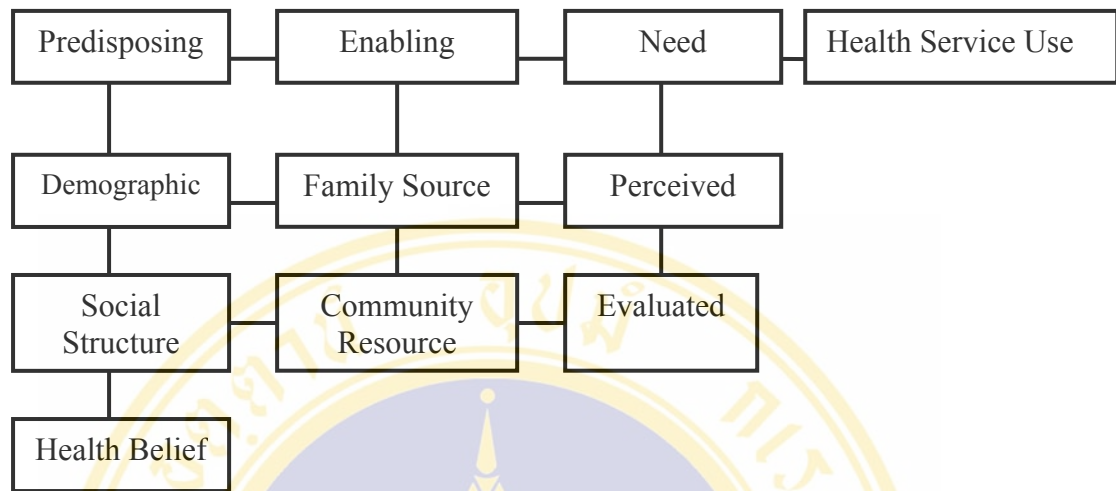
### LITERATURE REVIEW

#### 2.1 Review of the Theoretical model used to construct the conceptual framework

Health service utilization is an area of interest for many different disciplines. Thus, many approaches and methodologies for the study health service utilization have been developed by researchers and practitioners in the fields of sociology, social psychology, economics, medicine, and other health related areas. Health service researchers have made many attempts to explain health behavior in relation to the utilization of health services, but there has been no definitive conclusion about which factors or variables can predict health behavior.

Through reviewing present relevant literature, it is found that the “**Behavioral Model of Health Services Use**”, developed by Andersen & Newman (18), and later Aday and Andersen has expanded this model into a more complete health system model called “**Framework for the study of access to Medical Care.**” We used this framework to explain the probability determinants of health service utilization. This model fit the research topic because it is relevant, and accommodates a broad range of potential influences to consider with regards to utilizing health service.

The Behavioral Model of Health Service utilization suggests that a person’s decision to seek medical care and the volume of service received, depends upon: 1) the predisposition of the individual to use services (Predisposing characteristics), 2) his or her ability to secure services (enabling characteristics), and 3) his need for medical care (need characteristics). The process is shown by the following diagram in figure 2:



**Figure 2:** The Behavioral Model of Health Service Use

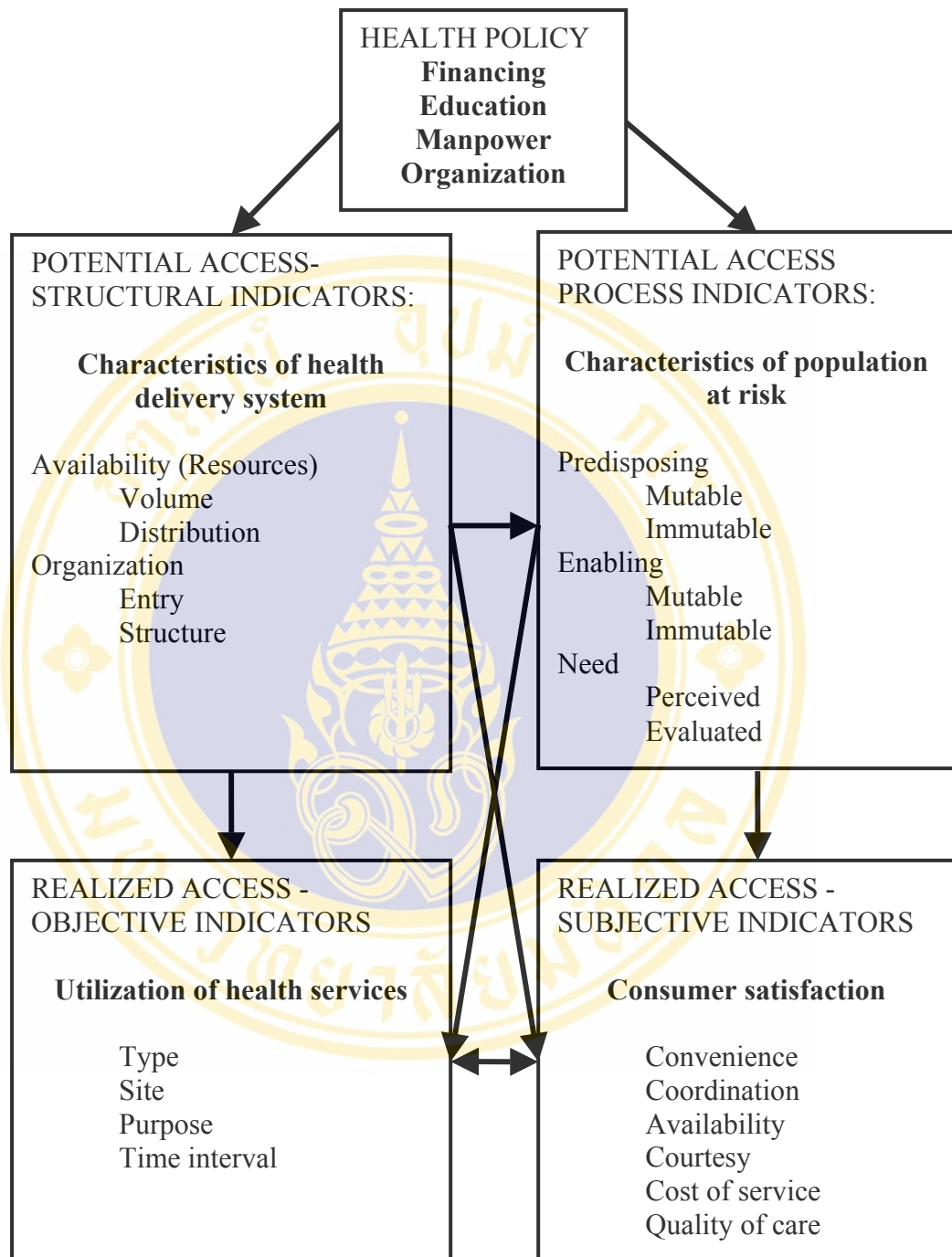
**Source:** R.Anderson, J. Kravist, and O.W. Anderson. Equity for access to medical Care. (Cambridge, Mass: Ballinger Publishing Company, 1975), P.5

**Predisposing characteristics.** The predisposing characteristics include those variables that describe the “propensity” of individuals to use health services. These properties exist prior to the onset of illness episodes and are classifiable into three groups: 1) demographic, such as age, sex, marital status, and family size; 2) social structure, such as education, occupation, and ethnicity; and 3) health beliefs, such as the belief that medical care can be helpful in treating illnesses.

**Enabling characteristics.** Even though the individual may be predisposed to use health services, he or she cannot make use of them unless he or she is “able” to use them. An individual’s ability to use health services depends on the resources of his or her family (income and place of residence), community resources (availability of health care facilities, including personnel), insurance coverage and ease of getting to care (accessibility). If there are sufficient family and community resources to enable the individual to use health services, then the individual will be more likely to use those services.

**Need characteristics.** Finally, in the presence of the appropriate levels of predisposing and enabling characteristics, the individual (or those responsible for the individual) must perceive some need (such as an illness) perceived threat or perceived benefits in order to initiate health service utilization. This “need” may be broken down into two distinct categories: 1) perceived need by the individual and 2) evaluated need by the delivery system.

Aday and Andersen (18) have expanded the individual determinant model into a more complete health systems model called the “Framework for the Study of Access to Medical Care.” It states that the success of access to health care does not depend either upon structural characteristics or individual characteristics alone. Rather, it rests upon the interactions between the health delivery system and the target population. In this model, Aday and Andersen first conceptualized health services utilization into “realized access,” an objective indicator. They then tried to integrate individual characteristics with the access characteristics of the health delivery system (such as the availability and distribution of health care providers and facilities, for example) called the “potential access.” Furthermore, consumer satisfaction, a subjective indicator, is considered as the outcome of utilization, a component of “realized access,” and “health policy” and “characteristics of the delivery system” are also the components in the contextual factors in this model. According to this framework, the potential of an individual’s gaining entry to a health care system is influenced by the structural characteristics of the delivery system itself. (the availability and organization of health care resources) and the nature of the wants, resources and needs that potential consumers may bring to the care-seeking process. The hypothesized relationships among the components to be considered operationalizing the access of medical care concepts are indicated by the arrows in the following diagram in figure 3



**Figure 3:** Framework for Study of Access to Medical Care

**Source:** L. A. Aday and R. M. Andersen. Equity of access to medical care: A conceptual and empirical overview of access. 1975, p.6

From the diagram of this model, we can see that the utilization of health services and consumer satisfaction have interactions and interrelationships to each other. So in this study, we considered the consumer satisfaction component as a factor to contribute to the utilization of health service. We assumed that this might be because the more the consumer is satisfied the more consumers come to use health services.

In short, The Framework for Study of Access to Medical Care was introduced by Aday and Andersen with a comprehensive conceptual framework. The components of the model are summarized into five groups: characteristics of the health delivery system as the resources and organization, characteristics of population at risk as the process indicator of independent variables, utilization services, and satisfaction with care as an outcome indicator of dependent variables. This conceptualized as proceeding from “health policy” objectives through the characteristics of the health care system. Access is defined as diverse dimensions that describe the potential and actual entry of a given population group to the health care delivery system.

## **2.2 Review about independent variables**

### **Age**

Age is the variable in predisposing factors which play a role in health service utilization, because the distribution of different groups' age have a different distribution of illness or disease so the influence of age to the frequency of seeking care or use health service would be different. The association between the age of clients and health services utilization is presented in many studies. Studies regarding age and utilizing Thai traditional medicine are shown as follows:

Nimal Karunasiri (19) studied the practices of Thai traditional medicine among health professionals and found that there was a significant relationship between age groups and the practice of Thai traditional medicine at P-value 0.01. Among groups aged less than 30 years old (44.32 percent) and groups aged 31 to 41

comprising 55.6 percent showed a high practice level of Thai traditional medicine, and groups aged more than 42 years old had a low practice level of Thai traditional medicine.

Do Thi Phuong (20) studying in Prachiburi Province, Thailand, showed that there were more middle-age people who utilize Thai traditional medicine in Prachiburi province. In 2000, Kunchock Gyaltzen research concluded that the thirty-two and above age group had more experience with utilizing Thai traditional medicine. However, a contradictory study of Thip-rada Kongtapan, 2002 showed that there was not a significant relationship between age groups and utilization of Thai tradition medicine.

According to the findings of a telephone survey conducted on August 14-17, 2003 in the United States by the American Massage Therapy Association (AMTA). Among a national probability sample of 1,015 adults (513 men and 502 women) ages 18 and older, living in private households in the continental United States, twenty-two percent of those aged 55-64 have had a massage within the last 12 months (21)

In short, we assume that the age group of the clients is a factor, which influences the client's selection of Thai traditional massage, especially the middle age group clients, who are likely to develop their skills and knowledge through using and practicing with their own experiences.

## **Gender**

Gender is a predisposing factor related to the utilization of health services. It also influences the client's selection of health services. Many research articles mentioned the relationship between gender and utilization of health services, specifically concerning the relationship of gender and the use of Thai traditional medicine. The Nimal Karunasiri (19) study found that 82.8 percent of respondents were female and 17.2 respondents were male. Similarly, the study conducted by Kunchock (22) revealed that 57.5 percent of females use Thai traditional medicine.

Tungsekruthai (23) found that the female population utilized Thai traditional medicine services more than males. These studies showed that females might be more concerned with their health more than males or that females have more health problems and tend to take care of themselves more quickly than males in Thailand. However, there was not enough evidence to conclude that a significant relationship between gender and utilization of Thai traditional medicine existed.

### **Occupation**

Occupation is also a predisposing factor; it may affect the utilization of health services. Client employment can be related to the distribution of illness. We assume that farmers and workers are more likely to develop physical problems than mental problems because of their working environment. People working as governmental employees or in the business sector have higher socioeconomic status and knowledge and are more likely to seek a better health service or use traditional medicine.

In the Kunchock's (22) study, the majority of respondents were business and governmental employees who utilized Thai traditional medicine. He concluded that because occupation related to education, those higher-educated people were more likely to visit Thai traditional medicine services to solve occupational health problems, such as muscular problems. The Do Thi Phuong's (20) study found that more business and government officials prefer to use Thai traditional medicine than farmers and laborers. Similarly, the study of Thip-rada Kongtapan (24) revealed that professionals and businessmen use herbal medicine more than the other occupations.

Nimal Karunasiri's (19) study on the practice of Thai traditional medicine among health professionals found that 11.2 percent of medical doctors, 49.6 percent of nurses, 15.6 percent of pharmacists, 8.8 percent of medical technicians, and 14.8 percent of midwives, respectively, practice Thai traditional medicine. However, from the studies mentioned above, there was not a significant relationship between occupation and the utilization of Thai traditional medicine.

## **Education**

The role of education in health service utilization was explained in many studies. One possible explanation was that the more educated people are more conscious of diseases and illnesses and will seek medical care more promptly. This prompt response might be partly responsible for the higher frequency of demand. Andersen, 1978 found that educational level had two relatively small effects on health care utilization, which at the first sight appeared to be contradictory. First a direct effect was found, showing that higher educated individuals were making more use of health services. Second, an indirect effect was found, with higher education leading to less illness and fewer physicians' visits.

More recent research revealed that lower education appears to be related to more use of health services for diagnosis and treatment, while higher education appears to be related to preventive service or promotions, such as dental services and screening programs (25).

The study conducted by Kunchock (22) about satisfaction toward utilizing Thai traditional medicine, found that most of the respondents were highly educated (45 percent) in the total study population. He indicated that there are more highly educated people who utilize Thai traditional medicine in Thailand. Do Thi Phuong's (20) study also concluded that the higher educational patients prefer to use Thai traditional medicine at the community hospital in Prachanburi, Thailand. Moreover, Subcharoen et al (26) explored that there were more highly educated people utilizing more Thai traditional medicine services in 29 Thai traditional medicine facilities in Thailand.

## **Knowledge**

The role of knowledge in health utilization has been evaluated in many studies. Knowledge about health is probably necessary before a conscious personal

health action can occur. For instance, the lack of knowledge about health may limit people's understanding of the benefit of a health service. The role of knowledge about health is an important determinant of health service utilization.

The Kunchock's (22) study showed that knowledge and satisfaction toward utilizing Thai traditional massage have a strong relationship (Chi-square = 12.624, P-value = 0.002). The study also stated that the respondents had a positive attitude to Thai traditional medicine because the respondents had better knowledge of the practices.

Another study about Thai Traditional Medicine, Tungsekruthai (23) found that there was a relationship between knowledge and the utilization of Thai traditional medicine. In other words, the people who had more knowledge used more traditional medicine services. This was a positive indication because the patients learned more information about Thai traditional medicine when they used the service rather than without knowing any information to try to utilize the services. In summary, we assume that those who have better knowledge on Thai traditional massage will have higher utilization of Thai traditional massage.

### **Family income**

Aday L.A and Andersen. R (18) mentioned that income is an important personal enabling factor influencing health service utilization. The amount of services consumed would depend on people's income. A level income would permit individuals to pay for treatment. However, income itself does not generate the demand for health services, but there is no doubt that people with more money will be better able to satisfy their medical needs than those with little or nothing.

Some studies showed that an association exists between family income and health services utilization, such as the studies of Newbold et al (27) and Keskimaki et al (28). The result of these studies supported the supposition of Andersen: family income had a significant positive effect on the probability of health service utilization.

Contradictory, other utilization of Thai traditional medicine studies revealed that there was not enough evidence to conclude the significant relationship between family income and utilization of Thai traditional medicine, such as the study of Thiprada Kongtapan (24). The findings showed that family income had no significant association with the utilization of Thai traditional medicine. Similarly, the study of Kunchock (22) also found that there was no significant relationship between family income and satisfaction levels toward utilizing Thai traditional medicine. Another study conducted by Do Thi Phuong (20) concluded that the lower income people wanted to use western medicine and the higher income people preferred to use traditional medicine in Prachinburi Province, Thailand.

This indicated that those people who were very low or low income still rely on government health insurance, such as a health card, because if they use Thai traditional medicine facilities, they would have to pay out of pocket. Lower income people also tend to ignore illness symptoms and either fail to obtain treatment or delay treatment due to a lack of money. Therefore, it is hypothesized that those people who have higher family income are more likely to use Thai traditional massage.

### **Availability and accessibility**

A generally recognized prerequisite for good quality health care is the availability, accessibility and affordability of basic health care services. Accessibility of health services includes the distance from the client's home to the health care facilities. The suitability of the working hours of the facilities, the availability of drugs, instruments and doctors, physicians, nurses and masseurs, the cost of service, the waiting time to see the doctor, the comprehensive service in health care facilities, and the physical environment of the health care facilities

The Virasombat (29) study in Soongnern hospital in Nakhon Ratchasima Province, Thailand found that the improvement of the health facility and the service system provided better convenience and quick service for clients, which increased the

interest in using Thai traditional medicine. However, contradicting that study, the study of Thip-rada Kongtapan (24) revealed that there was no significant association between accessibility and availability of sources and information. The study argued that since Thai traditional medicine has become popular in the countryside and more people are utilizing it, the government has more concern on the effectiveness of treatment. The government has tried to promote the use of Thai traditional medicine in many ways, such as established more institutions, trained more professionals and organized more health facilities and services, so people have more chances to select health services. The study concluded that people have more concern for their health rather than accessibility and availability of sources or the cost of Thai traditional medicine.

In short, accessibility and availability are important components of health care service and also one of the indicators to identify clients' dissatisfaction by looking at the long waiting time, shortage of health personnel, inappropriate care provided because clients tend to use the nearest, cheapest, and shortest waiting time services.

### **Health status**

Health status is a variable under the “need factors” in this study. Health status is a general term for the state of health of an individual, group or population that reflects the degree to which a person is able to function physically, emotionally, and socially, with or without aid from the health care system. However, in this study, we are looking at self-assessment awareness of clients about their own health condition in general and the response to their illness or symptoms, both physical and psychological problems, at the time clients seek care.

Health problems are the basic reason for the use of health services. In other words, the need for health care is the basic and direct stimulus for a client's use of the Thai traditional massage service. Previous studies found that there was an association between health problems and the utilization of Thai traditional medicine. The study, conducted by Thip-rada Kongtapan (24) found that 44.2 percent of the studied

population had a problem with a chronic disease, and the findings indicated that there was a significant association between chronic diseases and utilizing Thai traditional medicine at 0.05 of P-value.

The Kunchock's (22) study found that 62.5 percent of respondents had musculo-skeletal problems. In other words, the people who had muscular problems utilized more Thai Traditional Medicine services than the other groups. Furthermore, he indicated that the general population recognized that massage therapy was the most effective treatment for muscular problems and joints. The results also found that many of the respondents were impressed by the effectiveness of massage treatments. Additionally, the Thai traditional medical physicians also said that it was easier to cure muscular problems using Thai Traditional Medicine.

In short, health problems are an important factor that makes clients decide to utilize health services. We assume that muscular problems are the main factors that make clients utilize Thai Traditional Massage.

### **Perceived health benefit of massage**

The perceived benefit of health services is a very important and crucial point for clients to decide to use one of the health services. It is a significant factor that motivates clients to achieve their health need. A positive perception of one treatment will help clients gain the knowledge and pass this experience on. This experience can determine future health care decisions of clients.

Astin John A. (30) study about "Why Patients Use Alternative Medicine" revealed that perceived benefits of alternative therapies were considered as potential determinants of use. For instance, if someone reports receiving some benefit from a given treatment, this could in turn serve as an important determining factor in future health care decisions. The two most frequently endorsed benefits were: "I get relief from my symptoms; The pain or discomfort is less or goes away; I feel better," and "The treatment works better for my particular health problem than standard

medicines.” These responses suggest that the most influential or salient factor in people’s decisions to use alternative health care may be its perceived efficacy. The response, “The treatment promotes health rather than just focusing on illness,” was the third most frequently reported benefit and offers further support for the philosophical congruence theory.

Wolsko et al (31) study about the patterns and perceptions of care treatment of back and neck pain assessed the outcome therapies used to treat back and neck pain. A survey of 2,055 adults in the United States gathered detailed information about medical conditions.

The study result found that overall, 48 percent of complementary therapies were perceived as “very helpful” for the treatment of back or neck pain. Massage therapists are the third most frequently used health provider for persons with back or neck pain behind conventional providers and chiropractors, with almost 1 in 10 of those with back or neck pain visiting a massage therapist specifically for their condition in the last year.

Furthermore, the study results also showed that the high perceived helpfulness of commonly used complementary methods. Especially, massage and chiropractic, which were judged as “very helpful” for back or neck pain in 65 percent and 61 percent of cases, respectively. Stands in contrast to the low perceived effectiveness of conventional therapies, which were judged as “very helpful” for back or neck pain in only 27 percent of cases.

In short, the perceived health benefits of treatment plays a very important role for a client’s next health care decision. We assume that the perceived health benefit of Thai traditional massage of clients influences the utilization of Thai traditional massage service.

### **Client satisfaction toward utilizing Thai Traditional Massage**

There is convincing evidence that satisfaction is an important factor influencing health service utilization. It can be seen as a predictor of whether clients returned for treatment and changed their provider of health services. Client satisfaction refers to the attitude of those who utilize Thai traditional massage facilities. It measures an individual's satisfaction with the quality of health service actually received. Dimensions of satisfaction studied are satisfaction with the convenience of access to health services, cost of treatment, the courtesy shown by health personnel, information received from health personnel concerning about how clients should deal with their health and illness, and also the quality of care provided by health services. The result of various studies found that clients' satisfaction related to their health service utilization.

Subcharoen's study (26) found that most users were satisfied with utilizing Thai traditional medicine services in 29 health facilities of Thai traditional medicine in Thailand. In another study conducted by Virasombat (29), the findings also revealed that patients had high satisfaction with the utilization of Thai traditional medicine services at Soongnern Hospital. Moreover, the Kunchock (22) study in Ayurvedic School, Bangkok, Thailand found that 75 percent of respondents had moderate satisfaction and 14.5 percent of respondents had high satisfaction with utilizing the Thai traditional medicine service. Especially, the study also revealed that those respondents who received Thai traditional massage treatment were satisfied because the doctors paid more attention to their massage treatment, so the treatment results were more effective and many patients' health conditions were getting better. Even though it was the first time for many patients, they felt better after treatment.

In short, client satisfaction is to find out both satisfaction and dissatisfaction with quality of health care in order to justify the distribution of delivery care and its quality. Clients might be dissatisfied because of cost, ineffectiveness of treatment, lack of physician interest and concern, and long waiting time. Satisfaction is

recognized as a factor in clients' decisions to use services in the future. Therefore, this aspect of satisfaction is important to influence service utilization.

### 2.3 Review of dependent variables

#### Frequency of utilization of Thai Traditional Massage

A survey conducted by Sangeetha Nayak et al (32) in the United States examined the prevalence and patterns of use of complementary and alternative medicine (CAM) among individuals with multiple sclerosis and explored the reasons for use. 3,140 adults with multiple sclerosis were mailed a questionnaire and returned it. The findings revealed that 418 respondents used massage and 23.3 percent frequently used massage.

According to the findings of a United States telephone survey conducted in August 14-17, 2003 by the American Massage Therapy Association (AMTA) among a national probability sample of 1,015 adults (513 men and 502 women) ages 18 and older, living in private households in the continental United States, more than one in five adults surveyed (21 percent) received a massage within the past 12 months (21). The survey had a confidence level of plus or minus 3 percent.

In Japan, a telephone survey company conducted a survey in April 2001 to obtain information on the use of CAM in Japan. This survey was designed as a nationwide, random-sampled and population-weighted telephone survey. The sample size of respondents was 1,000. The results showed that the percentage of respondents who had used at least one CAM therapy in the past 12 months was greater than those who had used orthodox, Western medicine (76.0 percent (95 percent CI: 73.4-78.6) versus 65.6 percent (95 percent CI: 62.7-68.5), of which 14.8 percent used massage therapy (33).

The Kunchock (22) study about satisfaction toward utilizing Thai traditional medicine among patients at the clinic of Ayurvedic school in Bangkok, found that

17.5 percent of respondents in the studied population received Thai traditional massage for treatment.

### **Purpose of utilization of Thai Massage**

A study conducted by Astin John A., Kenneth R., Ariane Marie, and William (34) explored the reason for complementary and alternative medicine utilization among the elderly population in the United States. The result revealed that the most frequently cited medical reasons were back problems (43 percent), chronic pain (26 percent), general health improvement (25 percent), arthritis (20 percent), stress reduction (20 percent), dissatisfaction with conventional medicine (36 percent), and fear of drug side effects (32 percent).

The Sangeetha Nayak et al (32) study revealed that 40.3 percent of respondents in the studied population used massage for relieving pain and 22.3 percent for relaxation.

A survey conducted on August 14-17, 2003 (21) by the American Massage Therapy Association (AMTA) in the United States reported that nearly half (47 percent) of respondents have had a massage at some time to relieve pain. 58 percent of those in the 18-24 age range have ever had a massage for pain relief as have 58 percent of those ages 35-44. 51 percent of those 65 and older who got a massage within the past five years did so to reduce pain, for injury or muscle soreness, or as part of a physical therapy regimen.

Overall, the survey findings showed that nearly one third of adults (29 percent) say they would seek massage for stress relief. Among those who had a massage in the past five years, more than one out of five (22 percent) got a massage for relaxation or stress relief and one quarter (25 percent) received massage for injury-related reasons, muscle soreness or pain management. (21)

In Thailand, few studies have been conducted on utilizing Thai traditional medicine, especially Thai traditional massage. Thip-rada Kongtapan (24) indicated that respondents came to get Thai traditional medicine for chronic illness. The Kunchock (22) study revealed that respondents utilized Thai traditional medicine for their muscular-skeletal system problems.

### **Type of Thai Traditional Massage usage**

Astin John A., et al (34) studied about complementary and alternative medicine utilization among the elderly population in the United States, found that overall, forty one percent of respondents reported using some form of complementary and alternative medicine in the previous year. The most frequently used therapies were herbal medicine (24 percent), chiropractic (20 percent), massage (15 percent), and acupuncture (14 percent).

In Thailand, Kunchock (22) studied satisfaction toward utilizing Thai traditional medicine among patients at the clinic of the Ayurvedic School in Bangkok. The results of the study indicated that 17.5 percent of respondents in the studied population used Thai traditional massage alone, 6.5 percent of respondents used Thai traditional massage with herbal medicine, 8 percent of respondents received Thai traditional massage with herbal medicine and steam bath, and 0.5 percent of respondents used Thai traditional massage with steam bath.

## **2.4 Thai Traditional Massage**

Thai traditional massage is referred to as Nuad Bo'Rarn in Thai. Nuad Bo'Rarn is a word combined from Nuad, which means massage, and Bo'Rarn, which means traditional. From the combination of these two words, came the pleasant sounding Nuad Bo'Rarn. The effects of this massage style have recently made the medical profession around the world become aware and recognize it as a valid medical technique. Thai traditional massage controls the state of the body by stimulating the energy lines running through the body.

Thai traditional massage today still retains elements of this strong spiritual connection. It is a reminder of the Four Divine States of Mind of the Buddhist teachings: compassion, loving kindness, joy and balance. It is divided into two types, Royal massage and Folk massage. The basic difference is in the style of giving massage. According to Subcharoen (1) the differences between the two types of massage are the following:

**Royal massage** refers to the type of massage for the King and his royal family or aristocracy; hence, in the former times, the masseurs had to be carefully selected. Royal massage is given to the patients in a very polite nature, using only hands and fingers. Royal massage is usually used for the treatment of muscle aches, bone and joint diseases, headaches and diseases involving blood circulation, among others, with no bending or twisting of any parts of the body by force. The arm of the masseur must always be straight so the pressure will be concentrated at the thumbs and transferred directly to the acupressure points. During massage, the masseur must avoid breathing on the patient. The massage always begins from the back of the feet, and the patient will either sit or lie on his back or his side but never on his stomach.

**Folk massage** refers to the type of massage given to family members and the general public and is influenced by local culture in different regions of the country. The masseur uses different parts of his body, i.e. hands and knees, to bend, pull, press or tread. The massage begins from the soles of the feet. It does not matter whether the masseur's arm will be straight or arched.

### 2.4.1 History of Thai Traditional Massage

According to Dr. Pennapa Subcharoen (1,12,35) the development of Thai traditional massage was a valuable and indigenous wisdom given by Thai ancestors. It was seen that Thai massage had an important role for treatment from the past until now. It was believed that Thai massage originated from the process of curing family members. For example, a husband gave a massage to his wife, and children gave a massage to their parents and grandparents. Massages were given by using some parts of the body, such as elbows, knees, and feet. In addition, the Thai massage style of exercising was used to easily adjust one's anatomy. The development of massage instruments, such as "Nom-saow," a wooden stick, was to assist in giving a better massage. Massages were then given to neighbors, since many family members were skilled in massage. Finally, the patients trusted that Thai massage was popular, efficient and a respectable cure; it became one of the most famous occupations in Thailand.

From the historical evidence of the oldest massage on a stone inscription, it was found that Thai massage was to treat illnesses from the Sukhothai period during the reign of the King Ramkamheang. However, Thai traditional medicine, especially Thai massage, was most prosperous in the Ayutthaya period during the reign of King Narai. The evidence from Lalubaire's dispatch indicated that the Siamese used Thai massage to cure some illnesses, to relieve pain or to ease giving birth. Thai traditional medicine survived during the Rattanakosin period, since it was descended from the Ayutthaya period. During the war, some documents and textbooks were lost but a lot of folk healers still existed in the rural area. During the reign of the King Rama I, 80 statues of hermit, Thai style exercising and the inscription of Thai traditional massage were created at Wat Pho. During the reign of King Rama IV, the textbooks of Thai traditional massage and traditional medicine were revised and reviewed. Thai traditional massage was then neglected during the reign of King Rama VI after western medicine was introduced into Thai society. However, folk massage was still an important role for villagers. Thai massage has continuously evolved and developed and is now divided into two types: Royal massage and folk massage.

### 2.4.2 The theory of Thai Traditional Massage

Thai massage is believed to not to cure all problems but is an effective treatment in eliminating many non-severe problems that do not respond to modern medicine, such as pain, bone and blood circulation. Thai massage bases its theory on the notion that the healthy state is the result of the balance of four elements, namely earth, water, wind and fire, which hold different properties and duties. Imbalance of the four elements brings sickness. Thai massage is the answer that is based on the belief that the human body has ways of wind that impact health status. If one has good blood circulation, one will become healthy. If not, the body and mind will get problems.

Traditional Thai massage is based on the notion of the basic “Ten Sen” (Sen Sib) or ten invisible main energy lines that originate from different parts of the body. According to an inscription, the lines comprise 72,000 tendons (1). “Sen” is described as the hole that blood circulates from. The flow of blood, if obstructed, will cause illness. The principle of Thai massage is to ultimately help the blood flow thoroughly so that illness can be prevented or cured. Thai massage is one of the ways to balance both the physical and mental parts because it makes blood circulate normally.

In Thai massage, the great 10 lines are the pathways of energy that originate around the navel. The lines end at sensory organs such as the eyes, ears, nose, tongue, arms, legs, meatus and rectum. Thus, an illness is caused by the uncomfortable flow of power that can be relieved by Thai massage at the points of the great lines.

Each of the basic bodily lines has a specific name: Ita, Pingkla, Sumana, Kalatari, Sahasransi, Tavari, Jantapusang, Ruchum, Sikini, and Sukumang. Each line relates to specific symptoms. These symptoms or sickness always relate to organs, which are at the end of the lines (1).

Beliefs of Sen are not only found in Thai massage but also in Japanese massage (Shiatsu). According to Japanese belief, massage is the way to balance power of life through pressing the great 10 lines with fingers, elbows, knees, or feet at certain points (Suebo). Shiatsu affects the muscles, blood circulation system, lymph system, and also can protect and recover patients during convalescent period. (1)

### **2.4.3 The effect of Thai Traditional Massage**

Massage is an extended form of touch resulting in mutual energy exchange (36). It produces mechanical stimulation to the tissue by means of rhythmically applied pressure and stretching. Pressure compresses soft tissue, distorts the nerve, and plexuses of receptors. Use of these two forces could be done by changing the lumen of blood vessels and lymph vessel spaces affecting capillary, venous, arterial, and lymphatic circulation

Hill (37) suggested that a massage could be viewed as being two fold: it can be utilized as psychological healing agents with the purpose of creating a degree of peace and calm in stressful situations and can be used to facilitate the therapeutic relationship between the nurse and the patient through the development of trust and enhanced communication. The use of non-pharmacological interventions to complement modern technological medicine is proving popular in clinical practices (38).

The effect on circulation by pressing directly on the venous flow is comparable to squeezing any soft tube to empty its fluid. Then, the muscles are relaxed since they are comprised of a soft mass containing tubes, which are filled with fluid. Any pressure applied to the mass should push the fluid in these tubes in the direction in which the pressure is applied; therefore the deeper veins will also be emptied if a sufficient pressure is applied to the entire mass. Such pressure might at the same time retard the rate of arterial blood flow; it may be heavy enough to compress the arterials as well as veins.

Theoretically, if the amount of venous blood brought to the heart can be increased by the massage, the rate of the heart beat or the stroke volume might be increased; thus a greater amount of arterial blood might be carried to the periphery.

In the lymphatic capillaries and plexuses of the skin and subcutaneous tissue, lymph can move in any direction. Its movement depends upon forces outside the lymphatic system, which is determined by such factors as gravity, muscle contraction, passive movement, and massage. If an obstruction of the deeper lymphatic occurs in a part, it is still possible to keep the superficial lymphatic open. Moreover, if the part is massaged or given the opportunity to drain by gravity, lymph will move through other channels in the direction of the external force.

Massage can decrease tension and cause relaxation of muscles. It improves the nutrition of the muscles; consequently, it promotes their development. Ching (36) suggested that muscle fatigue was relieved more quickly by massage therapy because lactic acid was depleted.

The effect on the skin produces a direct effect on the superficial layers of the epidermis leading to an opening of the sebaceous and freeing sweat glands. Then, the circulation and the function of these glands will directly improve.

Two explanations have been proposed regarding the affect of massage on cutaneous stimulation. First, it stimulates large nerve fibers encouraging the release of endorphins. Second, cutaneous stimulation produces relaxation, reducing anxiety, which can affect pain perception (36).

Rosenthal stated that massage increases the temperature of the skin by 2 to 3°C. The increase in skin temperature may be due to direct mechanical effect and to indirect vasomotor action.

Sandra (39) found that back massage could cause a decrease in heart rate, systolic blood pressure and diastolic blood pressure, while the temperature of

skin increased. Patients reported that they felt comfortable. Clark et, al (40) indicated that oxygen saturation increased immediately, then slowly decreased, and it was still above the baseline level after four minutes. Hayes and Cox (41) noted that, heart rate, blood pressure and respiration also decreased after foot massage.

According to many studies, Thai massage can relieve pain and cure many diseases relating to organs, muscles, tendons, and bones, and help blood circulation. According to the study of Shanpitayanukulkit, 1985 and that of Boonsinsuk P.,1984 Thai massage can relieve pain at the neck and back, similar to the finding of Supachutikul A.,1987 that Thai massage can cure pain of muscle and joints. Other studies found that massage can also reduce pain and suffering, to some extent, among patients with cancer. Vattakeejarearn J, 1991 studied the result of Thai massage and Paracetamol on the level of pain and the duration before a headache is relieved in a group of patients who got headaches from stress. It is found that Thai massage can reduce pain from headaches better than taking Paracetamol. The patients who got a headache feel better after being given massage for 15, 25, and 30 minutes. A 15-minute massage can reduce the urgent headache faster than using medicine.

#### **2.4.4 Health Benefit of Thai Traditional Massage**

The benefits of Thai massage are numerous with the most predominant being the maintenance of good health and its ability to treat a wide spectrum of health concerns. Traditional Thai massage is known for its ability to clear the energy pathways. Thai massage is ideal for those desiring deep relaxation, release from stress, and maximum flexibility as well as those seeking to increase their level of health, well-being, and vitality. Its many therapeutic benefits are appropriate for both the young and the elderly.

The holistic benefits of Thai Massage are far reaching. It increases the range of motion and relieves pain and muscle tension. The technique can be particularly helpful for headaches, migraines, arthritis, whiplash, paralysis, numbness, sciatica, and back pain. Thai massage also helps to strengthen and rejuvenate the body,

improve circulation of blood and lymph systems, heighten the ability to absorb nutrients, increase flexibility, and generally improve the feeling of well being.

The traditional Thai massage technique is also beneficial for the practitioner whose own body flexibility is extended and strengthened by working through the stretching movements. The meditative movements offer a state of relaxation for both client and therapist.

## 2.5 The Institute of Thai Traditional Medicine

According to Vichai Chokevivat (12, 35), in the year 1989, the Ministry of Public Health established the “Coordinating Center for Development of Thai Traditional Medicine and Pharmacy” in order to promote the revival of this valuable heritage of the country abandoned by most Thai people for so many years. Later on in the year 1993, “**The Institute of Thai Traditional Medicine,**” or ITTM, was established as a division under the Department of Medical Service. The institute serves as the center for the development, promotion and collaboration of Thai traditional medicine for the Ministry of Public Health. The institute later became an institute under the Office of the Permanent Secretary in the year 2000. In 2002, as a result of the Bureaucratic Reform Act B.E. 2002 and the government policy to promote the use and integration of Thai Traditional Medicine and alternative medicine into the mainstream health care system. The **Department for Development of Thai Traditional and Alternative Medicine** was established under the Ministry of Public Health. The institute of Thai traditional medicine has then become an institute under this newly formed department.

The institute offers two courses in Thai traditional medicine: a one-year curriculum in traditional pharmacy and three-year curriculum in traditional medical therapy, as well as various training courses in Thai traditional massage.

In addition, in order to conserve this Thai cultural heritage, the institute of Thai traditional medicine, in collaboration with traditional healers, regional

universities and other agencies all over the country, have made continuous attempts to collect drug recipes, and revitalize and systematize the Thai traditional medicine system. The institute and other agencies concerned also played a pivotal role in drafting, launching and lobbying the parliament to pass the law to protect and promote the knowledge of Thai traditional medicine, as well as to protect the natural resources of Thai herbs. “The Protection and Promotion of Thai Traditional Medicine Intellectual Act” was finally passed and became effective in the year 2000.

**Teacher-Student System of Teaching** This teaching system is commonly used in the rural areas where there is no formal school of traditional medicine. One who is interested in traditional medicine finds a teacher who is willing to accept him or her as a student to pass on the knowledge of Thai traditional medicine. After finishing at least one year of education in traditional pharmacy or three years for traditional medicine, and pass the exam of the Division of Medical Registration from the Ministry of Health, the student will then become a licensed general traditional medicine or pharmacy practitioner.

In summary, regardless of the system a person chooses to receive an education in Thai traditional medicine, he or she must take an exam given by the Division of Medical Registration, Department of Health Service Support, the Ministry of Public Health in order to become a licensed practitioner. Currently, there are four types of practitioners that can receive a license. The number of these practitioners, as of the year 2002, are shown below:

Thai traditional medicine practitioner: 14,255

Applied Thai traditional medicine practitioner: 276

Thai traditional pharmacy practitioner: 17,821

Traditional midwifery practitioner: 2,455

Thai traditional massage, a branch of Thai traditional medicine, has become very popular among Thais and foreigners alike. Since Thai traditional massage has been recognized and well accepted worldwide, well trained Thai traditional masseurs and masseuses are currently in great demand, not only in Thailand, but all over the

world. The Division of Medical Registration, Department of Health Service Support is now working on a plan to license traditional masseurs and masseuses for consumer protection purposes.

According to Subcharoen (1) nowadays, the teaching of Thai traditional massage is systematized into formal education and several certified schools in Thailand teach different courses of Thai traditional massage. The curricula are usually divided into different levels that require different periods of training time; for example, massage courses for the treatment of certain illnesses or symptoms take 372 hours or 800 hours of training, while massage courses for health promotion require only 150 hours of training.

Currently, there are 6,000 masseurs/masseuses who finished different levels of Thai traditional massage training courses from various institutes in Thailand. The ITTM has developed standard training curricula on Thai traditional massage and has offered many training courses covering both theory and practice. The ITTM, in cooperation with the Department of Skill Development, Ministry of Labor, has set up and categorized the National Occupational Skill Standards of Thai traditional massage into 3 levels based on knowledge, hours of practice, and experience. Those who pass the skill test can then receive a certificate issued by both offices.

## **2.6 Research on utilization of Thai Traditional Medicine and Massage in Thailand**

According to a 1999 Ministry of Public Health document, there are about 100,000 folk healers and 38,000 of them have traditional medical practice licenses. In 1995, there were 635 clinics and 12,268 drug stores in the entire country. There are 30 compounded herbal medicines and 41 single herb medicines, which are currently used in 30 hospitals. Integration and implementation of Thai traditional medicine expanded from 32 provinces in 1994 to 75 provinces in 1997. The most popular utilization of Thai traditional medical services is massage, of which 49.17 percent of the population uses; next was herbal steam bath with 24.16 percent, hot compress at

19.04 percent, herbal medicine at 6.89 percent and others services at 0.74 percent (15).

In 1995, there was a cross-sectional descriptive study, which was carried out by Yupapun Munkratok (42) in the northeast of Thailand. This study identified the attitude of health administrators on the integration of Thai traditional medicine into the health system in community hospitals. The study result showed that 85.1 percent of 215 community hospitals had already used Thai traditional medicine services. Problems were found, however, and 87.5 percent of hospitals had less quality control of medicine productions. In addition, 47.7 percent of hospitals refused to utilize Thai traditional medicine because of the opinions of their modern doctors.

The study suggested that the respondents expressed that every hospital should have at least one traditional medicine practitioner. This showed that there was a strong support for traditional medicine among the health administrators. Also, from the economic aspect, there was a positive attitude about traditional medicine, but the respondents were not satisfied on the quality of drugs (42).

Thip Rada Kongtapan (24) conducted a cross-sectional study in Saraburi Province of Thailand, which investigated some factors influencing the utilization of Thai traditional medicine among Thai rural people. 200 people were randomly selected and were asked to describe the general information, knowledge and attitudes, availability and accessibility of sources and information, and costs about Thai traditional medicine.

The result of the study showed that most, 93 percent, had used Thai traditional medicine. One third of utilized more than two types of traditional medicine. Most respondents were women, aged from 30 to 39. The result also revealed that only two factors were significantly associated with the utilization of Thai traditional medicine: chronic disease ( $P=0.05$ ) and social support ( $P= 0.003$ ) (24).

Nimal Karunassiri (19) conducted an analytical study on the practice of Thai traditional medicine among health professionals in the community hospitals of Nakhon Pathom Province, Thailand. The purpose of this study was to explore the level of practice and the factors related to the practice of Thai traditional medicine. 256 respondents were asked about their KAP and previous experience.

The findings of this study showed that 58.7 percent had high levels of practice of Thai traditional medicine. There was a significant relationship between the respondent's age and practice of Thai traditional medicine. The major finding of the study revealed that there was a highly significant relationship between attitude and practice at 0.0000\* P value. There was also a significant relationship between previous experience and practice of Thai traditional medicine at 0.033 P value. Most importantly, this study found that certain factors, such as age, level of education, attitude, and previous experience, influence the practice of Thai traditional medicine (19).

A cross-sectional study was carried out about patients' satisfaction toward the utilization of Thai traditional medicine. The purpose of the study was to explore the levels of satisfaction and to determine the factors affecting the patients' satisfaction. 200 patients were randomly selected and interviewed with a structured questionnaire. The data gathered included socio-demographic, knowledge, attitude, previous experience and expectations, as well as satisfaction components.

The results found that there were more respondents who had moderate (73.5 percent) and high (14.5 percent) satisfaction with utilizing Thai traditional medicine. The middle and older age groups utilized traditional medicine more than any other age groups, including females (57.5 percent), married people (76.5 percent), higher educated people (45 percent), people living with extended families (36 percent), and those with muscular-skeletal system problems (62.5 percent). And there was a significant relationship between patient satisfaction and patient knowledge ( $P=0.002$ ) and their previous experiences ( $P<0.001$ ). 17.5 percent of people used massage alone (22).

Do Thi Phuong conducted a comparative cross-sectional study in 1994 in the Prachinburi Province of Thailand. This study identified factors affecting the decision of outpatients who use Thai traditional medicine and western medicine at the community hospitals. 279 people were asked regarding their knowledge, perception and practice of Thai traditional medicine treatment.

The result of study showed that people, who are middle age, have higher education and better economic status prefer to use traditional medicine. Also, most people used traditional medicine because they were referred by family members, neighbors and physicians who had experience in traditional medicine (20).

### **2.7 Related studies**

In the past decade, the use of complementary and alternative medicine (CAM) has dramatically increased in adult, adolescent, and pediatric populations in the United States, Canada, and Western Europe. There are multiple reasons for this, including the search for natural therapies, curative and ameliorative therapies for chronic illnesses that are unresponsive to conventional therapy, attraction to therapists or alternative modalities suggested by friends, and the autonomy of obtaining unregulated products and services. According to Gardiner P and Wornham W. (2) The prevalence of CAM use in a random sample of adolescents living in Monroe County, New York was a total of 54 percent of the 361 adolescents had used at least 1 CAM remedy. The most frequently used therapy was massage, 13.2 percent (43).

The study of the use of CAM by persons with major depression and the factors associated with CAM use among these individuals revealed that there was a temporal trend toward increasing use of CAM among persons with major depression. The prevalence of alternative medicine use among subjects with major depression ranged from 7.8 percent in 1994-1995 to 12.9 percent in 1996-1997. Females, having more than 12 years education, and having 1 or more long-term medical conditions, were associated with an increased likelihood of using alternative medicine (44).

In studies of South Carolina adults (aged 18 and older), 66 percent responded to the survey of demographics, general health, frequency of CAM use, and perceived CAM effectiveness. It was shown that a total of 44 percent had used CAM during the past year. Increasing age and higher education were significantly associated with CAM use. More than 60 percent perceived CAM therapy as very effective, and 89 percent said they would recommend CAM to others (45).

Another study of complementary and alternative medicine (CAM) use by the elderly population aged 65 and older also revealed that CAM use was highly prevalent in older persons, especially among females and those who are more highly educated. 30 percent of people aged 65 and older used at least one alternative medicine modality in the last year compared with 46 percent of those less than age 65 (46). 19 percent of older people saw a provider of alternative medicine within the past year compared with 26 percent of those less than age 65 (47).

According to the study of Astin JA, Pelletier KR, Marie A, Haskel (34) 15 percent of elderly persons used massage alone. This study also revealed that CAM users tended to be younger, more educated, report either arthritis and/or depression/anxiety, not be hypertensive, engage in exercise, practice meditation, and make more frequent physician visits. Use of CAM was not associated with any observed changes in health status. Although 80 percent reported that they had received substantial benefit from their use of CAM, the majority (58 percent) did not discuss the use of these therapies with their medical doctor.

The study about the utilization rates and costs associated with providing CAM services in 2 benefit designs determined the satisfaction of patients in both plans. The result was that the CAM provider services met with high satisfaction among users. The satisfaction rate compared favorably with results of surveys of users who may be paying wholly out of pocket. A commercially sponsored survey in 1997 reported that 80 percent of users of massage services and 57 percent of users of acupuncture services found them "very helpful." In their findings were 85 percent and 81 percent, respectively, for users of these 2 categories. The study concluded that utilization of

CAM services and per member per month costs were lower than expected given the high interest in CAM services reported in consumer surveys. The high level of satisfaction with CAM services and self reported decrease in the use of pain medications (48).

In overall summary, there were quite many previous studies conducted on Thai Traditional Medicine in Thailand either in general population based or in institutional based. Most of previous studies had described the socio-demographic factors and some of them have investigated on the knowledge, attitude and practice toward utilizing of Thai Traditional Medicine. Further, a few previous studies had assessed the clients' satisfaction toward utilizing Thai Traditional Medicine service in general aspect. However, there has no study been conducted on utilizing of the specific component of Thai Traditional Medicine; that is utilization of Thai Traditional Massage. With the current situation, there is a growing demand for Thai Traditional Massage the Thai population, but factors related to the popularity and utilization of Thai Traditional Massage are still questions that needs to be explored.

As a result, no research has been done to date regarding the actual clinical use of Thai Traditional Massage among people, therefore, this study was designed to find out the current situation of utilization of Thai Traditional Massage. It is important to explore the related factors such as socio-demographic, accessibility, availability resources, and information about Thai Traditional Massage Service as well as health status, the knowledge of clients on Thai Traditional Massage, perceived health benefit of massage, client satisfaction toward utilizing of Thai Traditional Massage. It is also important to find out the demand and feedback from clients' aspect, and to identify the strengths and weakness of the current health delivery service in order to maintain and improve the quality of Traditional Medicine care and service for the future

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research design**

The research design in this study was cross sectional study. It aimed to describe the current utilizing of Thai Traditional Massage (TTM). The study described the related factors of the utilization of Thai Traditional Massage service in terms of socio-economic status, knowledge on TTM, health status, perceived health benefit of massage and satisfaction toward utilizing TTM service. It also examined the association between the utilization of Thai traditional massage and its related factors among clients at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health.

#### **3.2 Study population and sampling procedure**

The Suprom Asrom massage room at the Institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health was used for data collection.

##### **3.2.1 Study population**

Massage clients at the institute were the target population of this study. The respondents were randomly selected from the daily registration list at the counter during the time of data collection (7<sup>th</sup> January to 10<sup>th</sup> February, 2004) by the interviewers. With regardless health status, socio-economic status, and gender factors for selection. Respondents should be 18 years of age or older. Respondents were interviewed and asked for their opinions about Thai Traditional Massage and its service at the institute based on the structured questionnaires. The interviewing was

completed in approximately 15 - 20 minutes after clients received care. Respondents under 18 years old were excluded from this study because of the requiring of given information.

### 3.2.2 Sample size

The sample size of this study was based on a calculation from the following formula: (49)

$$n = \frac{Z_{\alpha/2}^2 p(1-p)}{d^2}$$

Where:

n = minimum sample size

z = standard normal variation score (2-tails) at significance 95% confidence, set at 1.96

p = estimated proportion of population who use Thai massage, based on Subcharoen, 1999 was 49.17% or p = 0.4917

d = Degree of accuracy designed, set at 5% or d = 0.05

$$n = \frac{(1.96)^2 (0.4917)(1 - 0.4917)}{(0.05)^2} = 384 \text{ Respondents}$$

In this study, we recruited 400 respondents.

### 3.2.3 Data sampling method

The studied group was sampled from those clients who were willing to respond to the questionnaire. Based on the average daily number of clients at the Institute of Thai Traditional Massage, the group was sampled from the daily registration list number at the counter. For example, statistic from January 2004 showed that there were average 40 clients per day. Data collection for this study was performed during January 7, 2004 to February 10, 2004, excluding public holidays for

a total number of 22 days. Therefore, data had to be collected from a total sample size (400) divided by 22 days equals 18 to 25 clients day, and the data-sampling interval was calculated as follows:

$$I = \frac{N}{n} \quad \text{where} \quad \begin{array}{l} I = \text{data sampling interval} \\ N = \text{population size} \\ n = \text{sample size} \end{array}$$

$$\text{then, } I = \frac{40}{18} = 2.2$$

The value was chosen is 2 (two). The frequency of respondents to be selected was 2:1. It means that two respondents were selected and the next number would be skipped. The next sampled number was found by adding the number to the data-sampling interval until 400 respondents was reached. If the number sampled did not meet the inclusion of study or a respondent was not ready to answer the questionnaire, then the next number was automatically selected.

### 3.3 Research instrument for data collection

This study applied a quantitative method to assess the respondents' information. The research instrument used for data collection was a structured-questionnaire, which includes the dependent and independent variables based on the conceptual framework and entirely conveying the study objectives. The questionnaire was reviewed and analyzed by experts for content validity (most questions were close-ended, with some open-ended questions, check block, and interview). The approach was using interviews, and observations. The questionnaire consists of 5 parts based on the conceptual framework as the following shows:

#### **Part I: Predisposing factors**

The questions of this part include socio-demographic characteristics of respondents in terms of age, gender, marital status, educational background. Most of questions were close-ended.

Regarding knowledge on Thai traditional massage, questions were designed as statements by using the scaling measurement method (True-False). Respondents answered questions about their general understanding of massage either with “True”, which was given a score of 1 (one), or “ False” which was given a score of 0 (zero).

### **Part II: Enabling factors to visit massage**

In this part, the questions were concerned about the availability and accessibility to massage services, which included distance, mode of transportation, traveling time spent, waiting time to see a doctor, and also questions about occupation and family income. Most of the questions were close-ended.

### **Part III: Need factors**

In this part, respondents were asked about their health status and to assess the perceived health benefit of Thai massage.

1. Health status: questions were asked about respondent’s health condition in general, both physical and psychological problems within the last year, within three month and within one month before the study conducted.

2. Perception health benefit of massage: questions were concerned with respondent’s thoughts or feelings about the benefit of Thai Massage. A respondent’s opinion was measured by giving the degree of agreement. The score criteria was broken into three levels: Agree = 3 score, Undecided = 2 score, Disagree = 1 score.

### **Part IV: Utilization of Thai traditional massage**

In this part, questions was asked about the frequency of use of Thai Traditional Massage per month, what type of traditional massage was received, sources of information about massage service, and the purpose of clients came to visit the massage services.

## **Part V: Client satisfaction toward utilizing Thai Traditional Massage**

In this part, satisfaction questions regarding respondent's satisfaction toward utilizing Thai massage, which included convenience, courtesy, information, services cost and quality of care. The satisfaction questions were designated by using five levels of Likert scaling method: very satisfied = 5 score, satisfied = 4 score undecided = 3 score, dissatisfied = 2 score, very dissatisfied = 1 score.

In addition, there were three questions regarding suggestions and recommendations of respondents.

The pre-test questionnaire was conducted to 30 respondents who were not included in the sample of the study in Chaophya Abhaibhubejhr hospital, Prachinburi Province. Pre-test data was analyzed by a statistical software computer program to see the reliability of the questionnaire using Cronbach's Alpha Co-efficient Test before implementing data collection for the whole sample size. Resulted of pre-test data showed that the reliability co-efficient of knowledge on Thai Traditional Massage  $\alpha = 0.6058$ , perceived of health benefit of massage  $\alpha = 0.7016$ , and satisfaction toward utilizing Thai Traditional Massage  $\alpha = 0.9520$ . This process had helped to ensure whether all words and instructions were clear and understandable by respondents; some questions were modified or revised to make it simple and easily understood.

### **3.4 Data collection procedure**

An introduction letter was requested from AIHD, Mahidol University, to the Director of Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health to explain objectives and to ask for permission to collect data and test research instruments at the Institute of Thai Traditional Medicine.

After finishing the pre-test process, some questions, which were not understandable by respondents, has been revised or modified according to the pre-test

experiences. The construct questionnaire were used for interviewing respondents in a sample size studied population during data collection from 7<sup>th</sup> January to February 10<sup>th</sup> 2004.

The data were collected by trained interviewers who had some background and knowledge on Thai massage. Four Thai persons, who could communicate using English with the researcher. They were provided some knowledge on interviewing skills and have an orientation about the objectives of the study in order to make sure that all interviewers correctly understand every item of the questionnaires, how to interview and how to fill in the questionnaires.

Before starting the interview, the questionnaire was explained to interviewers in detail about the data collection required. The interviewers were required to be honest with any information that has been provided by respondents during all the interviews.

The data collection procedure started with interviewing respondents after receiving massage. During the interview, the interviewer had to fill out the questionnaire and take notes based on the respondent's response. This process has conducted daily from January 7<sup>th</sup> to February 10<sup>th</sup> 2004. Each questionnaire was approximately took 15 to 20 minutes to complete. More specifically, the interviewing process consists of the following:

- The sample of the study group started by the predetermined sequences according to the order numbered digit in registration list at counter.
- After customers pass through a service procedure at the counter to get an order numbered digit in registration list, the interviewer introduced themselves to the respondents while the clients were waiting to receive a massage, and explain the research oriented objective and request an interview. The respondents were reassured that the rights and ethics of research participants has been protected.
- When respondents agreed to participate, they were informed and prepared to be interviewed at the previously arranged site after they received massage. Respondents were told that the interview took 15-20 minutes of their time.

After interviewing, the interviewers had to check all of the questionnaires and complete any missing information to increase accuracy of measurement. The supervisor or researcher rechecks the completeness of each question in the field.

The researcher, during the course of data collection, did observation the interview period everyday. After finishing the interviews, the researcher has organized a short meeting among interviewers in order to discuss problems they encountered, and to find solutions to the problems for the next day.

### 3.5 Data processing analysis

Questionnaires were checked, coded and entered into the computer by using statistical package software. After summarizing and organizing data, **Descriptive statistics** used to describe the socio-economic demographic variable of respondents, such as age, sex, family income, education and occupation by using frequency, percentage, mean, and standard deviation and median. The evaluation of whether the association between independent and dependent variable are significant or not by using **Analytic statistics**, Chi-Square was used to find out whether the association between categorical variables. The level of statistical significant used for this study is 0.05 (5%).

More specifically, descriptive statistical analysis was used to analyze variables in groups. The age group was divided into three categories based on MEDLINE and CINAHL Indexing Practices, compiled by Margaret (Peg) Allen, MLS-AHIP, 2003 (50) criteria as follows:

Adult age: 18 – 44 years

Middle age: 45-64 years

Older age:  $\geq$  65 years

The education variable was classified into 2 categories: primary school and secondary school were considered as low education group, and upper high school was considered as high education group.

The occupation variable was also classified into two groups: those who were working as labors, government employees and business occupations were considered as the working group, and those who were housewives, students and retired were grouped into the non-working group.

Family income level was grouped into four categories based on the nature distribution of frequency data collected and based on average family monthly income by region of National Statistical Office, Ministry of Information and Communication Technology, 2002 (51) as a cutting points as follows:

- ≤ 15,000 Baht
- 15,001 – 25,000 Baht
- 25,001 – 50,000 Baht
- > 50,000 Baht

Regarding knowledge on Thai traditional massage was set up as those who responded to “True” was given a score of 1 (one), and those who responded to “False” a score of 0 (zero). After sum up total score of knowledge questions, knowledge levels were grouped into three groups based on cutting point of percentage. Less or equal 60% of true answer was considered as low level, 70 – 80% of true answer was considered as moderate level and more than 80% of true answer was consider as good knowledge on Thai Traditional Massage.

As for perceived health benefit of massage, respondents respond to each statement measured by 3 levels of scaling method; agree = 3 score, undecided = 2 score and disagree = 1 score. After computing the total score of perceived health benefit statements. It was grouped into three groups with calculating as follows:

$$\text{Range interval} = \frac{\text{Maximum scores} - \text{Minimum scores}}{\text{Number of measuring levels}}$$

Regarding perceived health benefit of massage, we had 12 questions in total; Agree = 3 score, Undecided = 2, Disagree = 1 score. It was divided in three groups as follows:

$$\text{Range interval} = \frac{36 - 12}{3} = 8$$

Low: 12 - 19 scores

Moderate: 20 - 27 scores

High: 28 - 36 scores

For client's satisfaction, the composite variable of convenience, courtesy, information, service cost and quality of care was used. After computing total score of satisfaction statement from each respondent. It was divided into three groups with calculated as follows:

$$\text{Range interval} = \frac{\text{Maximum scores} - \text{Minimum scores}}{\text{Number of measuring levels}}$$

In this study, we had 11 questions in total regarding satisfaction of client; Very Satisfied = 5 score, Satisfied = 4 score, Undecided = 3 score, Dissatisfied = 2 score, Very dissatisfied = 1 score. It was divided in three groups as follows:

$$\text{Range interval} = \frac{55 - 11}{3} = 14.66$$

Low: 11 - 24 scores

Moderate: 25 - 39 scores

High: 40 - 55 scores

## CHAPTER IV

### RESULTS

Four hundred respondents were randomly selected and interviewed, based on a structured questionnaire by four Thai interviewers at the Institute of Thai Traditional Medicine, from 7<sup>th</sup> January to 10<sup>th</sup> February, 2004

The findings of the study was based on and conveyed from the conceptual framework, which included both independent variables and dependent variable. In this chapter, descriptive and inferential analyses were used to describe the respondents' socio-demographic factors and to find out the association between the frequency of utilizing of Thai Traditional Massage and independent variables.

The descriptive analysis section includes frequency and percentage of respondents as the following:

1. Predisposing factors:
  - Socio-demographic characteristics
  - Level of knowledge on Thai Traditional Massage
2. Enabling factors for visiting massage service
  - Availability of Thai Traditional Massage service
  - Accessibility to Thai Traditional Massage service
3. Need factors:
  - Health status
  - Perceived health benefits of Thai Traditional Massage
4. Utilization of Thai Traditional massage
5. Level of satisfaction toward utilization of Thai Traditional Massage

Inferential analysis, Pearson Chi-square test was performed to find out the association between the utilization of Thai Traditional Massage and independent categorical variables. Statistical tests were two-tailed and interpreted at the 5% significance level.

## 4.1 Descriptive results

### 4.1.1 Distribution of socio-demographic characteristics

In table 1, there were six categories of socio-demographic characteristics with frequency and percentages as summarized. The total number of respondents was 400. Regarding age groups of respondents, ranging from 18 to 77 years old, the mean age was 43.57 years and standard deviation was 14.38. More than a half (57.5%) of the respondents belonged to adult age, more than one-third (32.3%) of respondents was middle age and more than ten percent (10.5%) of them were older age.

Concerning gender, among 400 respondents, more than half (56.3%) were females and 43.7% (175) were males. 56.8% (227) were married, more than one third (39.5%) were single and the remaining 3.7% (15) were separated, either divorced or widowed, when accounted for the marital status of the respondents.

As for educational level of the respondents, almost half (46%) of respondents had had the university education, and one fifth (20.3%) of respondents those had college education. 15.2% (61) of respondents had high school education and 10.5% (42) of respondents had primary school education. 5.7% (23) of respondents had secondary school education and the other 2.3% (9) of them had higher education to masters.

Regarding occupation, majority of respondents were government employee 21.3% (85), retired government employee being 16.2% (65) and business 15% (61). Housewives were 14.0% (56), private enterprise employee were 12% (48), and 10% (40) were laborers, 5.2% (21) were students, public enterprise employee 4.5% (18) and only 1.5% (6) was in agriculture sector.

Family monthly income was classified into four groups. The findings showed that the median family monthly income in the study was 20,000 Baht, ranging from 5,000 to 100,000 Baht. The majority of respondents in the study earned less than

or equal 15,000 Baht, which accounted for 40.5%(162). One fourth (25%) of respondents earned of 15,001 to 25,000 Baht. Nearly one third (29.5%) of respondents earned from 25,001 to 50,000 Baht and only 5% (20) of them earned more than 50,000 Baht per month.

**Table 1** Distribution of socio-demographic characteristics of respondents

<b>Characteristics</b>	<b>Frequency (N=400)</b>	<b>Percentage (%)</b>
<b>Age in years</b>		
18-44	229	57.2
45-64	129	32.3
65-77	42	10.5
Mean: 43.57    SD: 14.38    Min: 18    Max: 77    Scale: Year		
<b>Gender</b>		
Male	175	43.7
Female	225	56.3
<b>Marital status</b>		
Single	158	39.5
Married	227	56.8
Divorced/separated/widowed	15	3.7
<b>Education level</b>		
Primary school	42	10.5
Secondary school	23	5.7
High school	61	15.2
College	81	20.3
University	184	46.0
Others	9	2.3

**Table 1** Distribution of socio-demographic characteristics of respondents (Cont.)

Characteristics	Frequency (N=400)	Percentage (%)
<b>Main Occupation</b>		
Agriculture	6	1.5
Laborer	40	10.0
Government employee	85	21.3
Own business	61	15.3
Housewife	56	14.0
Student	21	5.2
Public enterprise employee	18	4.5
Retired government employee	65	16.2
Private enterprise employee	48	12.0
<b>Family monthly income (Baht)</b>		
≤ 15,000	162	40.5
15,001-25,000	100	25.0
25,001-50,000	118	29.5
> 50,000	20	5.0
Median: 20,000	Min: 5,000	Max: 100,000
Scale: Baht		

#### 4.1.2 Level of knowledge on Thai Traditional Massage

The percentage of true answer in each statement on True False scale was obtained. There were five negative and five positive statements of knowledge on Thai Traditional Massage questionnaire. Most of the respondents had positive answer for each statement of knowledge on Thai Traditional Massage. However, some negative statements those agreed to be true one did not attain a high percentage as shown in table 2

**Table 2** Distribution of true answer of knowledge on Thai Traditional Massage among respondents

Knowledge statement	Number of true answer	Percentage (%)
TTM can be seen as a national heritage and ancient wisdom of Thai culture	395	98.8
TTM can alleviate muscular fatigue and pain.	387	96.8
TTM can be a mean of treatment, prevention and promotion for health.	383	95.8
Folk massage is given to clients using different part of masseurs' body.	350	87.5
Royal massage is given to clients using only hands and fingers.	342	85.5
TTM can cure all serious illness *	329	82.3
TTM can not relieve psychological or mental tension *	274	68.5
TTM can rehabilitate paralysis completely *	236	59.0
TTM must be applied with oil or herbal *	162	40.5
Foot massage is part of Thai traditional massage*	67	16.8

\* : Negative statement      TTM: Thai Traditional Massage

Table 3 presented the level of knowledge on Thai Traditional Massage among respondents. Since the knowledge data was not normal distribution in this study so the cutting off point of knowledge level was defined based on percentage of total true answer. It was divided into three levels; poor ( $\leq 60\%$ ), fair (70 – 80%) and good ( $> 80\%$ ).

**Table 3** Level of knowledge on Thai Traditional Massage among respondents

Level of knowledge	Frequency (N=400)	Percentage (%)
Poor ( $\leq 6$ )	96	24.0
Fair (7-8)	230	57.5
Good ( $\geq 9$ )	74	18.5
Median: 7	Min: 3	Max: 10
Scale: Point score		

In this study, more than 18% of respondents answered positively from 9 to 10 questions indicated as good level of knowledge. Most of them successfully answered from 7 to 8 questions indicated as fair level of knowledge, which accounted 57.5%, and nearly one fourth (24%) of them got answers less than 7 correct items, showing as poor level of knowledge on Thai Traditional Massage. The median score of knowledge was 7 and varied from 1 to 10 on scale.

#### 4.1.3 Availability of Thai Traditional Massage service

Table 4 showed the assessment by respondents on the current resources of Thai Traditional Massage Service. 78.8% (315) of them reported that the location of service is quite convenient for them. Interestingly, A half (50.2%) of respondents who revealed that there were not enough masseurs at the time of the study was conducted. Regarding massage rooms and massage beds, most of them reported them sufficient, 63 % ( 252) and dressing cloth 76.8 % ( 307) as shown in table 4

**Table 4** Distribution of the current resources about Thai Traditional Massage Service by respondents' assessment

Sources of Thai Traditional Massage Service	Yes		No	
	N	(%)	N	(%)
Location is convenient	315	(78.8)	85	(21.2)
There are enough masseurs	199	(49.8)	201	(50.2)
There are enough massage rooms and massage beds	252	(63.0)	148	(37.0)
There are sufficient tool and appliance used for service such as dressing cloth	307	(76.8)	93	(23.2)

#### 4.1.4 Accessibility to Thai Traditional Massage service

**Table 5** Distribution of the distance in kilometers from respondents' house to the Thai Traditional Massage service

Distance (Km)	Frequency (N=400)	Percentage (%)
≤ 10	175	43.8
11-30	144	36.0
> 30	81	20.2
Median: 15	Min: 1	Max: 400
Scale: Kilometer		
<b>Was it far?</b>		
Yes	152	38.0
No	248	62.0

Table 5 indicated the frequency and percentage of the distance from their house to Service in kilometers. The findings showed that more than 43.8%(175) of respondents fell in category less than 10 kilometers. More than one third (36%) of

respondents were in category from 11 to 30 kilometers from their house and one fifth (20.2%) of them were having more than 60 kilometers far from their house. The median distance was 15, ranging from 1 kilometer to 400 kilometers. There was 62% (248) of respondents those reported Thai Traditional Massage not being far from their house surroundings as show in table 5.

**Table 6** Distribution of transportation means to the Thai Traditional Massage service of respondents

Means of transportation	Frequency (N=400)	Percentage (%)
Own car	246	61.5
Public transportation (bus)	96	24.0
Taxi	27	6.7
Motor cycle	25	6.3
Walking on foot	4	1.0
Other (by boat...)	2	0.5

Table 6 presented the frequency and percentage of transportation means among respondents when they arrived to use Thai Traditional Massage service. The results showed that out of 400 respondents, More than two third (61.5%) of respondents had their own car. Nearly one fourth (24%) of respondents used public transportation (bus) and 6.7%(27) of respondents used taxi. 6.3% (25) of them used motor cycle and the rest 1.5% either walk on foot or use other means such as boat.

Table 7 revealed that the frequency and percentage distribution of traveling time spent among respondents. The majority of the respondents 46.5 %(186) spent less than or equal 30 minutes to travel, more than one third (39%) of respondents spent 31 to 60 minutes for traveling and 14.5%(58) of respondents spent more than 60 minutes for traveling. The median traveling time spent in this study was 40 minutes, ranging from 3 to 300 minutes.

**Table 7** Frequency and percentage distribution of traveling time spent in minutes from respondents' house to the Thai Traditional Massage service

Traveling time spent (in minutes)	Frequency (N=400)	Percentage (%)
≤ 30	186	46.5
31-60	156	39.0
> 60	58	14.5
Median: 40	Min: 3      Max: 300	Scale: Minutes

**Table 8** Distribution of time in hours to complete the whole massage process in the Thai Traditional Massage service

To complete the whole massage process (in hours)	Frequency (N=400)	Percentage (%)
One hour	148	37.0
Two hours	208	52.0
Three hours	19	4.8
Other	25	6.2
Median: 2	Min: 1      Max: 3	Scale: Hour
Was the whole complete massage process long?		
Yes	34	8.5
No	366	91.5

The frequency and percentage of time in hours to complete the whole massage process in the Thai Traditional Massage as shown in table 8. More than a half (52%) of the of respondents completed their massage process in two hours and more than one third (37%) of respondents completed the whole massage process in one hour. Only 4.8%(19) of them completed their massage process in three hours, and 6.2%(25) of them completed in the other hours; one and a half hour or two and a half

hour. The median of time to complete the whole massage process was 2 hours, ranging from 1 to 3 hours. Most of respondents (91.5%) reported that the massage process was not too length.

**Table 9** Distribution of waiting time in minutes to see doctors for examining and frequency and percentage of physical examination

<b>Waiting time to see doctor (in minutes)</b>	<b>Frequency (N=386)</b>	<b>Percentage (%)</b>
≤ 15	144	37.3
16-30	141	36.5
> 30	101	26.2
Median: 20	Min: 2    Max: 120	Scale: Minutes
<b>Was it too long?</b>		
Yes	144	37.3
No	242	62.7
<b>Physical examination</b>		
Yes	386	96.5
No	14	3.5

Table 9 concerned on the frequency and percentage distribution of waiting time in minutes to see the doctors for examining. Out of the 400 respondents total study population, there were 37.3 %( 144) of respondents have waited for doctor less than or equal 15 minutes to do examination. Similarly, more than one-third (36.5 %) of respondents waited for doctor from 16 to 30 minutes and 26.2%(101) of them waited for doctor more than 30 minutes. In this study, the median of waiting time to see doctor was 20 minutes, ranging from 2 to 120 minutes. Concerning about physical examination, there was more than 96%(386) of respondents had physical examination before they received Thai Traditional Massage, and more than 62%(242) among

respondents who had physical examination reported that the waiting time to see doctor was not too long.

**Table 10** Distribution of respondents' opinion on the fee of massage service per visiting

Was it expensive?			Frequency (N=400)	Percentage (%)
Yes			60	15.0
No			340	85.0
Median: 200	Min: 100	Max: 350	Scale: Baht	

Table 10 showed the distribution of the respondents' opinion on the fee of Thai Traditional Massage Service per visit. The result found that there were 85%(340) of the respondents reported that the price was inexpensive, However, there was 15% (60) said that the price of massage service per visit was not inexpensive. The median price of massage service was 200 Baht, ranged from 100 to 350 Baht. It was depend on how many types of massage that respondents received at the time they visited.

#### 4.1.5 Health status

Table 11 indicated the frequency and percentage distribution of the self-assessment on general health status among respondents. The findings revealed that one third (31.0%) of the respondents had good health status and more than one fourth (27%) of respondents self-reported that they had fair health status. 24.8%(99) of them reported that they had very good health status and only 5%(20) of respondents out of total study population reported having excellent health status. 9%(36) of respondents could not assess their general health status and 1%(4) of respondents refused to report their health status.

**Table 11** Distribution of the self-assessment on general health status among respondents

Health status	Frequency (N=400)	Percentage (%)
Excellent	20	5.0
Very good	99	24.8
Good	124	31.0
Fair	108	27.0
Poor	36	9.0
Not sure	9	2.2
Refused	4	1.0

Table 12 indicated the frequency and percentage distribution of illness within the last year, over 30 days and self-comparison to the past three months among respondents. The findings showed that more than two third (68.3%) of respondents did not have any illness within the last year and one third (32.7) of respondents exposed illness during the last year.

Over the past 30 days since the this study was conducted, over two third (69.3%) of respondents reported that they did not have any physical illness including injuries, meanwhile only 5.5%(22) of respondents reported that they got physical illness. One fifth (21.7%) of them reported they did not know whether they got physical illness or not and only 3.5%(14) of them refused to report their health condition. Similarly, more than two third (67.7%) of respondents reported they did not have any mental illness such as stress, depression or problems with their emotion. Meanwhile, only 5.5%(22) of respondents reported they got mental illness and more than one fifth (23.5%) of them reported they did not know whether they got mental illness or not, and only a few (3.3%) of them refused to report their health condition at the time seeking the service.

Compare to the past three months, the results revealed that A half of (51%) of respondents reported their health stage were the same as the past three months, while one third (30.8%) of them reported their health getting better. only 6%(24) of respondents reported their health worse and 12.2%(49) of respondents reported they did not know whether their health getting better or worse.

**Table 12** Distribution of illness during the last year, over the past 30 days and self-comparison to the past three months among respondents

Having illness	Frequency (N=400)	Percentage (%)
Last year		
Yes	127	32.7
No	273	68.3
Over the past 30 days, physical illness including injuries		
Yes	22	5.5
No	277	69.3
Don't know	87	21.7
Refused	14	3.5
Over the past 30 days, mental illness including stress, depression and problems with emotions		
Yes	22	5.5
No	271	67.7
Don't know	94	23.5
Refused	13	3.3
Compared to the past three months		
The same	204	51.0
Better	123	30.8
Worse	24	6.0
Don't know	49	12.2

Table 13 indicated the frequency and percentage distribution of specific illness among respondents at the time seeking Thai Traditional Massage service. The result found that the majority of the respondents had musculo-skeletal system problems. More specifically, 42.8%(171) of respondents had back pain, 39.5%(158) of them got muscular pain and 5.3%(21) of them had arthritis. 3.5%(14) of respondents had mental illness such as stress, depression and anxiety. There were 17.4%(58) of them had other illness, such as gastric disease, blood disease, diabetes, injuries and fracture ranged 0.3% to 0.8 % out of total study population, in this category including those exposed as body pain symptoms such as shoulder pain, neck pain, knee pain, hip pain, joint pain, hypertension, paralysis, allergy and flu. In addition, there was 12%(48) of respondents visited TTM massage service just want to improve their health.

**Table 13** Distribution of the specific illness among respondents, who came to utilize Thai Traditional Massage service

Specific illness	Yes		No	
	N	(%)	N	(%)
Back pain	171	42.8	229	57.2
Muscular pain	158	39.5	242	60.5
Arthritis	21	5.3	379	94.7
Stress, depression, anxiety	14	3.5	386	96.5
Other illness	69	17.4	331	82.6
Want to improve health	48	12.0	352	88.0

#### 4.1.6 Level of the perceived health benefit of Thai Traditional Massage

The row percentage of each statement on the three-point scale measurement was obtained. There were five negative and seven positive statements. Most of the respondents had positive answers toward perceived health benefit of massage statements. However, some were still undecided on their own perception in

almost all of the perceived statements, especially with the negative statements as shown in table 14

**Table 14** Distribution of the perceived health benefit on Thai Traditional Massage among respondents

Statements	Agree	Undecided	Disagree
	(3)	(2)	(1)
	% (N)	% (N)	% (N)
Using TTM make us healthy	93.5 (374)	5.5 (22)	1.0 (4)
TTM improves circulation of blood and lymph fluids.	93.0 (372)	5.8 (23)	1.2 (5)
TTM can heal sprained ligaments and swelling.	88.0 (352)	10.7 (43)	1.3 (5)
TTM can increase joint flexibility and motion	79.0 (316)	20.0 (80)	1.0 (4)
TTM can relieve mental stress	75.3 (301)	18.0 (72)	6.7 (27)
TTM increases awareness of the mind-body connection	65.3 (261)	32.7 (131)	2.0 (8)
TTM can not enhance sound sleep *	52.0 (208)	29.3 (117)	18.7 (75)
TTM strengthens the body immune system	51.8 (207)	41.5 (166)	6.7 (27)
TTM can not help relieve tension related to headache *	50.3 (201)	25.0 (100)	24.7 (99)
TTM does not promote deeper and easier breathing *	39.5 (158)	36.5 (146)	24.0 (96)
TTM can not enhance calm thinking and concentration *	31.3 (125)	48.5 (194)	20.2 (81)
TTM can not enhance the ability to absorb nutrients of muscles.*	27.3 (109)	54.0 (216)	18.7 (75)

\* : Negative statement      TTM: Thai Traditional Massage

Table 15 presented the level of perceived health benefits of massage among respondents. Since the distribution of the perceived health benefit of massage data was not normal distribution, so the cutting off point of perceived health benefit level was defined based on group rating score. It was divided into three levels; low, moderate and high.

In this study, the median score of perceived health benefit of massage was 30 and ranged from 22 to 36. More than two third (75.7%) of respondents showed had high level of perceived health benefit with total score more than 27, while nearly one fourth (24.3%) of them had moderate level with total score was between 20 to 27. No respondent showed as low level of perceived health benefit of massage with score less than 20 in this study, because the study population was selected from the clinic based so they may have perceived on this service already.

**Table 15** Level of the perceived health benefit of Thai Traditional Massage among respondents

Level of perceived health benefit	Number (N=400)	Percentage (%)
Low (12 - 19)	0	0.0%
Moderate (20 - 27)	97	24.3
High (28 - 36)	303	75.7
Median: 30      Min: 22      Max: 36	Scale: Point score	

#### 4.1.7 Distribution of utilization of Thai Traditional Massage

Table 16 showed the distribution of source information on Thai Traditional massage service. More than one third (36%) of respondents showed that neighbors/colleagues were the most common source information for them to visit Thai Traditional Massage Service. more than one fifth (22.7%) of respondents got

information from the family members/relatives and other one fifth (21%) of them got information on Thai Traditional Massage by themselves. Apart from that health Providers and media such as radio, television was also the source information with 11.5%(46) and 8.8%(35) respectively.

**Table 16** Distribution of source information on Thai Traditional Massage service among respondents

<b>Sources of information</b>	<b>Frequency (N=400)</b>	<b>Percentage (%)</b>
Themselves	84	21.0
Neighbors/ colleagues	144	36.0
Family members/ relatives	91	22.7
Health providers	46	11.5
Radio, television	35	8.8

**Table 17** Distribution of the reasons to visit Thai Traditional Massage among respondents

<b>Reasons visited Thai Traditional massage Service</b>	<b>Frequency (N=400)</b>	<b>Percentage (%)</b>
Belief that modern medicine alone can not help improve health	34	8.5
Fear of western drug side effects	18	4.5
Rehabilitation of physical health	40	10.0
Alleviate chronic musculo-skeletal pain	123	30.8
Relive stress, depression and anxiety	48	12.0
Maintenance health	39	9.7
Relaxation	98	24.5

Table 17 showed the distribution of reason for visiting TTM service among respondents. More than one third (30.8%) of respondents visited TTM service for alleviate chronic musculo-skeleton pain, nearly one fourth visiting TTM for relaxation. There were 12% of them visit TTM for reliving stress, depression and anxiety, ten percent of them visited TTM for rehabilitation of physical health, 9.7% for maintenance health and 8.5% of them visited TTM service because of their belief that modern medicine alone can not help improve their health. This result was also divided into three groups according to the purpose toward utilizing TTM among respondents, as shown in table 18.

**Table 18** Distribution of the massage purpose toward utilizing Thai Traditional Massage among respondents

<b>Purpose</b>	<b>Frequency (N=400)</b>	<b>Percentage (%)</b>
Promotion of health	73	18.3
Treatment	229	57.2
Relaxation	98	24.5

Table 18 presented the frequency and percentage distribution of the purpose toward utilizing Thai Traditional massage among respondents. Concerning with the purpose of utilizing Thai Traditional Massage, the result revealed that nearly two third (57.2%) of the respondents reported that they used Thai Traditional Massage for treatment. Nearly one fourth (24.5%) of them used Thai Traditional Massage for relaxation and less than that (18.3%) of respondents reported they used Thai Traditional Massage for promotion of their health.

**Table 19** Distribution of utilization of Thai Traditional Massage per month among respondents

Using of Thai Traditional Massage	Frequency (N=400)	Percentage (%)
First time	152	38.0
Two times per month	112	28.0
Three times per month	27	6.8
Four times per month	36	9.0
More than four times per month	19	4.8
Occasionally **	54	13.4

\*\* : Those respondents visited Thai Traditional Massage Service by occasionally. It was qualitatively responded by respondents. It was not absolutely counted per month.

Table 19 indicated that the frequency and percentage of utilization of Thai Traditional Massage. Out of the total study population, there were nearly half (48.6%) of respondents used Thai Traditional Massage at least two times per month. More than one third of respondents (38%) used Thai Traditional Massage at the first time and more than one fourth (28%) of them used Thai Traditional Massage two times per month. There were 6.8%(27) of them used three times per month and 9%(36) of respondents used Thai Traditional Massage four times per month respectively. Only 4.8%(19) of them used Thai Traditional massage more than four times per month. In addition, there were 13.4%(54) of respondents used Thai Traditional massage in occasionally indicated that they used when they got body pain or used one time per two months, one time per three months and so on.

**Table 20** Distribution of types of Thai Traditional Massage used among respondents

Type of massage	Frequency	Percentage
Royal massage	272	68.0
Folk massage	95	23.7
Body massage with oil	10	2.5
Body massage with herbal	86	21.5
Foot massage	72	18.0

Table 20 presented the distribution of types of Thai Traditional massage among respondents. This question was multiple choice answered. From the findings showed that more than two third (68%) of the respondents used Royal massage and nearly one fourth (23.8%) of them used Folk massage. One fifth (21.5%) of respondents used body massage with herbal and 18%(72) of them used foot massage respectively. Only 2.5%(10) of them used body massage with oil at the time of this study was conducted.

#### 4.1.8 Level of satisfaction toward utilizing Thai Traditional Massage

The row percentage of each statement on the Likert five-point scale was obtained. There were neutral satisfaction statements in the questionnaire. Most of the respondents showed had positive answer toward the Thai Traditional Massage Service in satisfactory and very satisfactory levels. However, some were still undecided on their own evaluation in almost all of the satisfaction statements as shown in table 21.

Respondents was very satisfied on the politeness and friendliness of masseurs/masseuses and health personnel (43.2%), follows by the appropriate fee for massage services (42.5%) and the whole process of massage service was reasonable (39.3%). However, the percentage of respondents who had very satisfied on the working hours of service was lowest (28.8%) among the other satisfaction statements.

**Table 21** Distribution of satisfaction toward utilizing Thai Traditional Massage among respondents

Satisfaction Statements	Very satisfied (5)	Satisfied (4)	Undecided (3)	Dissatisfied (2)	Very dissatisfied (1)
	%	%	%	%	%
	(N)	(N)	(N)	(N)	(N)
Masseurs, health personnel are polite and friendly.	43.2 (173)	51.7 (207)	4.5 (18)	0.3 (1)	0.3 (1)
Appropriate fee for massage service	42.5 (170)	50.5 (202)	5.2 (21)	1.0 (4)	0.8 (3)
Whole process of massage service is reasonable	39.3 (157)	54.52 (18)	5.2 (21)	1.0 (4)	0.0 (0)
The doctors gave you a lot of suggestions on your health problem.	38.3 (153)	50.2 (201)	9.7 (39)	1.5 (6)	0.3 (1)
Giving massage, masseurs paid close attention on what they were doing	36.2 (145)	56.2 (225)	6.3 (25)	0.8 (3)	0.5 (2)
Massage rooms, waiting room are clean and comfortable	35.8 (143)	54.7 (219)	8.5 (34)	0.7 (3)	0.3 (1)
Massage beds, dressing cloth are clean and tidy	35.3 (141)	53.5 (214)	7.7 (31)	2.0 (8)	1.5 (6)
Masseurs have skills on treatment.	34.0 (136)	53.0 (212)	12.5 (50)	0.3 (1)	0.3 (1)
Doctors have very good knowledge on diagnosis and treatment.	33.7 (135)	49.5 (198)	15.3 (61)	0.5 (2)	1.0 (4)
The doctors gave very clear explanation about your health treatment and prevention	32.0 (128)	50.5 (202)	14.7 (59)	2.5 (10)	0.3 (1)
The working hours of service are good	28.8 (115)	59.5 (238)	9.0 (36)	2.0 (8)	0.7 (3)

Table 22 presented the level of satisfaction toward utilizing Thai Traditional massage service among respondents. Due to the distribution of the satisfaction data was not normal distribution, so the cutting off point of satisfaction data was defined based on group rating score. It was divided into three levels; low, moderate and high.

**Table 22** Level of satisfaction toward utilizing Thai Traditional Massage among respondents

<b>Level of satisfaction</b>	<b>Number (N=400)</b>	<b>Percentage (%)</b>
Low (11- 24)	0	0.0%
Moderate (25-39)	30	7.5
High (40- 55)	370	92.5
Median: 46      Min: 19      Max: 55	Scale: Likert scale	

From table 22, it was seen the median score of satisfaction toward Thai Traditional Massage Service was 46, ranged from 19 to 55. Almost (92.5%) respondents showed high satisfaction toward utilizing TTM service with total score more than 39, while only 7.5% of them showed as moderate satisfaction level with total score between 25 to 39 and there was no respondent had low level of satisfaction with score less than 25. Because the study population was selected and interviewed by the health staffs from TTM service so they may have bias information on evaluating of clients' satisfaction

## **4.2 The association between the frequency of utilizing Thai Traditional Massage and related factors**

### **4.2.1 The relationship between predisposing factors and the frequency of utilizing Thai Traditional Massage among respondents**

The table 23 revealed the relationship between socio-demographic characteristics and the frequency utilizing Thai Traditional Massage (TTM). Regarding age, the results showed that in category of the first time used, there were only 19% of older age group 65 to 77 years compare to 36.4% of middle age group 45 to 64 years and 42.4% of adult age group 18 to 44 years. In the category of two times visited, there was not much different proportion among three groups age. However, in category of more than two times visited TTM per month, there were big different proportions among three groups age. 38.1% of older age group compare to 24% of middle age group and 15.3% of adult age group. There was significant relationship between age of respondents and the frequency of utilizing TTM with P value = 0.004. In short, there was lower percentage of older age group visited TTM at the first time, but having higher older age group at the next visited.

Regarding gender, there were not much different the percentage of utilization TTM per month in each group of age. There was no significant difference of utilizing TTM between male and female with P value = 0.863.

According to the findings of this study, in category of first time visited, the percentage utilization of TTM of unmarried and married people was not much different. However, in category of two times and more than two times visited, there were big different proportions of utilization TTM between married and unmarried people. 45.7% of unmarried people compare to 38.3% of married people in the group of two times visited. Similarly, in the group of more than two times visited, the percentage of married people (23.3%) to visit TTM was higher than those unmarried (16.8%). However, there was no significant relationship between marital status and the utilizing of TTM with P value = 0.186

Concerning education level, there were slightly different proportions of utilization between low and high level of education in each group of utilization of TTM per month. However, there was no significant relationship between level of education and the frequency of utilizing TTM with P value = 0.709

Occupation was grouped into two groups; working group and non-working group. the result showed that there was not much different the proportions of utilization TTM in group first time visited, but in group of two times visited and more than two times visited, the percentage of utilization TTM were quite different between working group and non working group. However, there was no significant relationship between occupation and the frequency of utilizing TTM with P value = 0.194.

Concerning the family monthly income, the proportion of utilization TTM in each group income were not much different. However, there were more than half (55%) of those who had income more than 50,000 Baht visited TTM service two times per month. There was no significant relationship between family income and the frequency of visit to TTM with P value = 0.831.

**Table 23** Association between socio-demographic characteristics and the frequency of utilizing Thai Traditional Massage among respondents

Characteristics	Frequency of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	First time	≤ 2 times/ month	> 2 times/ month		
	N (%)	N (%)	N (%)		
<b>Age in years</b>				15.544	0.004 *
18 - 44	97(42.4)	97(42.4)	35(15.3)	(4)	
45 - 64	47(36.4)	51(39.5)	31(24.0)		
65 - 77	8(19.0)	18(42.9)	16(38.1)		
<b>Gender</b>				0.295	0.863
Male	66(37.7)	71(40.6)	38(21.7)	(2)	
Female	86(38.2)	95(42.2)	44(19.6)		
<b>Marital status</b>				3.365	0.186
Unmarried	65(37.6)	79(45.7)	29(16.8)	(2)	
Married	87(38.3)	87(38.3)	53(23.3)		
<b>Education level</b>				0.688	0.709
Low education	27(41.5)	24(36.9)	14(21.5)	(2)	
High education	125(37.3)	142(42.4)	68(20.3)		
<b>Occupation</b>				3.278	0.194
Working group	100(38.8)	112(43.4)	46(17.8)	(2)	
Non-working group	52(36.6)	54(38.0)	36(25.4)		
<b>Family monthly income (Baht)</b>				2.821	0.831
≤ 15000	62(38.3)	69(42.6)	31(19.1)	(6)	
15,001 – 25,000	39(39.0)	37(37.0)	24(24.0)		
25,001 – 50,000	45(38.1)	49(41.5)	24(20.3)		
> 50,000	6(30.0)	11(55.0)	3(15.0)		

**Table 24** Association between the level of knowledge on Thai Traditional Massage and the frequency of utilizing Thai Traditional Massage among respondents

Level of knowledge	Frequency of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2 times/month		
	N (%)	N (%)	N (%)		
Poor (≤ 6)	38(39.6)	49(51.0)	9(9.4)	11.674	0.020*
Fair (7-8)	90(39.1)	87(37.8)	53(23.0)	(4)	
Good (≥ 9)	24(32.4)	30(40.5)	20(27.0)		

The results from table 24 indicated the relationship between respondents' knowledge and the utilization of TTM per month. Result revealed that there were big different proportions among three levels of knowledge in each group of frequency utilizing TTM per month. More than one-third (32.4%) of respondents had good knowledge in the group of first time visited, this percentage was lower than those who had fair knowledge level (39.1%) and poor knowledge (39.6%). In the group of two times visited, there was 40.5% of respondents had good knowledge, this percentage was big different from those had fair knowledge level (37.8%) and poor knowledge level (51%). Clearly, in the group of more than two times used, there was 27% of respondents had good knowledge compare to fair knowledge level (23%) and poor knowledge level (9.4%). There was significant relationship between the knowledge on TTM of respondents and the frequency of utilizing TTM per month with P value = 0.020. In short, respondents who had good knowledge on TTM were lower in the group of first time visited and two times visited, but in the group of more than two times visited, there were likely to have respondents with good knowledge on TTM. Maybe they have experienced from previous visit. Probably, the more they visit TTM service the more they gain the knowledge on TTM.

#### 4.2.2 The relationship between Enabling factors and the frequency of utilizing Thai Traditional Massage among respondents

**Table 25** Association between the distance in kilometers from respondents' house to the Thai Traditional Massage service and the frequency of utilizing Thai Traditional Massage among respondents

Distance from home to Massage service (in kilometers)	Frequency of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2/times month		
	N (%)	N (%)	N (%)		
≤ 10	62(35.4)	80(45.7)	33(18.9)	5.497 (4)	0.240
11 – 30	58(40.3)	50(34.7)	36(25.0)		
> 30	32(39.5)	36(44.4)	13(16.0)		

According to findings of this study, there were quite different proportions among group of distance in each category of utilization TTM. In category of first time visited, there were 39.5% of respondents had far distance more than 30 kilometers compare to 40.3% of respondents in 11 to 30 kilometers and 35.4% of them in less than 10 kilometers. In category of two times visited, 44.4% of respondents had far distance more than 30 kilometers compare to 34.7% of respondents in 11 to 30 kilometers and 45.7% of them in less than 10 kilometers. Similarly, in category of more than two times visited, there were fewer respondents (16%) in far distance of more than 30 kilometers compare to 25% of respondents in 11 to 30 kilometers and 18.9% of them in less than 10 kilometers. There was no significant association between the distance and the frequency utilizing of TTM with P value = 0.240. In short, the further distance the less respondents came back to visit TTM for the next time (two times and more than two times).

**Table 26** Association between traveling time spent in minutes from respondents' house to the Thai Traditional Massage service and the frequency of utilizing Thai Traditional Massage among respondents

Traveling time spent (in minutes)	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	$\leq 2$ times/ month	$> 2$ times/ month		
	N (%)	N (%)	N (%)		
$\leq 30$	67(36.0)	84(45.2)	35(18.8)	2.942	0.568
31-60	59(37.8)	61(39.1)	36(23.1)	(4)	
$> 60$	26(44.8)	21(36.2)	11(19.0)		

Regarding traveling time spent, From the table 26 it was seen that when traveling time spent longer, the percentage of respondents came back to visit TTM in category of two times used and more than two times used were lower from 45.2% down to 36.2% and 23.1% down to 19%. However, in category of the first time used, traveling time spent was not a matter for respondents, 36% of respondents in less than 30 minutes, 37.8% of them in between 31 to 60 minutes and 44.8% of them spent more than 60 minutes to come to TTM service. There was no significant association between traveling time and the frequency of utilizing TTM with P value = 0.568. In short, the less traveling time spent were more likely to have respondents came back to visit service for the next time.

Waiting time to see a doctor is normally a barrier for utilization of the health services. Waiting time in this study was grouped into three groups; less than 15, 16 to 30 and more than 30 minutes. There were different proportions of waiting time in each group of frequency utilizing TTM in each category. It was seen that for the group of first time visited, there was 44.4% of the respondents had waited less than 15 minutes to see doctor compare to 39.7% of them have waited 16 to 30 minutes. When the waiting time was longer more than 30 minutes the percentage of respondents utilized TTM were lower than the other groups of waiting time. Inversely, in the category of two times visited and more than two times visited TTM per month, even

the waiting time was longer more than 30 minutes, it was seen that still had more than one third (34.7%) of respondents could wait for their service. There was significant relationship between waiting time to see doctor and the frequency of utilizing TTM with P value = 0.001 as shown in table 27

**Table 27** Association between the waiting time in minutes for seeing doctors for examining and the frequency of utilizing Thai Traditional Massage among respondents

Waiting time to see doctor (in minutes)	Frequency of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2 times/month		
	N (%)	N (%)	N (%)		
≤ 15	64(44.4)	54(37.5)	26(18.1)	18.757	0.001*
16-30	56(39.7)	64(45.4)	21(14.9)	(4)	
> 30	26(25.7)	40(39.6)	35(34.7)		

**Table 28** Association between respondents' opinion on the fee massage service per visiting and the frequency of utilizing Thai Traditional Massage

Was it expensive?	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2 times/month		
	N (%)	N (%)	N (%)		
No	131(38.5)	140(41.2)	69(20.3)	0.271	0.873
Yes	21(35.0)	26(43.3)	13(21.7)	(2)	

Regarding the fee massage service, there were not much different proportions in each group of frequency utilizing TTM. There was no significant relationship between the price of massage service and the frequency of utilization of TTM with P value = 0.873 as shown in table 28

### 4.2.3 The relationship between need factors and the frequency of utilizing Thai Traditional Massage among respondents

**Table 29** Association between illness during the last year, some specific illnesses and the frequency of utilizing Thai Traditional Massage among respondents

Illness	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2 times/month		
	N (%)	N (%)	N (%)		
<b>Last year</b>				8.567	0.014*
Yes	44(34.6)	46(36.2)	37(29.1)		
No	108(39.6)	120(44.0)	45(16.5)	(2)	
<b>Back pain</b>				0.237	0.888
Yes	64(37.4)	70(40.9)	37(21.6)		
No	88(38.4)	96(41.9)	45(19.7)	(2)	
<b>Muscular pain</b>				0.765	0.682
Yes	56(35.4)	69(43.7)	33(20.9)		
No	96(39.7)	97(40.1)	49(20.2)	(2)	

Table 29 indicated the relationship between illness and utilization of TTM. There was a big different proportion in each group of frequency utilization TTM. In the group of more than two times visited TTM, nearly one-third (29.1%) of respondents had illness compare to 16.5 % of respondents who did not have illness within last year. There was significant relationship between the history illnesses of respondents within the last year and the frequency of utilizing of TTM with P value = 0.014

Regarding back pain, the proportion of frequency utilization in each category between those who had back pain and those did not get back pain was not

much different. There was no significant relationship between back pain and the frequency of utilizing TTM with P value = 0.888.

Similar to muscular pain, the proportion of frequency utilization in each category was almost the same between those who had muscular pain and those did not get muscular pain. There was no significant association between muscular pain and the frequency utilizing of TTM with P value = 0.682.

**Table 30** Association between source information on Thai Traditional Massage service and the frequency of utilizing Thai Traditional Massage among respondents

Source of information	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	≤ 2 times/month	> 2 times/month		
	N (%)	N (%)	N (%)		
Own self	39(46.4)	31(36.9)	14(16.7)	6.631 (8)	0.577
Neighbors/ colleagues	50(34.7)	63(43.8)	31(21.5)		
Family members/ relatives	34(37.4)	41(45.1)	16(17.6)		
Health providers	18(39.1)	18(39.1)	10(21.7)		
Radio, television	11(31.4)	13(37.1)	11(31.4)		

Source of information is important factor to help people access to utilize health service. There was quite different percentage of frequency in each category. According to the results of this study, respondents got information on TTM service from different sources, but the information that they received from neighbors/colleagues and family members/relatives was higher than the other source, such as health providers and media. However, there was no significant association between source of information and the frequency of utilizing TTM with P value = 0.577.

**Table 31** Association between the level of the perceived health benefit of Thai Traditional Massage and the frequency of utilizing Thai Traditional Massage among respondents

Level of perceived health benefit	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	$\leq 2$ times/month	$> 2$ times/month		
	N (%)	N (%)	N (%)		
Moderate	39(40.2)	42(43.3)	16(16.5)	1.266	0.531
High	113(37.3)	124(40.9)	66(21.8)	(2)	

Regarding the relationship between perceived health benefit of massage with the utilization of TTM, there was different proportion between moderate and high perceived health benefit level in each group of frequency utilization TTM per month. In the group of those people who visited TTM more than two times, there were 21.8% of respondents had high perceived health benefit level compare to 16.5% of them have moderate level. However, there was no significant relationship between perceived health benefit of massage and the frequency of utilizing TTM with P value = 0.531. In short, there was moderate and high level of perceived health benefit of massage. It was not found low perceived health benefit level in this study because the study population was selected from the clinic based so they may have perceived on this service already.

#### 4.2.4 The relationship between satisfaction toward utilizing Thai Traditional Massage and the frequency of utilizing Thai Traditional Massage among respondents

In this study we only have two levels of satisfaction according to cut off point of rating score. Table 32 showed the relationship between respondents' satisfaction and the utilization of TTM. There was different percentage between two levels of satisfaction in each group of frequency utilizing TTM. In the group used TTM more than two times, the proportion of respondents had moderate satisfaction level (33.3%) were greater than those who had high satisfaction level (19.5%). There was no significant relationship between respondents' satisfaction and the frequency of utilizing of TTM with P value = 0.191. In short, respondents had high satisfaction level at first time visited and two times visited and moderate satisfaction level at more than two times visited TTM in this study.

**Table 32** Association between the level of satisfaction toward utilizing Thai Traditional Massage and the frequency of utilizing Thai Traditional Massage among respondents

Level of satisfaction	Frequency of utilizing Thai Traditional massage per month			$\chi^2$ (df)	P value
	First time	≤ 2 times/ month	> 2 times/ month		
	N (%)	N (%)	N (%)		
Moderate	10(33.3)	10(33.3)	10(33.3)	3.313	0.191
High	142(38.4)	156(42.2)	72(19.5)	(2)	

#### 4.2.5 The relationship between age and purpose of utilizing Thai Traditional Massage among respondents

Table 33 indicated the relationship between age and the purpose of utilizing of TTM. There were different proportions among group age in each category

of purpose utilizing TTM. It was seen that in the group of treatment purpose, more than two third (66.7%) of respondents older age compare to middle age (55%) and adult age (56.8%). Similarly, in the group of relaxation purpose, older age was higher percentage compare to middle age (24.8%) and adult age (24%), but in the group of promotion health, middle age was higher (20.2) compare to adult age (19.2%) and older age (7.1%). There was no significant association between age of respondents and the purpose of utilizing TTM with P value = 0.398. In short, older age tend to visit TTM service for their treatment purpose rather than relaxation and promotion health.

**Table 33** Association between age and the purpose of utilizing Thai Traditional Massage among respondents

Characteristics	Purpose of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	Promotion health	Treatment	Relaxation		
	N (%)	N (%)	N (%)		
<b>Age in years</b>				4.058	0.398
18 - 44	44(19.2)	130(56.8)	55(24.0)	(4)	
45 - 64	26(20.2)	71(55.0)	32(24.8)		
65 - 77	3(7.1)	28(66.7)	11(26.2)		

Table 34 showed that the relationship between the perceived health benefit of massage and the purpose of utilizing TTM, There was different the proportions between moderate and high level in each group of purpose utilizing TTM. It was seen that in group of treatment purpose, more than half (58.7%) of respondents had high perceived health benefit of massage compare to moderate level (52.6%). There was significant relationship between perceived health benefit of massage and the purpose of utilizing TTM with P value = 0.041. In short, there was high perceived health benefit of massage on treatment purpose (58.7%) and follow up by relaxation purpose (25.7%) and promotion health (15.5%).

**Table 34** Association between level of perceived health benefit of massage and the purpose of utilizing Thai Traditional Massage among respondents

Level of perceived health benefit	Purpose of utilizing Thai Traditional massage			$\chi^2$ (df)	P value
	Promotion health	Treatment	Relaxation		
	N (%)	N (%)	N (%)		
Moderate	26(26.8)	51(52.6)	20(20.6)	6.410	0.041
High	47(15.5)	178(58.7)	78(25.7)	(2)	

### 4.3 Some suggestions from the Respondents

According to the result from three additional open-ended questionnaires, almost the respondents in studied population gave comments and suggestions on both positive and negative aspects concerning to the Thai Traditional Massage service at the Institute of Thai Traditional Medicine in order improve their current services quality. The most frequent suggestions were the waiting time was too long and also regarding manpower, infrastructure and services activities.

There were about 88.3 % of respondents said that they would like to introduce or recommend to other people to visit this service, because this is a good service (48%), they feel their health getting better (46.2%) after visiting TTM service. It is the good place (2.3%) and clean place (20.4%) for pain relief (41.5%), stress relief (41.5%) and good for health (16.1%) and it is not too expensive. The other revealed that they visit TTM service because they want to promote Thai Traditional Massage; they like the skills of masseurs/masseuses, good treatment and do not have to take medicine

#### Manpower

There 52.3% of respondents suggested that TTM service need to have more masseurs/masseuse, and some masseurs/masseuse need to be improved the skills and

pay more attention to the patients. Masseurs/masseuse don't not talk during giving massage to the patients and need to do consultation before giving massage to patients.

### **Infrastructure**

Many respondents gave suggestion that massage room need to be improved to get more space, add more massage beds and improve air conditioner. They also suggested that they need the improvement of place for putting shoes. Some of respondents said that it is needed to add more branches both in Bangkok and in the other provinces. Parking car area and rest room also put into consideration.

### **Service activities**

Some people expressed that the massage room should be separated into male and female sections. Cloth and dressing cloth need to be changed daily and improved and have nice smell in massage room and soft music.

Some of people suggested that if is possible to make reservation by telephone before (10%), it was very important to take consideration that people have complained because they have to wait a long time to get service (64.3%). Waiting time to see doctor and for physical exams and get massage service need to be quickly improved as soon as possible, especially for elderly people.

## CHAPTER V

### DISCUSSION

This study aimed to describe the Utilization of Thai Traditional Massage at the institute of Thai Traditional Medicine, Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. In this chapter, discussion is presented in two parts according to the objectives of study. The first part provides data and discussion on the findings of the study, concerning on utilization of Thai Traditional Massage by the studied population. The second part presents the discussion on related factors associated with utilizing of Thai Traditional Massage. The findings are discussed as follows:

#### **5.1 Utilization of Thai Traditional Massage among respondents**

Since Thai Traditional Medicine in Thailand has integrated into a form of health care system for self-care and self-reliance. It has been developed and extensively used by people throughout the country. Thai Traditional Massage (TTM) is one of the types of Thai Traditional Medicine, now it is very popular and commonly used by people. According to the results of the study, the percentage distribution respondents' age who utilized TTM was found in almost age groups, but the majority belongs to adult age and middle age. However, the utilization of TTM was not only related to socio-demographic background but also related to different factors such as availability, accessibility of service, knowledge on TTM, health status, perceived health benefit of massage and the satisfaction toward utilizing TTM service. In this study, utilization of TTM is discussed in three small parts: the frequency of utilization of TTM per month, purpose of utilizing TTM and types of TTM.

### 5.1.1 The frequency of utilization Thai Traditional Massage per month

The results showed that over all 48.6% out of total studied population had been utilizing TTM for two or more than two times per month. More specifically, more than one third (38%) of the respondents used TTM at the very first time and more than one fourth (28%) of them used TTM 2 times per month. 6.8% of them used TTM 3 times per month, 9% of respondents used 4 times per month and only 4.8% used TTM more than 4 times per month. From the percentage of frequency utilizing TTM, it is noted that the frequency utilization of TTM was higher at the first time visited. It is difficult to explain and conclude for this percentage because the first time mostly they have no experience and the evaluation from information they provided might not high validity to reflect the real situation and the impact of service to people. However, it could be explained in two different ways; one is that the current situation of TTM service is a good service both in organizing, management and the effectiveness of massage therapy that is why many people know and visit TTM service. If so, it could be said that the successful implementation of integration and promotion of Thai Traditional medicine into health care system of Ministry of Public Health so far. The other explanation might be people would like to try this kind of service.

The frequency of visiting of people tends to be lower from 2 times per month to next time visit TTM per month. Normally, this reason it might be explained by prevalence of those people who had chronic musculo-skeletal system problems, they may have to visit more often for their treatment. The other explanation maybe people do not used this TTM service regularly or the effective treatment of service had helped people improve their health, and also might be people seek another care services after first visiting.

Related to previous study, Thip-rada Kongtapan (24) study on Thai Traditional Medicine utilization among rural people in Saraburi province found that about 33.9% of total studied population had used Thai Traditional Massage

within last year. Also, Kunchock Gyaltzen (22) study resulted that 17.5% of respondents had used Thai Traditional Massage.

### **5.1.2 The purpose of utilization of Thai Traditional Massage**

Concerning the purpose of utilizing TTM, the findings of the study found that more than half (57.2%) of respondents utilized TTM for treatment their illness. One fourth (24.5%) of them used TTM for relaxation and less than that (18.3%) used TTM for their health promotion. The purpose of utilizing TTM for treatment was highest percentage in the study. It is obviously and common sense, the priority, most of people seeking care because of their health condition, follow up relaxation, health promotion and maintenance health. Although TTM could not solve the severe illness but it is very useful and effective with some illness that modern medicine alone could not solve, such as chronic muscular pain, paralysis, back pain (Subcharoen) (52). Ministry of Public Health has widely implemented and promoted Thai traditional Medicine in the whole country. It is good to make people realize the usefulness and effectiveness of TTM for treatment and also encourage them to practice for their self-care in the general population. Kunchock Gyaltzen (22) study on satisfaction toward utilizing Thai Traditional Medicine showed that 17.5% of respondents had used Thai Traditional Massage for treatment.

### **5.1.3 Utilization of Type of Thai Traditional Massage**

Regarding type of TTM, it has been using by respondents in the Institute of Thai Traditional Medicine. In the principle, there are two types of Thai Traditional Massage; Royal massage and Folk massage. However, in practice provide service in the Institute of Thai Traditional Medicine they also have another type of massage; it is called “applied massage”. According to the result of the study revealed that there were 68 percent of respondents used Royal massage, more than one fifth (23.7%) of them used Folk massage. For “applied massage” category, there were 21.5% of the respondents used body massage with herbal, 18 percent of them used foot massage and only 2.5% of them use body massage with oil. In this study, there were many

respondents have been using at least one type of TTM. However, the specific percentage and information on this point were not covered in this study because of the limitation of research instruments and measurement. Related to previous study of Kunchock Gyaltzen (22) found that 17.5% of respondent used Traditional Massage alone, 6.5% used massage and herbal medicine and 1% used massage and steam bath.

## **5.2 Related factors associated with the frequency utilizing Thai Traditional Massage**

### **5.2.1 Socio-demographic characteristic, knowledge on TTM and the frequency utilizing Thai Traditional Massage**

Concerning the relationship between age of respondents and the frequency of utilizing TTM. The result revealed that more than half (57.2%) of adult age group (18 to 44) and more than one third (32.3%) of middle age group (45 to 64) had used TTM service greater than the other groups of age. The result of statistical test also showed that there was significant association between age of respondents and the frequency utilizing TTM per month with P value 0.004. It can be concluded that age was a factor for utilization of TTM in this study. More specifically, it was seen that in category of more than two times used, the percentage of older age was greater than the other groups' age. It can be explained that older age are more likely to have more illness than younger age, especially chronic illness with prevalence is muscular pain, back pain and joint problem was quite high, so older age are more likely to use TTM more often.

Related previous study on Thai Traditional medicine also support on this point, study of Nimal Karunasiri (19) on practice of Thai Traditional Medicine among health professional of community hospital Nakhon pathom, Thailand found that group age 31 to 41 of respondents practiced more Thai Traditional Medicine. It was significant association between age and practice Thai Traditional Medicine at 0.011 of P value. However, some the other related previous study conducted on Thai Traditional Medicine showed that age was not significant association with the

utilization of Thai traditional Medicine, but all those studies agreed that middle age and older age utilized Thai Traditional Medicine more than the other group of age. Such as study of Pariya Tantipathananandh's (53) found that age group 40 to 59 were more influenced to use herbal medicine in Uthaitani Province, Thailand. Also, Do Thi Phuong's (20) study showed that there were more middle age group people who utilized Thai Traditional Medicine in Prachinburi Province, Thailand. Kunchok Gyaltzen (22) study on satisfaction toward utilizing Thai Traditional medicine among patients at the clinic of Ayurvedic found that middle age and older age group utilized more Thai Traditional Medicine than younger age group. He explained that older age had more experiences with different kinds of clinics such as modern hospital and their health problems were still not solved. According to Thai Traditional Medicine, over thirty-two have more health problems such as muscular and joint problem than younger age (Subcharoen, Sumruay) (52). Older age group people have more friends like themselves, so they would introduce the clinic to other utilize as well. Furthermore, in the middle age group and older age group people or their family members are facing different kinds of special health problems more than other groups such as muscular disease arthritis, joint pain. Normally those people were receiving both modern medicine treatment and alternative medicine because there are no permanent treatments for this type of chronic disease, so Thai Traditional massage would be mostly helpful for their mental and physical relief.

Regarding on the other socio-demographic characteristic variables, the results showed that gender, marital status, educational level, occupation and family monthly income had no significant association with the frequency of utilizing Thai Traditional Massage. It can be concluded that those variables were not the factors for utilization of TTM. In this study, results indicated that female (56.3%) utilized TTM more than male. Similarly to study of Kunchok Gyaltzen (22) found female used Thai Traditional Medicine more than male, Nimal Karunasiri (19) study found females (82.8%) more than male (17.2%), and also to Tungsekruthai's (23) study found the female population used more Thai Traditional Medicine than male in Nonthaburi Province, Thailand. This can be explained that usually female were concerned their health more than males. Moreover, females have more health problems and they

tended to take care of themselves more quickly than males in Thailand. Therefore, they utilized TTM service more often. Marital status, married people (56.8%) utilized TTM more than unmarried people (43.2%), this result was the same as the findings of Kunchock Gyaltzen's study (22) and Nimal Karunasiri's study (19), there were 60.68% of married people practice Thai Traditional medicine.

The majority respondents in this study have university (46%) and college (20.3%) educational level. The related previous study of Kunchock Gyaltzen (22) found in his studied population has university (45.0%) and college (22%) educational level. This concluded that in this study, most of the patients were highly educated. This indicated the currently there are higher educated people who utilize TTM in Thailand. Do Thi Phuong's (20) study also concluded that the higher educational patients prefer to use Thai Traditional Medicine at community hospitals in Prachinburi, Thailand. Moreover, Subcharoen et al (26) explored that there were higher educated people who utilizing more Thai Traditional Medicine services in 29 Thai Traditional Medicine facilities in Thailand. This might be the governmental promotion of Thai Traditional Medicine and the practice of Thai Traditional Medicine had influenced higher educated people. Furthermore, educated people have greater understanding on Thai Traditional Medicine and tend to know more about traditional medicine. However, educational level was not significant association with the utilization of Thai Traditional Massage.

Regarding occupation, the majority of respondents were government employees (21.3%) and own business (15.3%). Kunchock Gyaltzen's study supported that in his findings also majority of respondents were government employees and business. Probably, this is also related to education because most of the respondents were highly educated people, their health problem might be related to their occupational health in term of the more people had muscular problem in this study. Do Thi Phuong's (20) study found that more business and governmental officials prefer to attend Thai Traditional Medicine clinics than farmer and labor occupation. However, occupation of respondents was not significant association with the utilization of Thai Traditional Massage.

Family monthly income showed that there were various income levels among respondents, but overall the result showed that there was no respondents had income under the poverty line according to the Ministry of Public Health standards. (less than 2500 Baht per month). Kunchock Gyaltzen (22) in 2000, he concluded that Thai society income could be related to education, because educated people have more regular stable income. Income was grouped into four groups before using statistic test but the result revealed that there was no significant relationship between income levels of respondents and the utilization of TTM.

Concerning the knowledge of respondents on TTM, the results of the study revealed that the majority of respondents had fair knowledge (57.5%) on TTM, nearly one fifth (18.5%) had good knowledge on TTM. The statistical test showed that there was significant association with the frequency of utilizing TTM at 0.006 level of P-value. It can be concluded that knowledge was a factor for utilizing TTM in this study. More specifically, it was seen that level of knowledge was quite different in each category of frequency utilizing TTM. In category of more than two times visited per month were likely to have more respondents with good knowledge on TTM. At this point, it can be explained that they have experienced on TTM from previous visited, they gained knowledge through experiences of visiting times. It is said that the more they visit TTM services the more they are likely to gain knowledge on TTM.

Similar to the two related previous studies also supported to this study findings, Tungsekruthai's study (23) showed that there was a relationship between knowledge and utilization of traditional medicine. In other words, the people who had more knowledge used more traditional medicine services. This is a positive indication because the patients learned more information about Thai Traditional Medicine when they use the services rather than without knowing to try or utilize the services, the statistical test result showed that knowledge had a relationship at p-value less than 0.05. Also, Kunchock Gyaltzen's study (22) reported that those who utilized Thai Traditional Medicine had a better understanding of traditional medicine. The results also showed that knowledge and satisfaction have a strong relationship.

### **5.2.2 Accessibility and availability of sources and information, the fee of massage per visit and the frequency utilizing Thai Traditional Massage**

Regarding the accessibility and availability of service, the result of the study revealed that there were 43.8% of respondents have distance from their house to TTM service less than 10 kilometers. More than forty percent (46.5%) of respondents have spent less or equal 30 minutes and more than one third (39%) have spent 31 to 60 minutes for traveling from home to TTM service. More than two third (61.5%) of respondents used their own car and nearly one fourth (24%) used public transportation to access their service. More than half (52%) of respondents have completed their whole massage process in 2 hours, and also there were 85% of respondents reported that the price of massage service per visit was not expensive. 36 percent of respondents received information about TTM service from neighbors/colleagues and more than one fifth (22.7%) of them received from family members/relatives. A half (50.2%) of respondents said that there were not enough masseurs at the time of this study was conducted. However, the statistical test result showed that there was no significant association between accessibility and availability sources, source of information and the price of massage service per visit with the frequency of utilizing TTM. In this study also found that the further distance from home to service was likely to have less respondents come back to visit TTM service for the next time.

Similarly, the related previous study of Thip-rada Kongtapan (24) also found that there was no significant association between accessibility and availability of sources and information, the cost of TTM and the utilization of Thai traditional medicine. Kongtapan explained that since Thai traditional Medicine has become more popular countrywide and more people have favored utilizing it; the government has more concern on the effectiveness of treatment. They have tried to promote the use of Thai traditional medicine in many ways such as established more institutions, trained more professionals and organized more health facilities and services. As a result, people have more chances in selecting health care

services. Moreover, people have more concern for their health rather than accessibility and availability of sources or the price of TTM; these are not factors influencing the use of TTM. However, this finding was against the previous study of Virasombat (29) in Soongnern Hospital in Nakhon Ratchasima Province. It found that the improvement of place and service system made more convenience and quick services for patients, so that it increased consumer or patients' interests in using TTM.

Regarding information on TTM, even though today with the developing of technology for communication and mass-media are factors where people can access and receive more information about TTM service through website internet. Especially for those who live in the cities, they can get more knowledge and have more information to choose, therefore, they can access the various health services more easily. However, in this study the majority of respondents received information on TTM service from neighbors/colleagues and family members/relatives. The result might be the effectiveness of national policy to promote various roles of TTM as an alternative choice through the PHC (Primary Health Care) program to broaden health promotion to reach all general population.

Concerning the waiting time to see doctor, the result revealed that 37.3% of respondents had to wait for doctor less than or equal 15 minutes and more than one third (36.5%) of them had to wait for doctor from 16 to 30 minutes. The statistical test showed that there was significant association between the waiting time to see doctor and the frequency of utilizing TTM with  $P$  value = 0.001. It can be concluded a factor relate to utilization of TTM in this study. Waiting to see doctor is normally a barrier for utilization of health services. More specifically, it was seen that the distribution of waiting time to see doctor in each category of the frequency utilizing TTM had a different direction between less than or two times visited and more than two times visited per month. In category of less than or two times visited, the frequency utilizing TTM was lower when the waiting time was longer more than 30 minutes. It can be explained that people could not wait when they saw many other people were still in a queue for service or some people were in waiting room before receiving massage.

They might change their mind to see another health service because of their limited time for doing some other works. But, in category of more than two times visited, when waiting time was longer more than 30 minutes, it was seen that still had more than one third (34.7%) of respondents could wait for their service. It could be because they had good experiences from previous visit with receiving a good service and warmly welcomed and friendly greetings of staffs and skillful of masseuse/masseurs, and also the effectiveness of massage treatment helped them to improve their health. Moreover, this can be explained that not only they received good service from providers' side but also those people themselves may have chronic illness such as musculo-skeletal system problem, which really need to cure or relieve by Thai Traditional Massage therapy. That is why they could wait longer than the other. However, it has not been found any related previous study conducted on Thai Traditional Medicine utilization, which mention on waiting time spent to see doctor for physical and mental examination.

### **5.2.3 Health status, perceived health benefit of TTM and the frequency of utilizing Thai Traditional Massage**

Concerning health status, the results showed that one third (31%) of respondents assessed themselves as good health status and nearly one fourth (24%) of them had very good health status. More than forty percent (42.8%) of respondents had back pain and more than thirty nine percent (39.5%) had muscular pain. However, the statistical test showed that there was no significant association between health status, back pain, muscular pain and the frequency of utilizing TTM per month. Regarding illness in the last year, more than one third (32.7%) out of total studied population reported that they got illness, it was significant association between illness in the last year and the frequency of utilizing of TTM with P value = 0.022. It was seen that the illness percentage in each category of frequency utilizing TTM was big different. It was clearly, in category of more than two times visited there were more than 44 percent respondents had illness. This explains that those people who had illness were more likely to visit health services more often. Surprisingly, statistical test showed no significant relationship between back pain muscular pain and the frequency of

utilizing TTM, while history illness of respondent in the last year was significant. This might be respondents had the other illness within the last year, chronic illness or acute illness, which kind of illness. The information did not cover and provide enough evidence on this point. It can be one of the limitations on research instrument in this study.

Related to previous study concerning on health problem, Kunchock Gyaltzen's (22) study found that there were more than two third (62.5%) of his studied population had musculo-skeletal system problems. He stated that people who had muscular problems utilized more Thai Traditional Medicine services than the other groups. This indicated that the general population recognized that massage therapy was the most effective treatment for muscular pain and joints. However, the statistic test showed not enough evidence to conclude the significant association between muscular pain and the utilizing Thai Traditional Medicine.

Thip-rada Kongtapan's study (24), the results showed that only 18 percent of respondents were healthy within the last one year. It was revealed that the majority of the studied population had some health problems. Responding to this situation, those people may find some ways to cure their illness including using TTM. However, the study showed that there was no significant association between illness within last year and the utilization of Thai Traditional Medicine.

Nevertheless, Charmaz (54) Pointed out that chronically ill people learn ways to handle their physical systems through various strategies ranging from withdrawal to innovation. What people need to manage depends on their illness, its progression and its meaning to them, as well as their situation and their responsibility.

Regarding the perceived health benefits of Thai Traditional Massage, the result revealed that 75.7% of respondents had high perceived health benefit of TTM and nearly one fourth (24.3%) of them had moderate level. There was no significant association between the perceived health benefit of TTM and the

frequency of utilizing TTM. It was seen that the level of perceived health benefit of massage in each category of frequency utilizing TTM was different. It is clear for those people who have not got any experiences to utilize TTM services. Normally, after they received the TTM service they would gain, adjust and evaluate their perception on health benefit of massage. They tend to assess the effectiveness of treatment therapy and the quality of service for the next time visit. It is explained why in category of more than two times visited, the percentage of respondents who had high perceived on TTM was lower definitely. However, it has been not found any related previous study mention on this point.

Regarding the relationship between the level of perceived health benefit and the purpose of utilizing TTM. It was seen that in group of treatment purpose, more than half (58.7%) of respondents had high perceived health benefit of massage compare to relaxation purpose (25.7%) and promotion health (15.5%). There was significant relationship between perceived health benefit of massage and the purpose of utilizing TTM with P value = 0.041. This is obviously, those people had illness they tend to have high perceived on the treatment method with expectation that treatment will bring their health condition in normal stage or improve their health getting better, after that they may think about relaxation and promotion their health.

#### **5.2.4 Satisfaction toward utilizing TTM service and the frequency utilizing Thai Traditional Massage**

Concerning satisfaction toward utilizing TTM service, in this study satisfaction are including convenience, courtesy, information, service cost and quality of care, the result indicated that more than 92.5% of respondents have high satisfaction level in overall total studied population and only 7.5% had moderate satisfaction with utilizing TTM service. However, there was no significant association between satisfaction toward utilizing TTM service and the frequency of utilizing TTM per month. It was seen that the level satisfaction in each category of frequency utilizing TTM per month was different. In group of less than or two times visited, most of respondents had high satisfaction level toward utilizing TTM service but in

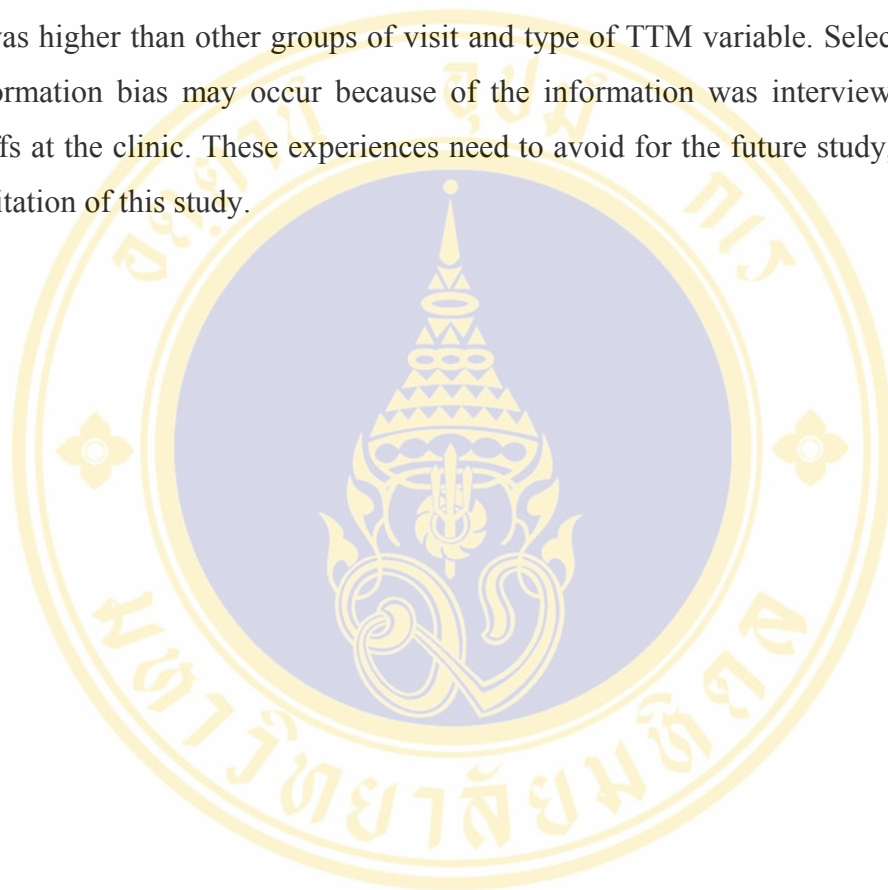
group of more than two times visited, the percentage of respondents who had high satisfaction level was lower. To discuss on this point should be considered many factors from both side providers and receivers service. It might be in different period of working hours would have different impact on providing service. For example, there was different doctors, masseurs/masseuse work in a different certain time everyday, morning or afternoon. Normally, they work in turn to examine for patients and gave massage for patients. Even one patient at this time visited he or she was taken physical exams from one doctor and received massage from one masseur but at the next time visit, he or she may take examination by other doctors and received massage from the other masseurs, too. The skills, attitude and behavior in a person may different from the other one so it would impact to their work performance. That is explanation why the level of satisfaction among respondents would different from this time visit to the next time visit. However, there has not yet found any previous study conducted on Thai Traditional Massage mention on this point.

Kunchock Gyaltzen's (22) study found that 73.5% of the respondents had moderate satisfaction and 14.5% of the respondents had high satisfaction on utilization of Thai Traditional Medicine. He explained that at the clinic, the doctor and staff have good intention with their work and patients, respondents felt warmly welcomed and received good services from the doctors and staff at the clinic. The traditional medical doctors and staff were very polite and humble with patients. Furthermore, the traditional medical doctors gave good consultations and explanations regarding health problems.

Additionally, Subcharoen's study concluded that the most users were satisfied with Thai Traditional Medicine services in 29 health facilities of Thai Traditional Medicine in Thailand. The other study conducted by Virasombat (29) reported that patients had high satisfaction with Thai Traditional Medicine services at Soongnern Hospital.

Since the studied population was collected from the clinic based, most of them may have some perceptions on this service before they receive the service. It is clear

on this point, it was seen that there was no low level on perceived health benefit of massage and also no low satisfaction level in this study. Although, the pre-test questionnaire was conducted and tested reliability but some aspects related to the study, the questionnaire was not able to cover and explain all the variables. Such as illness condition of respondents; chronic or acute, the first time visited TTM showed it was higher than other groups of visit and type of TTM variable. Selection bias and information bias may occur because of the information was interviewed by health staffs at the clinic. These experiences need to avoid for the future study, that was the limitation of this study.



## CHAPTER VI

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

Concerning the objectives of this study to describe the current situation of TTM service and related factors those influence the utilization of TTM among clients. A descriptive study was designed and conducted at the Institute of Thai Traditional Medicine. Four hundreds of study sample were interviewed with a structured questionnaire from January 7<sup>th</sup> to February 10<sup>th</sup>, 2004. The questionnaire was tested and analyzed before implementation in order to see the reliability by using cronbach's alpha co-efficient.

For data analysis, descriptive statistical tools were used to calculate frequency, percentage, mean, standard deviation and median to describe the distribution of socio-demographic characteristics, knowledge, accessibility, availability of sources, information, price, perceived health benefit of massage, the utilization of TTM and satisfaction toward utilizing TTM. In analytical part it described the association between the frequency of utilization of TTM and the different related categorical variables by using Chi - square test. Based on the findings of this study and resulted interpretations, the conclusions can be presented as follows:

1. For general information, out of the total of 400 respondents, the mean age of respondents was 43.57 years ranging widely from 18 to 77, more than half (57.2%) of respondents belonged to adult age group and more than one third (32.3%) was middle age group. Age had the significant association with the utilization of TTM service. It is concluded that age was one of the factors influencing the utilization of TTM service. The majority was female, married and having college or university education level. Most of them were government

employee, owned business or retired government employees. More than half of them were having family monthly income of 15,001 to 50,000 Baht and 40.5% of them had income less or equal 15,000 Baht

2. Concerning knowledge on Thai Traditional Massage, it was of significant association for the utilization of TTM service. It was concluded that knowledge is one of the factors those influenced the utilization of TTM service. In this study more than half (57.5%) had fair level of knowledge and only lesser than a quarter (18%) had good knowledge on Thai Traditional Massage.

3. The accessibility and availability of sources and information was not having significant association with the utilization of TTM service. This can be concluded that people have more concern for their health rather than accessibility and availability of resources or the price of TTM service. However, results showed that about half (50.2%) of respondents said that there were not enough masseurs/masseuses when they got interviewed.

4. In relation to the waiting time to see a doctor, it came up to be a very important factor in utilization health service. Waiting time to see a doctor was of significant association for the utilization of TTM. This was concluded that waiting time was a factor influencing the utilization of TTM.

5. Regarding health status within last year, more than half of respondents perceived their health as in good condition, and one-third (32.7%) of the respondents had illness within last year. Mostly, majority of the respondents had illness of musculo-skeletal system (back pain, muscle pain and arthritis). About two third (75.7%) of respondent had high perceived health benefit on massage, and around one fourth (24.3%) of them had moderate level.

6. Over all there were nearly half (48.6%) of respondent have been using Thai Traditional Massage two or more than two times per month. About somewhat more than half (57.2%) of respondents utilized TTM for treatment of their illness.

One fourth (24.5%) of them used TTM for relaxation and less than that (18.3%) used TTM for their health promotion. Regarding type of TTM massage, there were sixty eight (68%) percent of respondents who used Royal massage, one fourth (23.7%) of them used Folk Massage and for “applied massage” category, there were not much less (21.5%) of the respondents who used body massage with herbal. Even less (18%) of them used foot massage and only very few (2.5%) of them use body massage with oil.

7. Regarding satisfaction toward utilizing of TTM service, the result revealed that most of respondents (92.5%) had high satisfaction toward utilizing of TTM service and only remaining a few (7.5%) of them had moderate level. However, the result of Chi - square test showed there was not significant association between satisfaction toward TTM service and utilization of TTM.

## **6.2 Recommendations**

In order to improve the quality of service and promote TTM as an alternative choice for people, the result of study provided the current situation some background information and knowledge on the experiences of utilizing TTM for health care in public sector. The results of this study indicate that knowledge on TTM, waiting time to see doctor and age of respondents were significantly associated with the utilization of TTM, these factors should be put on consideration. Based on the findings of this study, the following recommendations are proposed:

### **6.2.1 Recommendation for the improvement**

In terms of the study result, the knowledge level of about one fourth (24%) of the respondents still had poor knowledge on TTM. There is a need for those who have responsibility in this studied field to introduce more information on TTM and to promote the actual knowledge on health benefit of massage and its usefulness as a therapy. The efficacy and effectiveness of the treatment of massage

also take account and promote in order to lead people reach closely with Thai Traditional Medicine and the time-tested wisdom of Thai Traditional Massage go together for the better health of Thai people.

There was a half (50.2%) of respondents those reported that the current situation of TTM service that there were not enough masseurs/masseuse for service, which was influencing the whole process of service system in term of time management. The enhanced manpower for this service is needed more in quantity, quality being good enough, to compensate the service shortage on one hand and to provide the job opportunities to the jobless population of skilled Thai professionals.

Last but not the least, according to the result of this study revealed that the waiting time to see a doctor was significantly associated with the utilization of TTM service. In addition, the information from respondents' suggestion showed that currently at this service point, the waiting time to see a doctor is quite long (median was 20 minutes in this study). It is recommended that it can be decreased the waiting time by increasing the number of masseurs/masseuses and increasing health service facilities by the addition of more branches for services under control of the Institute of Thai Traditional Medicine. Decentralization and public-private partnership is another option.

### **6.2.2 Recommendation for further research**

This study was a clinical study, which conducted at the Institute of Thai Traditional Medicine, public sectors run under control of Ministry of Public Health. For the future research, it is recommended that a comparative study on utilizing TTM between public facilities and private sectors can be conducted to evaluate the impact of TTM on health seeking behaviors changed in community based. Since Thai Traditional Massage has been popular in over the whole country and many private massage services have been rising in Bangkok, tourist place and almost every provinces in Thailand. A qualitative study to explore the cultural,

social meaning of massage and health seeking behaviors among clients at private massage services would be interesting topic.

Since many previous studies have mentioned on muscular pain with massage therapy. However, so far there has not showed the scientific evidence to prove the effectiveness of Thai Traditional Massage to cure muscular pain and back pain so a prospective study or experimental study should be conducted to confirm the effectiveness of Thai Traditional Massage.



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18. Are there enough masseurs on service to serve you during your visit?  
 Yes  No

19. Are there enough massage room and massage beds for you and clients during your visit?  
 Yes  No

20. Are there sufficient tool and appliance used for service such as dressing cloth for clients during your receiving massage?  
 Yes  No

**Accessibility**

21. How far is it from your house to this Thai traditional massage service?  
 Approximately \_\_\_\_\_ Km.  
 Do you think the distance you specified above is far or not?  
 yes  No

22. What means of transportation that you took to come to this Thai traditional massage service?  
 by own car  by taxi  
 public transportation (by bus)  Mobile cycle  
 walking on foot  others \_\_\_\_\_

23. How long does it take you to go from your house to this service?  
 Approximately \_\_\_\_\_ Minutes, \_\_\_\_\_ Hours

24. Each time of visiting the service, how long did it serve you for the whole to complete process?

One hours  Two hours  Three hours  
 Four or more  Others specify \_\_\_\_\_

25. Was the whole complete massage process too long?  
 Yes  No

26. Is there any physical examination (such as measure blood pressure, take your pulse,... and diagnosis) before you receive Thai traditional massage ?  
 Yes  No (go to 30)

27. How long did you have to wait for seeing doctor for examining?  
About \_\_\_\_\_ minutes. Do you think is it too long?  
[ ] Yes [ ] No

28. Each time of visiting this service, how much money do you spend?  
Average price is \_\_\_\_\_ Baht.  
Do you think it is expensive?  
[ ] Yes [ ] Reasonable [ ] No

### Part III: Need factors

#### Health Status

29. Would you say that in general your health is:

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Excellent | <input type="checkbox"/> Very good           |
| <input type="checkbox"/> Good      | <input type="checkbox"/> Fair                |
| <input type="checkbox"/> Poor      | <input type="checkbox"/> Don't know/Not sure |
| <input type="checkbox"/> Refused   |  |

30. Did you have any illness during the last year?

- [ ] Yes [ ] No

**if yes, what kind of the main illness did you get?**

- [ ] Acute illness, please specify \_\_\_\_\_  
[ ] Chronic illness, please specify \_\_\_\_\_

31. Over the past 30 days, have you had any **physical illness includes injury** that keep you from doing your usual activities, such as self-care, work, or recreation?

- [ ] Yes, please specify number of days you had illness, \_\_\_\_\_  
[ ] No  
[ ] Don't know/Not sure  
[ ] Refused

32. Over the past 30 days, have you had any **mental illness, which includes stress, depression, and problems with emotions** that keep you from doing your usual activities, such as self-care, work, or recreation?

- [ ] Yes, please specify number of days you had illness, \_\_\_\_\_  
[ ] No  
[ ] Don't know/Not sure  
[ ] Refused





### Part V: Client satisfaction toward utilizing Thai traditional massage

Please answer the questions and mark (✓) in the block according to your opinion as the following statements.

Very satisfied = 5, satisfied = 4, undecided = 3, dissatisfied = 2, very dissatisfied = 1.

	Statements	5	4	3	2	1
<b>Convenience</b> 51	The whole process of this massage service is reasonable					
52	The working hours are good for you to utilize Thai traditional massage in this service					
53	Massage rooms, and waiting room are clean and comfortable					
<b>Courtesy</b> 54	masseurs and health personnel are polite and friendly to help you when you need them					
<b>Information</b> 55	The doctors gave you a lot of suggestions on your health problem, so that helped you to understand more about your health					
56	The doctors gave very clear explanation about your health treatment and prevention					
<b>Quality of care</b> 57	Doctors have very good knowledge on diagnosis and treatment, so that you were able to get an appropriate treatment and trust them					
58	Masseurs have skills on treatment, your health has been improved significantly					
59	When masseurs were giving massage, they paid close attention on what they were doing					
60	Massage beds, dressing cloth for clients are clean and tidy					
<b>Service Cost</b> 61	Appropriate fee for massage service					

#### Others

62. What do you like more about services provided here?

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**63.** Do you like to recommend **this massage service** to other people?

Yes

No

Why? Please explain

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**64.** Do you like to give some suggestion to **this massage service** in order to improve their service?

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**Thank you very much for your cooperation.**



## BIOGRAPHY

<b>NAME</b>	Tou Plui Broh
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