HEALTH PROBLEM FR0M WORKING AS THAI TRADITIONAL MASSAGE THERAPISTS

Miss Monvalee Chumnanya

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การศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย

นางสาวมนต์วลี ชำนาญยา

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

สาขาวิชาวิทยาศาสตร์สาธารณสุข

วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2555

มนต์วลี ชำนาญยา : การศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย (HEALTH PROBLEM FROM WORKING AS THAI TRADITIONAL MASSAGE THERAPISTS) อ. ที่ปรึกษาวิทยานิพนธ์หลัก: ดร.อุษณีย์ พึ่งปาน, 130 หน้า.

วัตถุประสงค์: เพื่อศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย ในหน่วยงานแพทย์แผนไทย โรงพยาบาลของรัฐ ทั่วประเทศไทย วิธีการศึกษา: งานวิจัยนี้เป็นงานการวิจัยเชิงสำรวจศึกษา ณ จุดเวลาใดเวลาหนึ่ง ในพนักงานนวดแผนไทย ที่ทำงานหน่วยงานแพทย์แผนไทยใน โรงพยาบาลของรัฐ ทั่วประเทศไทย ระหว่างเดือน มีนาคม ถึงเดือน กรกฎาคม พ.ศ. 2555 โดยใช้แบบสอบถามที่ตอบด้วยตนเอง ผลการศึกษา: ประมาณ ร้อยละ 60 ของพนักงานนวดแผนไทยใช้ทั้งการนวดเชลยศักดิ์และนวดราชสำนัก พนักงานนวดแผนไทยมีอาการปวดตามส่วนต่างๆของร่างกายมากที่สุด บริเวณหลังช่วงล่าง (ร้อยละ82.2) ตามมาด้วย หลังช่วงบน (ร้อยละ 80.2) และคอ (ร้อยละ78.0) พนักงานนวดแผนไทยส่วนใหญ่ใช้ท่าทางที่ผิดซึ่งมีสาเหตุมาจากการทำงานในขณะให้บริการนวดลูกค้า (ร้อยละ76.1) ท่าที่พนักงานนวดแผนไทยส่วนใหญ่นิยมใช้คือ นั่งคุกเข่าบนส้นเท้า (ร้อยละ75.9) และอวัยวะที่พนักงานนวดแผนไทยส่วนใหญ่ใช้นวดคือ นิ้วหัวแม่มือ และข้อนิ้ว (ร้อยละ71.4) การศึกษานี้แสดงให้เห็นว่า ประเภทของการนวดมีความสัมพันธ์ต่ออาการปวดบริเวณ ไหล่ซ้าย (p=0.00) และ ระยะเวลาของการทำงานเป็นพนักงานนวดแผนไทยก็มีความสัมพันธ์กับอาการปวดหลังช่วงล่าง (p=0.04) สรุปผลการศึกษา: ระยะเวลาของการทำงานเป็นพนักงานนวด ประเภทของการนวด การทำงานเป็นระยะเวลานาน และการใช้ท่าทางนวดที่ผิดมีผลกระทบต่อพนักงานนวดแผนไทย .

สาขาวิชา วิทยาศาสตร์สาธารณสุข ลายมือชื่อนิสิต……..

ปีการศึกษา 2555 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก……..

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KEYWORDS: THAI TRADITIONAL MASSAGE THERAPISTS / THE COMMON THAI MASSAGE / THE COURT-TYPE THAI MASSAGE / HEALTH PROBLEM / WORK RELATED MUCLOSKELTETAL DISORDER

MONVALEE CHUMNANYA: HEALTH PROBLEM FROM WOKRING AS THAI TRADITIONAL MASSAGE THERAPISTS. ADVISOR: USANEYA PERNPARN, Ph.D., 130 PP.

Objective: To determine health problems of Thai traditional massage therapists (TTMs) who work at Thai traditional medicine units in general hospitals in Thailand. Method: A cross-sectional survey study in Thai traditional massage therapists in general hospitals in Thailand from March to July 2012 was conducted. The therapists completed self-administrated questionnaire. Results: About 60% of Thai traditional massage therapists practised both Common and Court-type Thai massage. The highest symptom of injury was lower back pain (82.2%) followed by upper back (80.2%) and neck (78.0%). The majority used incorrect posture which was the main cause from working while giving massage to the clients (76.1%). The posture mostly used kneeling on heels (75.9%) and the parts of the body mostly used were thumbs and knuckles (71.4%). This study showed the types of massage related to left shoulder pain (p=0.00) and the duration of working related to lower back pain (p=0.04). Conclusion: Duration of working, types of massage, long working hours, and incorrect postures affected the therapists.

Key Words: Thai traditional massage therapists, Common Thai massage, Court-type Thai massage, health problem, musculoskeletal disorders

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

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

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INTROUDUCTION

Background and rationale

Therapeutic massage has a long history since the era before Christ. The proof is the oldest book concerning the massage. This book is a Chinese book from 3000 years BC, which is called "Cong-Fu of the Toa-Tse" (Onofrio, 1999-2010). In Thailand, therapeutic massage started since ancient times and the oldest proof of massage in Thailand is the stone inscription from the reign of King Ramkhamhaeng. In 1982, Thai Traditional Medicine was taught at Ayurveda College (Jivaka Kumar Bhacca) in Bowonniwet Vihara Rajavaravihara temple and in 1987, Thai massage revival project, Public Health and Development Foundation, and the team requested therapeutic Thai massage to be added as a traditional therapeutic in the field of medical treatment (Subcharoen, 2009).

In 2001, there was a Minister Announcement from Ministry of Public Health concerning the adding of Thai massage as a field in Thai traditional medicine.Thus, Thai massage became a type of therapeutic in the field of Thai Traditional Medicine (T.T.M). As a consequence, therapist must be registered and received a license as Thai Traditional Medicine Practitioner (T.T.M. Practitioner) in a category of Thai traditional massage. It can be seen that traditional Thai medicine is widely popular at the present, and Thai traditional massage becomes very popular as well as (Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, 2011).

There is a report from Ministry of Public Health in 2007, the number of Governmental Health Facilities which provides a service of Thai traditional massage, all over the country, was approximately 2,630 facilities, according to the survey conducted during February – September, 2007. In addition, it is found that the number of Thai traditional massages therapists all over the country that completed the course was approximately 5,501therapists, in which 2,795 of them were Thai traditional massages therapists (Department for Development of Thai Traditional and Alternative Medicine Ministry of Public Health, 2011) and 771 of them were therapists for other massages. When classified the number of Thai massage therapists by region, it is found that there were 791Thai traditional massage therapists who

completed the training, and 258 therapist for other massages in the Northeast, there were 702 Thai traditional massage therapists who completed the training, and 141 therapists for other massages in the Central, there were 578 Thai traditional massage therapists who completed the Thai traditional massage training, and 153 therapists for other massages in the North, and there were 585 Thai traditional massages therapists who completed the training, and 155 therapists for other massages in the South (Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, 2008).

Massage is a form of repeated behavior which has the adverse effect to the health of traditional Thai massages therapists. The adverse effects of massage might occur because of an inexpert, lack of knowledge, and indiscretion of the therapist. The adverse effect from massage is not the only cause that makes the therapists having physical health problems.Personal characteristics of the therapist such as old therapists with congenital disease, work condition and environment (shifting work, massage duration, massage bed etc.) are also the causes that make the therapists having health problems by performing a work as Thai traditional massage therapist as well. The physical health problems are having pain in many parts of the body including, back, waists, fingers, arms, ect.Those symptoms are often found in the work that relates to muscles and skeleton, especially those who perform the work as massage therapists. The occupation of Thai traditional massage therapist needs to use many parts of the body, as well as exerting force by weight to assist in pushing massage. These performances include postures and gestures of massage in order to relieve the pain in each part of the patient's body (Ye , Wong and Fu, 2005; Greene and Goggins, 2010).

Physiotherapist is one of the occupations which are at risk of being injured by having other works related to physical health problems as the work condition in providing a treatment to heal the injury andrehabilitate muscles and skeleton of the patients. Most of the work basically needs force and power, therefore the physiotherapists are at risk of being suffered from musculoskeletal disorder. Cromie, J. E., Robertson, V. J., & Best, M. O. (2000 had studied musculoskeletal disorder in Australian physiotherapists for a period of one year. They found that the parts of the body which suffered from musculoskeletal disorder at the most prevalence were lower

back (62%), neck (47.6%), and upper back (41.0%) respectively. Holder *et al*. (1999) had studied activity or work that is the cause of musculoskeletal disorder by making a comparison between physiotherapists and physiotherapist assistants in the United States of America. The result showed that 70% of the physiotherapists and 68% of the physiotherapist assistants were suffered from work related injuries which caused by long hours working (36%), heavy weight object lifting (35%), patient moving (30%), and the use of therapeutic device (28%), repectively. Scholey and Hair (1989) had studied back ache problem in physiotherapists by making a comparison with a control group in order to determine the relation between work factors and one who performs the work, solution to solve the problem of back ache and the effect on work performing. The study result revealed that physiotherapists were exposed to risky factor from work more than the group of people who does not perform medical occupations, heavy loads, and lifting is a risky factor causing the most of injury in physiotherapists (82%). Regarding to the control group (female workers from awide range of non-medical occupations), it was found that long-time sitting was the most risky factor of work performing (63% of control group). Bork *et al*. (1996) had studied prevalence ratio of musculoskeletal disorder caused by work performance in a period of 12 months and work factors which related to disorders in 1,160 of English physiotherapists. It was found that many parts of the body were injured including the most pain area are at lower back (45%), wrist and hand (29.6%), upper back (28.7%) and neck (24.7%) of the entire number of English physiotherapists.Moreover, it was found that the work factor that causesed the most musculoskeletal disorder ~~is~~ was patient carrying or moving. Other factors were caused by work condition, work performing, age, and gender of physiotherapists. Work factors that cause health problems in physiotherapists are the repetition of work for a long time, working without taking a break, using too much power in work, continual work. Work conditions also have the adverse effect to physiotherapists' health, for example, sudden heavy weight object lifting, patient moving, wriggle, sudden stop, the use of therapeutic device, etc. Those factors are major causes leading to physical health problems in physiotherapists.

A survey of musculoskeletal symptoms and injuries among experienced massage and body work professionals survey result by Greene and Goggins

(2010)(Originally published in Massage & Bodywork magazine, December/January 2006.). Among 601 therapists found that 65% of them reported reporting pain during or following massage work within the past 2 years. The most common locations for symptoms of pain were thumbs (30 %), wrists (27 %), shoulders (26 %), and low back (25%). The most common location for the symptoms of discomfort, soreness, etc., was the low back (25 %), followed by shoulders (24 %), thumbs (23 %), neck (21%), and hands (21%). Many respondents reported pain or discomfort in more than one part of the body in the past two years.

A book of the Court-Thai Thai massage at Ayurved Thamrong School, indicates "if a massage therapist is in wrong posture or exert the force in wrong direction, as well as bend down the head or raise the head up too much, after finish massaging, the therapist may suffer from pains, which was called in the old time as "Roke Khao Tua Mor" or "Latrogenic disease".This is a disease caused by improper treatment (Limityayaotin and Suwanatri, 2011; Grisanti, 2000-2011; Steel *et al*., 1981). According to aforementioned documents, a study concerning to work related health problem among Thai traditional massages therapists should be conducted as there is no research concerning to the health causing by working as a Thai traditional massage therapists in Thailand. Thus, a study of work related health problem among Thai traditional massage therapists should be useful in representing health problems caused by working as Thai traditional massage therapists which are an occupation that need to perform repeated work and continual work for a long time.

Objectives

1. To determine the health problem in Thai traditional massage therapists (TTMs) who work at Thai traditional medicine unit in general hospitals throughout Thailand.

2. To determine factor from working related health problem in Thai traditional massage therapists (TTMs) who work at Thai traditional medicine unit in general hospitals throughout Thailand.

Definitions

Health problem received by Thai traditional massage therapist refers to physical illness, pains, injuries from working such as degenerative disorder, inflammation of bones, nerve and muscle, muscle cramp, ankle or wrist sprain, muscle weakness in the limbs, back pain, muscle pain, numbness and injuries, Carpal Tunnel Syndrome (CTS) (CTS causes paresthesia, pain, numbness, and other symptoms in the distribution of the median nerve due to its compression at the wrist in the carpal tunnel.) and other symptoms. These symptoms are caused from activity and working.

Massage means the rubbing or kneading of parts of the body especially to aid circulation, presses on the point of the body, muscles relaxation, and provide sensual stimulation.

Thai traditional massage (TTM) is divided into 2 types; the Common Thai massage (Chaloeyseuk Thai massage) and the Court-type Thai massage (Rajchasumnak Thai massage). In Thailand, Thai traditional massage means the Common Thai massage and the Court-type Thai massage. The therapeutic treatments of massage include massage and prakorb, theraputic massage, relaxant massage, healthy massage, and body massage. Other types of massage are excluded such as baby massage, autistic child's massage, foot massage (Reflexology), hospital exercise cources (Luesri Dadton's exercise course and Arabic's exercise course), oil massage, spa massage, Aroma massage, Swedish massage, Chinese massage, and other types of massage. Therefore, the target population in this research is–Thai traditional massage therapists in general hospital. The therapists must be trained (Common Thai massage or Court-type Thai massage) or certificated by Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. They must obtain the Announcement License or Thai Traditional Exercise Massage License or Thai Traditional Medicines Licenses and their work hour of Thai massage training must be more than 150 hours

Thai traditional massages therapists (TTMs) mean the worker who had studied or practic skill of Thai trational massage. They must be trained or certificated by the Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. Thai traditional massages therapists must have

Announcement License or Thai Traditional Massage License or Thai Traditional Medicine License from the Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health. Thai traditional massages therapists (TTMs) are divided classified into 2 groups. The first group is Thai traditional massage therapist who had trained the practice skill for Thai traditional massage more than 150 hours from the Ministry of Public Health. The second group is Thai traditional massage therapists who graduated from Applied

Thai traditional medicine unit in general hospitals means the primary and or secondary hospital which has massage therapists or Thai traditional medicine unit in general hospital throughout Thailand except general clinic, Watpo's school, general massage and spa service, massage school and other places.

Socio-demographic characteristics describe the historical changes in demographics in a population over time (for example, the average age of a population may increase or decrease over time). Socio-demographic characteristics compose of general questions such as age, gender, marital status, education status, occupation, etc.

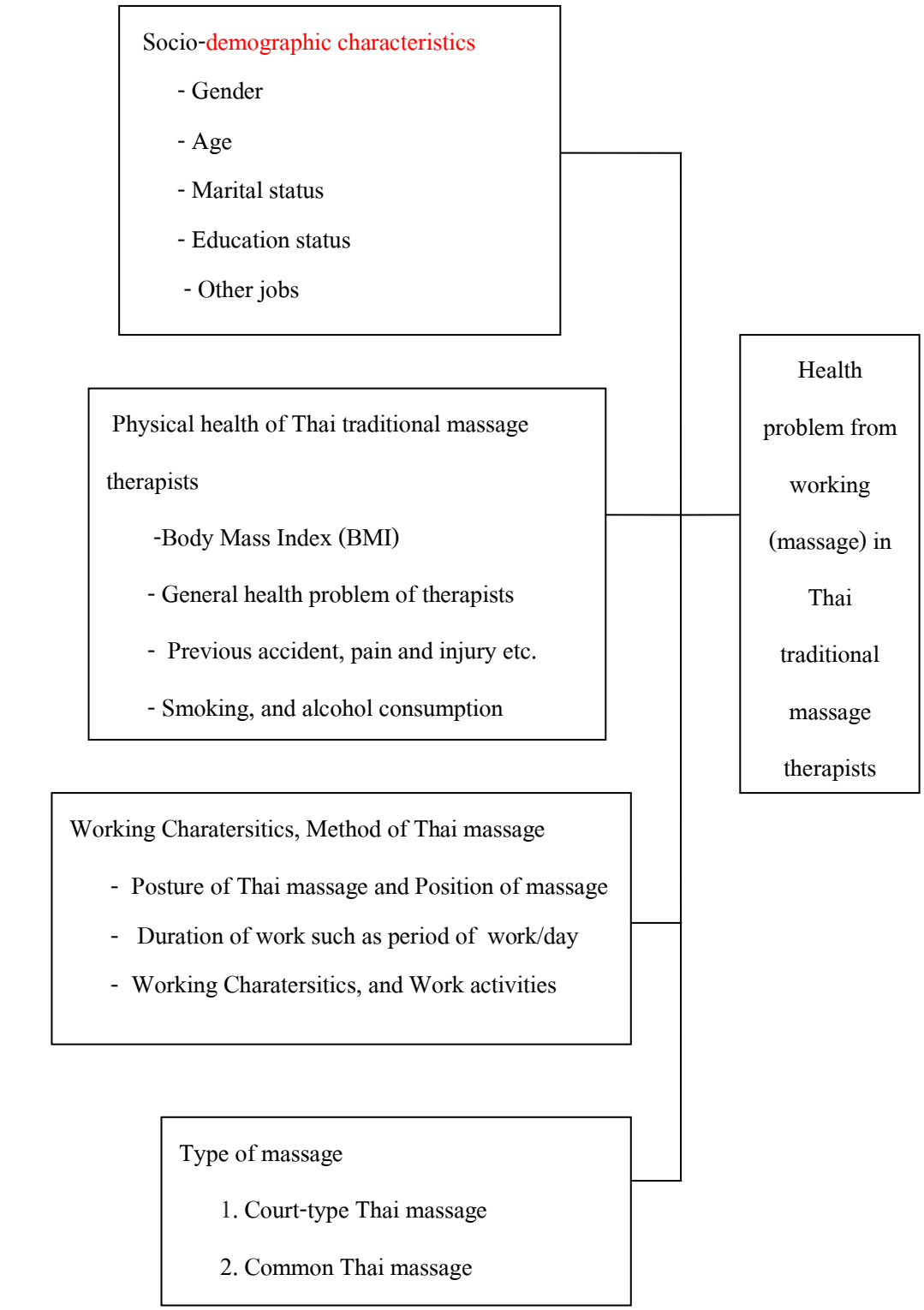
Work load means period of work (hours per days), duration of working (years), type of client (male and female), body mass index (BMI), type of disease and symptoms, working charateristic, and work activites etc.

Environmental characteristics mean air pollution (temperature in massage room), size of massage bed, size of massage room, and physical uncomfortable in the workplace.

Physical therapy is a health care profession primarily concerned with the remediation of impairments and disabilities, the promotion of mobility, functional ability, quality of life, movement potential through examination, evaluation, diagnosis and physical intervention carried out by licensed physical therapists and physical therapist assistants. Massage is one type of the treatments of a physiotherapist who has a massage skill to cure the patients. Manual techniques, medical instruments, exercises or special techniques also help to improve the patients. Massage is generally used in athletics for stimulate and relax muscles of the athletes; physiotherapist will apply the most suitable technique. Besides, physical therapist means the health care professional who has examination methods including inspection, palpation, percussion, and listen which related to anatomical system.Physiotherapist treats their

patients by many handling theraputic massages that the physiotherapist has to manage and apply the treatment appropriately for the patients. Physiotherapist must focus on daily living of the patients to consider the main source of pain for the sustainable result.

Conceptual framework



Expected benefit and applications

The results from this study were stated the health problems and factors were associated to the health problems of Thai traditional massage therapists at Thai traditional medicine unit in general hospitals throughout Thailand. The information from this study can be used as a guideline for surveillance and education to prevent health problems related to the works. More attention paid for improving the quality of life of the therapists at Thai traditional medicine unit in general hospitals throughout Thailand. Furthermore, finding related factors developed the intervention to prevent those problems in the future.

Ethical consideration

The ethical consideration was approved by Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University.

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CHAPTER II

LITERATURE REVIEW

The reviews in this chapter are as follows :

1. Development of Thai traditional massage
2. Types of Thai traditional massage
    2.1 Difinition of Thai massage types
    2.2 Methods of the massage
        2.2.1 Court-type Thai massage
        2.2.2 Common Thai massage
3. The difference between the Court-type Thai massage and the Common Thai massage
4. Number of Thai traditional massage therapists (TTMs)
5. Work-related diseases
6. Health problem from working research

1.Development of Thai massage

A massage was founded in Thailand since ancient times with the oldest historical evidence that was a stone inscription in a period of King Ramkhamhaeng (Thai traditional development foundation, 2005).

Afterwards, Ayutthaya era, the reign of King Rama I, His Majesty Borommatrailokanat (1445 A.D.), there was an evidence of establishing of Thai traditional medical clearly to appear in first Thai Enacted law. Department of Massager was set up in first Thai enacted law and divided two parties (Left and Right); the left was a masseuse , and the right was a masseur .

During the reign of Kng Narai (1687-1688 A.D.), Thai massage was very prosperous. The evidence appeared in the annals of the envoy of France who called La Loubere. He noted a massager (chiropractor) in Siam (Thailand) that "In Siam, if someone is sick, a professional massager will begin to extend lines on the body of the patient by foot. It is said that a pregnant woman would prefer have a child to step on her body for giving birth easily (The Institute of Thai Traditional Medicine, 2011; Manekul and Sumranjitt, 1998)."

A period of King Rama I (1782-1897A.D.) Wat Potharam was established to be a Royal Temple (Wat Phra Chetupon Wimonmungklaram) in 1780 A.D. and King Rama I kindly permitted to collect medical and Thai traditional massager textbooks to inscribe on marble and to sculpt drawing of Luesri Dadton at Wat Pho (Wat Pho, 2011)

The reign of King Rama II (1809-1824 A.D.) knew doctor textbooks of Ayutthaya period were lost two times of the war with Burma. So, King Rama II ordered to collect symptomatic diseases and properties of medicine to note at the royal textbook.

Wat Phra Chetupon Wimonmungklaram (1832 A.D.) was restored during the reign of King Rama III (1824-2851 A.D.) again from first time (a period of King Rama I). Beside, the King was kind enough to collect medicine textbook, methods of treatment including human pictures and drawing of Sen Sib Inscription on marble, and founder casted pictures of Luesri Dadton at Wat Pho (casting by mixing Zinc and a Tin).

Thai massage textbook (it's called Textbook of Royal Medicine or Dctor in a palace) was revised during the reign of King Rama IV (1851-1868 A.D.) who brought western medical to support increasingly a treatment such as a modern childbirth. However, people still did not change a behavior in a favor of traditional Thai medicine because it was a custom and culture for long time to be one of Thai life or Thai way. King Mongkut (1851-1865 A.D.) was pleased in a massage abundantly and still preserved Department of Massager as same as Ayutthaya era. (evidence from Directory of Governmental Position in the Front Palace; presently, Thai name called National Museum Bangkok).

The reign of King Rama V (1868-1910 A.D.), King Chulalongkorn was pleased to revise Thai Massage and Luesri Dadton textbooks in 1870s (evidence is in Hall Prasamut Wachirayan which is the national archives of Thailand nowadays) Those textbooks contain a massage knowledge, loyal issue in the reign of King V (1906 A.D.) In addition, a drawing of Luesri Dadton at pavilion for 40 posters (Pattamarangcoun, 2011) in 1902 A.D. was made at Wat Matchimavat (Wat Klang.), Songkhla province.

During the reign of King Rama VI (1910-1925 A.D.), the King was pleased to enact the act of 1923 A.D. A Massage was identified clearly in the definition of Traditional Medicine Doctor License. A period of King Rama VI, a western medicine was entered into Thailand resulting in the abolishment of the Royal Medical Department. Thus, the duty of Thai Traditional Medicine was reduced and Royal massagers resigned to work their own business (Devesaid *et al*., 2000).

The reign of King Rama VII, the King enacted the Ministry Law of 1929 A.D. to identify a field of massage in Traditional Medicine Doctor License; furthermore, Traditional Medicine association of Thailand was set up at the first time at Ratcha Nadda temple in 1932 A.D. Continuously, the first association of the instruction and service for massage was established.

The reign of King Rama VIII, the King was pleased to enact the Act of the control in a Medicine Doctor License (1936 A.D.) and to cancel and to cancel the unidentify Act in the field of massage in Traditional Medicine Doctor License.

The reign of King Rama IX until today, on November 15, 1985, Health and Development Foundation, Development of Thai Traditional Medicine Foundation

launched the first restoration project of Thai Massage to get a Medicine Doctor License

In 1987, Minister of Public Health announced that a Thai Massage for treatment must include Traditional Medicine Doctor License in the field of medicine. In fact, minority of the massagers from many applicants had passed the theory examination but they did not have a practical test for the registration of massage

In 1998, Ministry of Public Health appointed the subcommittees of traditional massage to prepare a Thai massage as the first type of Traditional Thai Medicine Doctor License (T.T.M.) according to Act of new issue of Medicine Doctor License.

In 1999, the Act of Medicine Doctor License in 1999 was enacted (Subcharoen, 2009, 2011).

2. Types of Thai massage

Thai massage was categorised into two types; the Court-type Thai massage and the Common Thai massage.

2.1 Definition of Thai massages types

2.1.1 Court-Thai Thai massage

According to Dr. Pennapa Subcharoen (2011) said that "Court-type Thai massage applies the massage which uses only hands and fingers to control the weight of massage for the King, his Royal family, and his aristocracy. Court-type Thai massage is the touch of relaxation by pressing on the pain point resulting in the unique characteristic of this type of Thai massage. The expert massager or the masseuse must know the theory of sen sib; the concept of invisible energy lines running through the body."

According to Chaithavuthi and Muangsiri (Chaithavuthi and Muangsiri, 2009, Devesaid *et al*., 2000) said that "Public Health Department developed massage techniques for the masseurs to use only thumbs and hands as the theraputic instruments. In addition, the massage has neither breathing upon the recipients nor stay too close to the recipients. The masseur should use only the hands, especially thumbs (proximal interphalangeal joint), and heel of the hands in performing of the massage. Moreover, the masseur must have a well-behaved by the knee-walk towards

the recipients from a distance of four feet. This massage is not the stretching positions in control of the posters. The massage process will begin at the knees upward to the head, leaving the legs and feet as the last parts of the performace."

2.1.1 Common Thai massage

According to Dr. Pennapa Subcharoen (2011) said that "Common Thai massage is characteristically depended on local culture. This massage performs the theraputic treatment by using hands, elbows, knees, forehands and the edge of feet to massage the body. Thus, Common Thai massage is suitable for villagers and it has been represented as a folk massage which is very popular and widespread in Thai society for a long time."

According to Chaithavuthi and Muangsiri (Chaithavuthi and Kanchanoo, 2009, Devesaid *et al*., 2000) said that "Common Thai massage is well-known taught in Thailand and around the world. Most of these kinds of massage begin the massage from the feet upward to the head including stretching positions by the thumbs, fingers, hands, elbows, arms, knees and feet. The Common Thai massage is divided into four positions; lying face downwards, lying face upwards, on the side and the seating positions. The masseur uses the main positions to maintain closer contact with the recipient which is opposite from the Court-type Thai massage."

In summary, there are two types of Thai massage; Court-type Thai massage and Common Thai massage. From the ancient history, the Court-type Thai massage was provided for the King, his Royal family and his aristocracy only while Common Thai massage was provided for general people (Nuad Chaloeyseuk), (Jaidee, 2010). Court-type massager uses only palm of hands and fingers to press the weight of massage because it is gentle, and polite and suitable for the King and his Royal family, but the Common Thai massage can use palm of hands, fingers, elbows, arms, knees, feet and other part of the body in massage. However, the process of both massages treatment is similar.

2.2 Method of the massage

2.2.1 Court-type Thai massage

2.2.1.1 Posture

Posture of Court-type Thai massage is nice that therapist massages with the weight of the most right position and direction to press the recipient. This posture, the therapist touches the least on the body of recipient and it makes the patient safety. The importance thing for the therapist that is therapist who can massage with this posture conveniently because each day therapist may be a massage for a long time and there is not an effect of treatment or an injury in a massage. When the therapist is the right posture; the therapist sits a far behind the recipient at least about one cubit (Court-type Thai massage is called Hattabas).

While a massage, therapist is a right posture; an upright body (a straight body), not bowing of the body, and an upright face, and therapist should not bow a head because therapist's inhalation (breath) touches to recipient directly. Therapist should not turn the face upwards or looks for a recipient because it is not polite. Hands are tight and not bend because they will make the direction of power to press at the right position of massage. If therapist is not in the right posture or the weight of pressing is in the wrong direction including the face too bends down or too turns upwards, body and hands over bend, and after a massage, therapist may have pains and aches, or work-related musculoskeletal disorders. Ancient time, a symptomatic disease happened with therapist or masseur in a massage called disease to the doctor.

Postures of therapist in Court-type Thai massage are as follow:

1) Sitting posture (Thai name-Nang Pup Pieb), therapist sits as sitting posture (Thai name- Nang Pup Pieb) that tiptoe point to the direction of recipient's feet (client) and a far about one hattabas or one cubit. While sitting posture, therapist's hand stretch directly, and not bend and both kneeling posture. Therapist sits as both kneeling that is not on heels.

Fig 1: Sitting posture (Thai name-Nang Pup Pieb)

2) Hanuman Thawaiwan posture, therapist kneels behind the recipient with the bottom is not on heels or sitting with one's knee up and another leg is on the floor or heels up. Lifting with both hands are as lifting a thing with both hands (offering a thing). This posture will use for a basis massage after sitting posture.

Fig 2: Hanuman Thawaiwan posture

3) Promseenha posture, therapist kneels behind or side of recipient and the bottom is not on heels or sitting with one's knee up and one arm doesn't use in a massage to catch the recipient's arm.

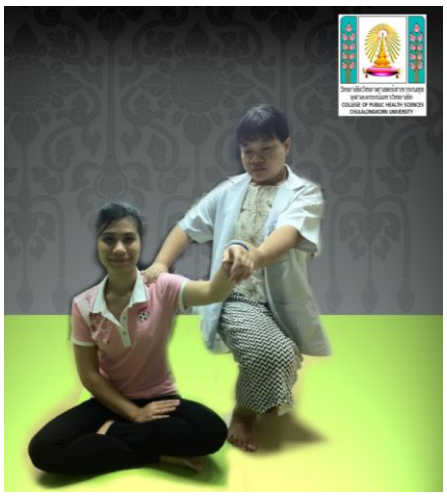

Fig 3: Promseenha posture

4) Standing posture

4.1) Hok-Sung Posture (High-standing posture), therapist stands behind the recipient. Tiptoes of feet on both sides are in the same level and they are separated by less than the width of the shoulders of therapist. Therapist should stand apart from the recipient about one keup (a traditional Thai measurement of distance, equal to 25cm.) Hok-Sung Posture has the weight of pressing in the light massage about equal to 50 pounds of force.

Fig 4: Hok-Sung posture (High-standing posture)

4.2) Hok-Glang posture (Medium-standing posture) therapist stands as Hok-Sung Posture. However, one foot moves backward for one step. When therapist wants to use the weight of pressing down by keeping the weight of the front leg to

stoop slightly and a hind leg is tight moderately, and heels do not lift. This posture causes the weight of pressing in the medium massage more than Hok-Sung Posture because therapist leans toward the front of the load is about equal to 70 pounds.

Fig 5: Hok-Glang posture (Medium-standing posture)

4.3) Hok-Tam posture (Low-standing posture) therapist stands as Hok-Glang posture or the back foot a bit. When therapist want to press the weight down by the front of kneeling stoops and the body bends down more than Hok-Glang posture with the back foot to push it to the ground in a position to raise the heel up. This posture causes the power of pressing in the heavy massage more than Medium-standing posture about equal to 90 pounds of force.

Fig 6: Hok-Tam posture (Low-standing posture)

2.2.1.2 Techniques

Court-type Thai massage therapists use hands and fingers at the following techniques.

- Placing the finger

Court-type Thai massage is the art and science that takes the fingers and hands which massage as a basis for the weight. The therapist needs to learn and understand the components associated with the fingers and hands

- Placing the thump, placing the thump to massage in the Court-type Thai massage is the science and art more importantly.

Therapists need to learn the composition of thumb such as its structure, the position of thumb to press and type of placing the thumb in massage etc. for a good result in massage.

The structure of thumb, Thai traditional therapeutic massage divides for three groups according to its shape when looking the side and flapping joints of its bones up as follow:

The upright thump means the thump is not the angle or there is the least angle in joints of its bones. Ancient time, this thump was called the thump has not a talent or gift.

The thump with a little joint means the thump has the medium angle in joints of its bones and the angle of 45 degree with the horizontal finger.

The thump with many joints mean the thump has angles abundantly in joints of its bones and the angle of 90 degree with the horizontal finger. Ancient time, this thump was called “the thump has a talent or gift (Thai people was called Niw mee porn-sa-wan).” It means when therapist was placing the finger and press on massage point, which makes the receipt to feel a smooth.

The position of placing the thump in a massage, therapist can use the five parts of the thump for massage that depend on the shape of therapist’s thump and the position of therapist wants to press.

Form of placing the thump while therapist is in a massage, when the therapist use one thump or both to place at the position of therapist wants to press and there are five forms of placing the thump as a form in the opening of palm or the

inverting of palm and the horizontal angle of the thump stretch to press in a massage with the flat of arm as follow:

- The form of the inverting of palm makes the thump point down.
- The form of the inverting of palm makes thump to be the angle of 45 degree.
- The form of the inverting of palm makes thump to be the angle of 90 degree.
- The form of the opening of palm makes thump to be the angle of 45 degree.
- The form of the opening of palm makes thump point up and to be the angle of 45 degree.

- Placing the index finger and the middle finger use in the massage of the signal in the five ears (Thailand called Sanyan ha hu) and the massage in a child.
- Placing four fingers to use in the massage of abdomen and those fingers: the index finger, the middle finger, the ring finger, and the little finger.
- Placing the bottom of inner palm and the palm for the massage to open the space between adjacent fingers or tiptoes to open the gate of wind and to massage inner side of an upper arm.

Therapists of the Court-type Thai massage must learn and understand the structure about the fingers and hands include technique of how to use the fingers and form of placing the thump, placing the index finger and the middle finger, placing the four fingers, and placing the bottom of inner palm and the palm in a while the therapist massage.

2.2.1.3 Size and direction of the power in the massage

Therapists must decide the size and the direction of the power in the massage correctly and suitable with the symptom and the disease of receipt by the posture of the therapist, the position of stand and sit and position of the massage.

The size of the power, the therapist must adjust to reduce the appropriate size of the power for receipt who can endure the power in a massage, and then the therapist must increase slightly the size of the power in a massage from textbook of Thai traditional therapeutic massage indicates that a teacher “Narongsak Boonratanahiran, teacher who decide the size and the direction of the power in a massage to be the power of three levels; 50 pound, 70 pound, and 90 pound.)

- The power of massage in 50 pound means the massage with a little power or it’s called the light size.

- The power of massage in 70 pound means the massage with the more power than the light size or it's called the medium size.
- The power of massage in 90 pound means the massage with the more power than the medium size or it's called the heavy size.

Besides of the posture of the therapist; the position of stand or sit, the position of massage, and the size of the power in the massage, they depend on other factors such as the physical of the therapist. As a result, the therapist must attend and develop a skill of controlling the power to press for increasing and reducing in an appropriate of the receipt. The massage by the overlapping of both thumps at some position that is not suitable for the therapist who has not a massage skill because it makes more power to press for the regular massage. If the therapist cannot control the appropriate size of the power in the massage and it may danger with the receipt.

- The direction of power, generally therapist will massage to control the power of massage that is the right angle or it makes the angle of 90 degree with the position of massage.
- Period of time in each massage, the therapeutic massage of each deseases will use massage in different time and the therapist must know how to control time to be apporiate for each receipt.
- Period of time in massage for each point, the therapist will massage in different time that depend on the position of massage, a muscular shape, and feeling of receipt. Generally, there are two types: short period and long period by using to mainly control breath of receipt.

- Short period means period of time in massage for each point is short time apporxiamtely 10-15 seconds and the most short period will use for a basis massage.
- Long period means period of massage for each point is long time apporxiamtely 30-45 seconds and most long period will use for massage of the signal points and massage of opening the wind-gate but it shouldn't press more than 45 seconds.

Massage in some position or some nerve may use short time approximately 2-3 seconds that is shorter than short period for example massage the line on outer side of the upper leg, basic massage of outer side of the leg etc.

Creation for flavor of is explanation that compares with cooking of a chief. Therapist must use the talent in creation for flavor of hand in massage for the receipt feels gentle, comfortable, satisfied, and not pain after massage. So, it is art of treatment massage and depends on many factors such as the size of the power and period of massage (Limityayaotin and Suwanatri, 2011).

2.2.1.4 Yoke-Kra-Dan : The strength of muscle from training such as Court-type Thai massage group has the finger training to increase pressure and stretchiness called Yoke-Kra-Dan Position, a crossed-leg sitting with feet on knees and using hands to push up the body above from floors

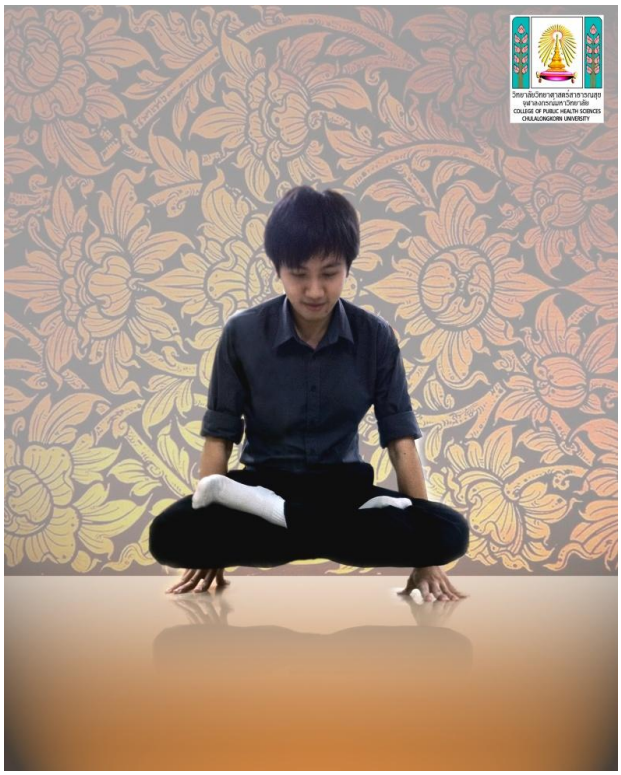

Fig 7: Yoke-Kra-Dan (Nang Kard Sa-ma-thi posture)

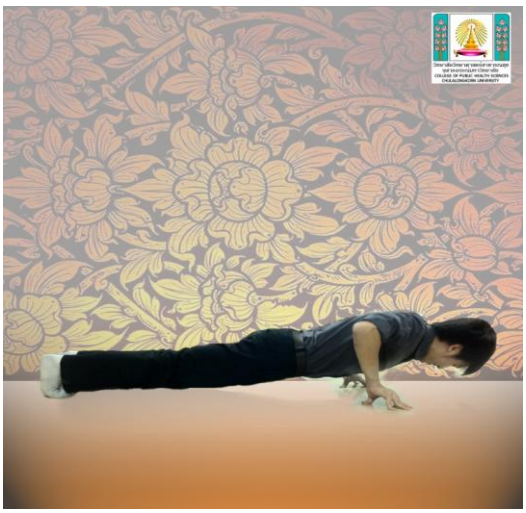

Fig 8: Yoke-Kra-Dan (Wid-peun posture or Push up 1)

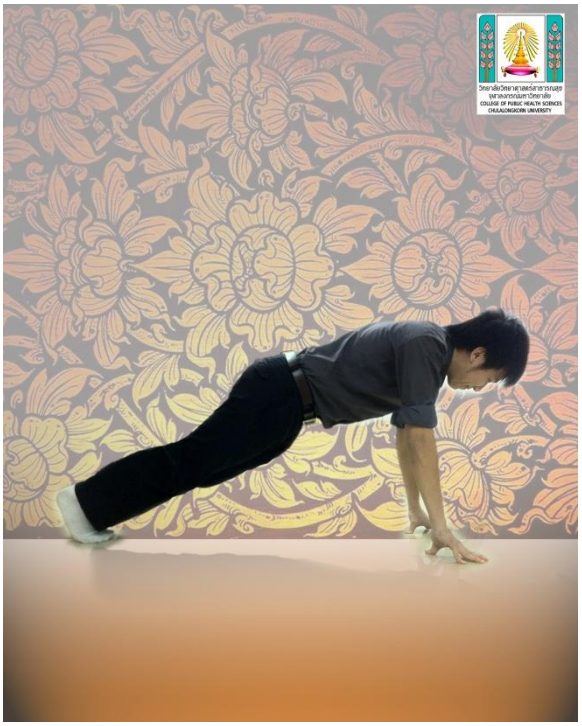

Fig.9: Yoke-Kra-Dan (Wid-peun posture or Push up 2)

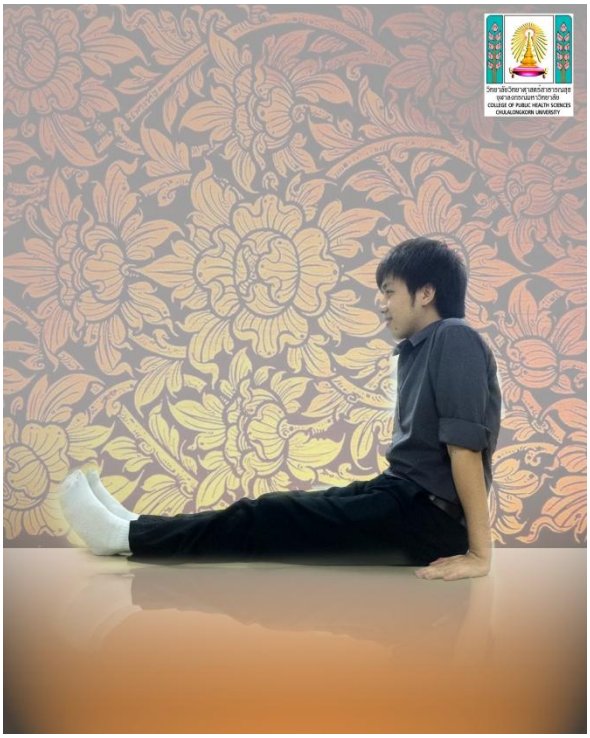

Fig.10: Yoke-Kra-Dan (Nang Yhead Ka Posture 1)

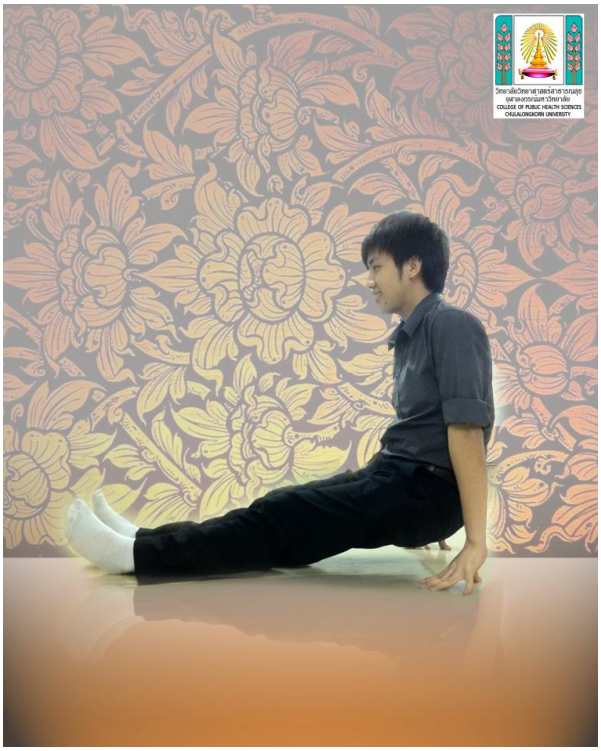

Fig.11: Yoke-Kra-Dan (Nang Yhead Ka Posture 2)

2.2.2 Common Thai massage

2.2.2.1 Postures

The Common Thai massage or Wat Po massage is the massage with not formal posture, not ceremony and the therapist can use all organ of body to help in massage such as palm, knee, foot etc.

The writer of textbook about operational training of the Common Thai massage is defined that “the Common Thai massage means an independent is a massage that can adjust the posture of massage independeantly” (Jaidee, 2010).

Institute of Thai Traditional Medicine has been defined that “Common Thai massage means a massage for the common people and inheritance patterns have been practicing massage by local culture which is good for people to rub against each other by using two hands and other organs without the use of the drug which is known and widespread in Thai society “(The Institute of Thai Traditional Medicine Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, 1998).

Fig 12: Common Thai massage postures

The postures of the Common Thai massage consist of the basic sitting positions as follows:

1) Sit on heels
2) Sit down
3) Sit up
4) Sit half-kneeling

2.2.2.2 Teachinques

Forms of Common Thai massage are as follows:

1) Pressing usually uses fingers, a thump, the outer side of hand, and the bottom of an inner hand, an elbow, a knee, and a foot to place on nurves or an organ of body for massage. Then the weight of massage presses at the point of a cure for a few time, then it releases slowly to lift for the next position. The most flavorite pressing is a tendon.

2) Kneading is using of a thump, fingers, or the bottom inner of hand that deeply press on muscles with moving back and forth as a circle.

3) Squeezing is catching hold of muscles with full palms that exerts to squeeze its.

4) Pulling is exerting to stretch a tendon or a fascia of joint which shrinks back for that part works on regular duty.

In a pulling of joint, it usually hears a loundly voice in a joint that shows a sucssful pulling and please shouldn't do it continually.

5) Twisting is a massage for exerting to turnajoint or muscles, tendons that stretch in the diagonal to relax muscle or tendon from pains and aches, or twisting in the case of a dislocated shoulder or hip.

6) Bending is exerting joints that congest to regular move. It has much and rather severe exert in massage. Before bending, therapists have to study a comparative study of the period in movement of the joint that bends with a regular joint. They must consider the receipt's age because a movement of the child's joints are better than an adulth

7) Pounding is a massage for the therapist who must use an edge of fist to pound in the symptomatic area or the point of cure with the appropriate weight to receipt to be rhythm regularly in along nerves or that cure.

8) Bending is a massage to catch hold of muscular in the curing area by full palms that exert to squeeze quicker than Squeezing. The form of squeezing is similar the squeezing of rice or a piece of coconut.

9) Spreading out is a massage to place the thump side of the point of a cure that press with the light weight by drawing of a finger up or down slowly from it. It uses for massage in the case of the patient who is powerless arm and leg. Therapist must spread the powerless muscle slowly to be regular muscles.

10) Pullback is a massage in the case of a twisted ankle, a dislocated finger or wrist by a quick pullbak to place at normal position for reducing of pain. If therapist does it slowly, the patient will have much pain.

11) Picking is a massage for the receipt that has a problem about nerves of shoulder that deeply by using four fingers picks under a wing of shoulder below to stir nerves out.

12) Relaxing is a massage by placing either hands or one hand on the point of a cure. Therapist press with the light weight of a fingertip, a palm, and the bottom of an inner hand, then press continuously as circle (left to right or right to left) to relax a general muscle.

13) Groping is a massage by placing a finger on the point of a cure. Therapist slow press with the light weight on the point of a cure a fingertip, a palm, and the bottom of an inner hand, then press continuously. Groping is a search for abnormality such as a lump, a fascia, the powerless muscle or abnormality. And therapist must massage on the right point of a cure.

14) Pressing (Thailand's called Read) is a massage by placing the thumb or more than one finger or the palm to the point for cure. Therapist must press with the weight on the fingertips that move up and down slowly in nerves of a cure. Pressing can use by one hand or two hands in the case of nerves that solid and contract if nerves hide in a skin, there is not pressing because it makes a bad than before.

15) Chopping is a massage by pressing the hands together at the chest (Thailand called Wai form). The edge of side of the little finger uses to chop on a

symptomic area or the point of a cure with the appropriate weight of receipt in the rhythm reguraly on the line of nerves that is the power stimulates muscles.

16) Treading is a massage by a foot that treads on a symptomic area or the most point of a cure. Treading in the front area is such as a thigh for relaxing of muscles and reducing painful tightening of muscle or the contraction of muscles to therapist (Jaidee, 2010).

2.2.2.3 Size and direction of the power in the massage

There are three sizes of the weight as follows:

1) The light size of the weight that the power of therapist presses through a layer of skin and a fat but not a layer of muscle (therapist can find a layer of skin and a fat by the thumb and the index finger that pull a layer of skin while the receipt is contracting a muscle). The receipt only feels the power of pressing on that area.

2) The medium size of the weight that the power of therapist presses through a layer of tight muscle. The receipt feels many pains and aches while therapist is massaging. It is the power to use in a general massage plentifully.

3) The heavy size of the weight that the power of therapist presses through a layer of bone: there is hardness. The receipt feels many pains and aches deeply more than the medium size of the weight. However, therapist should not massage on the area of very thin muscles or the button of bones because it is easier to wound in a massage. If therapist has to massage the receipt, please be careful it (Jaidee, 2010).

Fig 13: Part of body that Common Thai massage therapists use

3. **The difference between the Court-type Thai massage and the Common Thai massage**

According to Dr. Pennapa Subcharoen has definded the difference of the Court-type Thai massage and the Common Thai massaged as follows (Subcharoen, 2011):

No.	Court-type thai massage (Nuad Rajchasumnak)	Common Thai massage (Nuad Chaloeyseuk)
1.	Court-type Thai massage therapist must be polite and well mannered by walking with both knees toward the patient. While giving a massage, patient must not bow patient head to breathe on the patient.	Common Thai massage therapist does not interest about its but the characteristic of massage is familiarly with patient more than the royal Thai massage. The common Thai masseur may be not careful.
2	Court-type Thai massage therapist begins to massage from the back feet.	Common Thai massage therapist begins to massage from the sole (to feet).
3	Court-type Thai massage therapist gives a massage to the patient in the posture of sitting, lying face upwards or lying on one's side, but never of lying face downwards.	Common Thai massage therapist may be set the patient in the posture of lying face upwards.
4	Court-type Thai massage therapist must only use hands, thumbs, and fingers for massage, While giving a massage or pressing without massage in a circular motion, patient arms must be straight.	Common Thai massage therapist use hands, thumbs, and fingers for massage, While giving a massage or pressing without massage in a circular motion, patient arms must be straight. The Common Thai massage therapist does not consider patient arms whether they are straight or twisted.

3. The difference between the Court-type Thai massage and the Common Thai massage (continues):

No.	**Court-type thai massage (Nuad Rajchasumnak)**	**Common Thai massage (Nuad Chaloeyseuk)**
5.	Court-type Thai massage therapist does not bend or twist the joint, back or some parts of the body by force. In addition, Court-type Thai massage therapist must not use knees, elbows, foot for massage.	Common Thai massage therapist bends or twists the joint, back or some parts of the body by force. In addition, the masseur must use knees, elbows, foot and other part of body for massage.
6	Court-type Thai massage therapist must have practical knowledge on Anatomy, because he/she expects to have a good effect on organs and tissue by increasing blood circulation and stimulating the function of nerve.	Common Thai massage therapist hopes to have an effect by pressing and massage in a circular motion. If patient is not careful some points of anatomy, it may be dangerous for health such as fracture of bone, bruise muscle, broken blood vessels.

Fig 14: Court-type Thai massage

Fig 15 : Common Thai massage

4. Number of Thai traditional massages therapists

At present, Thai massage is the field of traditional Thai medicine and there is the training of Thai traditional massage therapist who graduates a course of facilitator in Thai traditional medicine in Thailand.

Table 1. Number of Thai traditional massages therapists in Thailand in 2007

Region of Thailand	Amount of Thai traditional massage therapists (persons)	Amount of other massages (persons)
North-eastern	791	258
Central	702	141
Southern	585	155
Northern	578	153
Total	2,656	707

Source: Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, 2007)

Traditional Thai medicine was broadly well known after Thai massage was very popular. A report of Ministry of Public Health in 2007, the number of governor health service facilities on the survey during February 2007 to September 2007 provided Traditional Thai medicine approximately by 2,630 persons in Thailand. There is facilitator of Traditional Thai medicine who graduated a course in Thailand about 5,501 persons; Thai tradition massage 2,795 persons and other massage 771 persons (Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, 2007).

And the number of Thai traditional massage therapist passed the training in the part of Thailand; north-eastern region 791 persons and other 258 persons, central region 702 persons and others 141 persons, northern region 578 persons and others 153 persons, and southern region 585 persons and other 155 persons. (Table 1)

5. Work related disease

5.1 Work related disease means disease and injury from working. Work related diseasd is devided two types.

5.1.1 Occupational disease means a chronic symptom of disease caused from work or activities that relate to occuption. It causes a disease with worker (laborer) from a touch, a threat, a danger thing to worker's health in the area of work. Work related disease occures with worker in prolonged work, and some diseases may show after stopped working or resigning from work. It depends on types of a threat to worker's health, quantity of the matter that get and touch to worker's body such as Pneumonia, Silicosis disease, skin disease, skin cancer etc. (Nixon, and Rebman, 2011; the Workers Compensation Act and the Rehabilitation Services and Claims Manual, 2011).

5.1.2 Other related diseases, or sickness caused from many factors. Working, one factor of disease and the injury-the postures of working, form or system which are not proper caused backache, stress, wrist pain from using a computer and other things (Social Security Office Ministry of Labour. Statistic and Actuarial Section, Research and Development Division, Social Security Office, 2009).

The conclusion is work related disease that the external factors caused a disease or disorder of body which regards work related disease such as a backache (laborer who lifts a heavy thing, or hurry work up, or working in the bad posture which make a tendency of cause to be a backache easily) etc.

The main factors of work related disease divides into three factors namely:

1) Workers

1.1) Age, and gender, old man, a child, a pregnant woman have more opportunity to have work related sickness. It depends on the appearance which is not proper with work.

1.2) Behavior such as drinking and smoking caused of liver disease or lung disease.

1.3) Lass experiences affect an accident in work. In additiona, some factors of working environments such as touching chemicals and threat to worker'healht many cause sickness (Nixon, and Rebman, 2011; The Workers Compensation Act and the Rehabilitation Services and Claims Manual, 2011).

2) Work conditions, the system of working, working hours, amount and frequency of shift also caused sickness. If the system of working emphasize on the most qualtity of task to support the missing opportunity of worker because worker want to hurry work up to have the most qualtity of task who is not careful in working. Most factories provide shift of working to reduce accidents. If frequencies of shift have many changes such as the change of monthly shift, it will help the body of workers to adjust: both of time to sleep, and daily activities. So, there are much frequencies of shift in the factories cause the higher opportunity to be a gastritis or the insufficient rest that affect working (Nixon, and Rebman, 2011; The Workers Compensation Act and the Rehabilitation Services and Claims Manual, 2011).

3) Working environments

3.1) Physical environments are such as the light is too bright or dark that affect to an eyesight and stress, too much noise causes the condition of ear to deteriorate in hearing. Too much hot and cold make to loose the balance of body.

3.2) Biological environments are a small living thing (microorganism) in working such as the kinds of germ in a hospital, a contagious animal or a poison animal in agriculture, and germ of experimental animals in laboratory for research.

3.3) Chemical environments are chemicals, metals in a form of a dust, a smoke, a fog, a steam which can enter to the body by an inhalation, an alimentary cana by eating, or a skin . Those causes to affect worker's health in the bad condition for all system; sudden condition, chronic condition, and it may cause of a cancer.

3.4) Psychological environments are occupational stress, burnout in working cause to be psychosomatic disorders.

3.5) Ergonomics is a study about sciences to adjust in working environments to suitable with worker. Form of working dosen't adjusts with worker to cause of an accident and work related disease such as worker who must bend and look up in working all day to be a backache.

Most of work related disease cannont be cured completely. Sometime those diseases affect officer or worker or laborer to be a disabled person. The best method in management with work related disease is the prevention of disease (Nixon, and Rebman, 2011; The Workers Compensation Act and the Rehabilitation Services and Claims Manual, 2011).

The World Health Organization indicated work related disorder is one factor to be a result of work conditions, working environments, and the quality of working to divide in significance. But it is different in the size of cause to be a disease and the word “Musculoskeletal disorders” means a health problem of the locomotors apparatus such as muscles, skeletons, cartilage, the system of blood vessel, tendons and nerves etc (Luttman, Jager, and Griefahn, 2003).

Therefore, musculoskeletal disorders are about work related musculoskeletal disorders, and musculoskeletal disorders that are the symptom in a cover of inflammation and Degenerative disorders that depend on job descriptions and the movement as follows:

1) Tendinitis and tenosynovitis are special cause in wrist, arm, elbow, and shoulder in occupational working for many hours working, repeated working, and a prolonged work the same area or a same form.

2) The pain of muscles is for example defection in working of muscles and the majority cause is at a shoulder and a neck in working of a large-sized occupation, and a proonged work in the same area or a same form.

3) Compression of nerves and entrapment syndromes are special cause in a wrist and arm.

4) Degenerative disorders cause in backbone that usually meet at neck or lower back especially in processing of job by oneself or physical hard job, however, a hard worker may be degenerative disorders in a joint of a hip and a knee (European foundation for the improvement of living and working conditions, 2011).

These disorders are the chronic symptoms that usually cause it after touching especially and the risk factor in working with once period. The member of European Union (EU) has specified a criterion in standard of judge on area of musculoskeletal disorders to explain the diference of these disorders in Thailand.

For example, when there is musculoskeletal disorders from work, these symptom will affect to upper limb including Repetitive Strain Injury or RSI that relates to work related Upper Limb Disorder or WRULDs, squelettiques Troubles Musculosquelettiques or TMS) , Cumulative Trauma Disorder or CTD. These forms appear in data of national report and literature of research, but comparison with member states is very difficult (Stock *et al*., 2005).

“Musculoskeletal disorders ” (MSDs) is worldwide definition for an irregular type that affect to neck, back, upper limb, lower limb, tissue including tendon, muscle, nerves and others issue that is near joint for eample type of musculoskeletal disorders such as back ache, Tenosynovitis, and Carpal Tunnel Syndrome. There is more risk including work factor for each person and social that may relate to development of musculoskeletal disorders (European foundation for the Improvement of living and working conditions, 2001).

Work in a risk factor including a physical requirement such as management of hard work, repetition of movement, more exertion, vibrations, prolonged standing or walking, and using inappropriate posture (pull, tow, and push) or repeat postures. The effect of these factors depends on period of time, frequency, limit of knowledge and unskilled work. Physical factors may cause to increase a severe symptom in a group musculoskeletal disorder. Besides, the importance factor for work in the organization such as work table, plasces, time table, environments, social mind etc. to affect work requirement of body and a indivual factor such as age, height, primary health, exercise level etc., these is one risk factor cause to an irregular group of musculoskeletal disorders (European Agency for Safety and Health at Work, 2001).

There is not consider in work and work factor that are one cause of making a group of musculoskeletal disorders. Physical factor of work that is assigned of each person or injury of work and it should provide to proper job for each persons who avoid the injury of working again or an over work that make a violent injury increasingly. The method of back to work to emphasizes in solving group of musculoskeletal disorders that is the risk factor to be important for musculoskeletal disorders especially each body.

The symptom cause to be work-related musculoskeletal disorders and it sometime is called repetitive strain injury or RSI disorder of repetitive strain injury cause too many injuries.

There are work related musculoskeletal disorders as follows:

1) A tissue irritation and tissue is red puffy

2) Pains
3) Exercise and to lose of period in a movement.
4) Neither ability to work nor working at home

European Agency for Safety and Health at Work Place have written a column of work-related musculoskeletal disorders) to mention musculoskeletal disorders that is the most general problem which found the most in EU about working approximately 24 percent of labours in EU 25 (The report of suffering in a head ache and a pained muscle are 22 percent of labours in EU 25).

Not only musculoskeletal disorders caused of suffering for workers who get the effect from lifting a heavy thing that make to lost income but also caused of neither defensive measure nor checking of a good efficient tool.

Musculoskeletal disorders is the damageable symptom, or a reduced strength and a quality of the body such as muscle, joint, tendon, tendon, nerve, bone, and Blood circulation syste etc. These are cause or the result of immediate working and working environments.

Work related musculoskeletal disorders are accumulation of disorders on repetitive work in a high quatity and prolonged working. However, musculoskeletal disorders are a pain that is an acute injury such as a break that happens in working or an accident.

These disorders will affect to a back, a neck, a shoulder, and an upper limb including a lower limb. Some musculoskeletal disorders such as Carpal Tunnel Syndrome that cause the specific symptom at wrist because it is the symptom especially this disease. However, work-related musculoskeletal disorders can cause along parts of the body in a general with it doesn't specify at particular area because work-related musculoskeletal disorders sometime cause the patient in this disease who have more pain or disorder beyond a disease which causes at particular area clearly (European foundation for the Improvement of living and working conditions, 2001).

Work related musculoskeletal disorders were devied three type pf risk factor as follows:

There were three types of risk factors in working that caused to be work-related musculoskeletal disorders such as physical factors, ergonomic factors, and

psychposocial factors. The European survey on working conditions addresses found that risk factor has a result to be musculoskeletal disorders as follows:

- Repetitive work
- Painful/tiring positions
- Carrying or moving heavy loads
- Other factors caused to be musculoskeletal disorders and some occupational diseases such as exposure to vibrations, a person lifting or movement, tiring or painful positions, prolonged standing or walking.

Besides, the most work related disease is found at EU that three diseases such as Tenosynovitis, Epicondylitis, and Carpal Tunnel Syndrome (European Risk observatory Report European Agency for Safety and Health at Work, 2011).

6. Health problem from working

The research showed various occupations which effect from working and caused of health problem of the worker such as massage therapist, foot massage, physiotherapist, nurse, unskilled labored, a group of labour staff of cleaner and employee in industry fairies. In addition, work that needs to use body's force or power as well affect to the worker's health.

6.1 Massage therapists

A survey of musculoskeletal symptoms and injuries among experienced massage and body work professionals survey result by Greene and Goggins (2010) (Originally published in massage & bodywork magazine, December/January 2006.) among 601 therapists found that 65% reporting pain during or following massage work within the past 2 years. The most common locations for symptoms of pain were thumbs (30 %), wrists (27 %), shoulders (26 %), and low back (25%). The most common location for symptoms of discomfort, soreness, etc., was the low back (25 %), followed by the shoulders (24 %), thumbs (23 %t), neck (21%), and hands (21%). Many respondents reported pain or discomfort in more than one part of the body in the past two years.

6.2 Foot massage therapists

Foot reflexology massage or foot therapeutic massage has a long history along with Chinese tradition and culture since the ancient time. Foot massage is a therapeutic relaxation. Currently, foot therapeutic massage is becoming famous around the world and it has an influence on expanding the economy.

Foot therapeutic massage is not only relieving and protecting physical, chemical and biological dangerous for the client, but also relieving their psychological stresses and emotional. There is no limitation of health problems associated with foot massage therapists in China. The majority of foot massage therapist is woman at age 18-25 years old. (Ye, Wong and Fu, 2005).

Foot therapeutic massage composed of three steps: soaking, cleaning, and massaging the client's feet; the entire process lasting approximately an hour. The foot massage process is very hard working by taking care the client's feet. Most of foot massage service businesses open daily from midday to midnight, but some foot massage service businesses are open late until 2-3 am in the morning. The Chinese foot massage therapists handle about 3-5 patients/day and they have to spend the rest of their time waiting for the clients. Foot massage therapists work commonly 14-16 hours a day and they have to massage feet for 8-10 clients a day.

This study educated health hazards from foot massage job in China. They explained that the foot massage therapists are exposed to chemical, biological and physical hazards (excluding, emotional and psychological stresses). Infection is the most serious health hazard because the foot massage workers were contract to the foot of many clients. Tinea, resulting from fungi is transmitted from clients to the foot massage therapists. In survey, they reported 33.08% of total bacteria and *Escherichia coli* in the tested tube which was found excessively more than the national standard. Foot massage therapists had high risk factors of skin cut and the exposure pathway greatly increased the risk of blood transmitted diseases. In this study, they did not state the prevalence of infectious diseases and the serious nature of bloodborne pathogens among the foot massage therapist.

Musculoskeletal and joint disorders which are the effect from foot massage work. The foot massages therapists used their fingers, knuckles and palms for the foot massage. They sat on non-adjustable stool without back support during massage for a long time. This has the huge effect to their posture because of a poor

ergonomics. Some foot massage therapists have arthritis that limited their work and many of them have high risk of arthritis in the future.

A psychological problem is the most problem for young foot massage workers who are sometimes harassed by clients with sexual desire. However, health problems (such as arthritis and infection) among foot massage workers are not covered by the 2002 of Occupational Diseases Prevention and Control Act. The foot massage therapist develops these diseases as a result from their work and they do not get compensation from the government or their employers.

In China, the foot massage therapists have to work without a training of health protection from to Occupational Diseases Prevention and Control Act. (Chinease's Goverments). In conclusion, health hazards and health problems have affected to foot massage workers and the potential health risks are not limited to the foot massage therapists. The Chinese government should provide strategies to protect resolve and manage the health problems for the employees and other workers (Ye, Wong and Fu, 2005).

6.3 Physiotherapists

Cromie *et al*. (2000) surveyed prevalence, severity, risks, and responses to physical therapists injuries in Australia. This survey showed that prevalence of work-related musculoskeletal disorders in young physical therapists more. If physical therapists used equipments or movement they would have prevalence on palm. Risks caused over working to have prevalence at neck and on palm. These risks related to higher prevalence in physical therapists. Cromie *et al*. (2000) studied musculoskeletal disorders of physical therapists in Australia in a year. This study showed that the percentage of the extremely prevalence of musculoskeletal disorders were low back (62.5%) and followed that; neck (47.6%), and upper back (41.0%) of physical therapists. As a result, physical therapists were risks of musculoskeletal disorders.

Holder *et al.* (1999) studied that activities or occupational musculoskeletal injuries in physical therapists that has compared between physical therapists and physical therapists assistants in USA. This study showed the percentage of work injuries of physical therapists (70%), and physical therapists assistants (68%) such as many work hours (36%), lifting heavy loads (35%), patient moving (30%), and using equipment in treatment 28 % of physical therapists.

Scholey and Hair (1989) studied a back pain problem in physical therapist to compare with controlling group and searched for the relation of work factors and worker, how to cure or treatment back pain and the effect in job. This study found that physical therapist was in work risks more than non medical group, and percentage in lifting of heavy loads were risk factors in extremely injuries of physical therapist 82 % of all physical therapists. Controlling group (female workers from a wide range of non-medical occupations) showed that percentage of a long sit that was the most risk factors in work 63 % of all controlling group.

Adegoke *et al*. (2008) studied work-related musculoskeletal disorders of the Nigerian physiotherapist to find the prevalence and factors of work-related musculoskeletal disorders among Nigerian physiotherapists cause of working by questionnaire. This questionnaire reports the prevalence in twelve months of work-related musculoskeletal disorders of the Nigerian physiotherapist and it found that there are 115 Nigerian physiotherapist or percent of 91.3 who has experience in work-related musculoskeletal disorders in working in twelve months; Lower back has the most pain that is a percent of 69.8 of Nigerian physiotherapist, the bone of elbow that is percent of 5.6 of Nigerian physiotherapist which is the effect of parts in the body. As a the studied result of Adegoke *et al*. (2008) showed that the risk factor of the same work and strategics in management of the prevalence in twelve months of work-related musculoskeletal disorders in a group of physiotherapist and why did physiotherapists remain to work in this career even if work-related musculoskeletal fisorders had a high value (percent), but they need to work this carrer continually.

Bork *et al*. (1996) studied prevalence rate of work-related musculoskeletal disorders for 12 months and factors of work-related musculoskeletal disorders among 1,160 of physical therapists. These studies reported percentage of the most pain or ache of the area in body which was low back 45 %, wrist and hand 29.6 % of physical therapists, upper back 28.7%, and neck 24.7 % of physical therapists. Besides, the most factors of work-related musculoskeletal disorders were lifting and movement patients cause of Job description, function, age, gender. Factors of function or working caused health problem in physical therapists such as prolonged working repeatedly, working with no stop or working more responsibility. Job description of physical therapists affected health problem such as lifting weight things immediately,

moving patients, twisting body, bowing suddenly or wrong body working, and using equipments in treatment.

Those factors had a cause of Job description, working, age, and gender. Health problem in physiotherapists had a cause of work factor in a career respectively such as a prolonged and repetitive work, a sudden work without stop or work that exceeds one's power. Health problem in physiotherapists had a cause of Job description is such as the patient movement, twisting, a sudden bow or work with out of shape, and using a treatment tool etc. Those factors were the main cause to be a health problem in physiotherapists.

6.4 Labours

Besides, another occupation caused an effect of a health problem in worker or officer such as unskilled labours and labours. Working might cause musculoskeletal injuries including health problem related work. A group of unskilled labour was the most risk factor of working because they worked a hard job with power of organs in body such as cleaning, building, drilling, using machinery, carrying things on the back, and mixing cement. These activities did risky factors for labourswho is a cause of hard job such as often lifting weight things, repeatedly moving of hands or arms, quaking, sprain, and using more power which were causes generally. The most general causes in unskilled laborers from work showed percentage of work injuries with no danger more than 37 of work injuries in each day

Bureau of Labor Statistics, U. S. department of labor.in 2000 arranged the occupational ranking to get the most pains and sickness in amount of ten ranking. Unskilled laborer and a group of labour are one of four in the occupational ranking to get the most pains of work that is 307,300 persons. Besides, Bureau of Labor Statistics, U. S. department of labor reported the amount of labour more than 577,800 persons that was work-related musculoskeletal disorders. Occupation of unskilled laborers were harder work than occupation of labours in factory and showed that a mount of the day off with unskilled laborer to use ten days for treatment of work-related musculoskeletal disorders in one year to compare otherl who use seven days for treatment of Work-related musculoskeletal disorders in one year (News United States Department of Labor, 2011). Ringen, Seegal, and England (1995) studied and found that there was 22 percent of the injury in unskilled laborers who worked in the

building factory cause of exceeding in unskilled laborers's power. Unskilled laborer in the building factory was the occupational risk for work-related musculoskeletal disorders especially backache.

6.5 Nurses

Work related musculoskeletal disorders are important problem to be a nurse, but there is a few health data of musculoskeletal disorders of a nurse in Sub – Sahara area of all Affrica. This study studies prevalence of work-related musculoskeletal disorders in twelve monts (one year). The risk factor in work and the method of management in reducing the risk in a nurse group who is chose from a hospital in Ibadan and the southwest of Nigeria by using a questionnaire of 160 copies with self answer. The survey is about prevalence of musculoskeletal disorders, work factor, the risk and strategics in handle the problem. Questionaires is spread for a nurse in the different hospital, as a result questionnaires is returned amount 128 copies to be 80 percent of a nurse in Sub – Sahara area of all Africa, and questionnaires are incomplete of ten coppies.The study finds that there is musculoskeletal disorders in each times more than all life of their work in twelve months about 84.4 percent of a nurse in Sub – Sahara area of all Africa and rate of preading out in musculoskeletal disorders at parts of the body is about 78 percent of a nurse in Sub – Sahara area of all Africa a and the percentage of a nurse in Sub – Sahara area of all Africa is 66.1 respectively. Musculoskeletal disorders (MSDs) cause the most disease at lower back about 44.1 percent of a nurse in Sub – Sahara area of all Africa. Next, percent of neck area is 28 of a nurse in Sub – Sahara area of all Africa and the percent of knee is 22.4 of a nurse in Sub – Sahara area of all Africa respectively.The percentage of 30.3 of of a nurse in Sub – Sahara area of all Africa to get a health curing of oneself (treatment) or a visitation from a operational person in others health for supervising a health. A nurse have experience to work more than twenty years in clinic about musculoskeletal disorders that is the fouth time and there is tendency of development in musculoskeletal disorders (OR 3.81; CI 1.08-13.4) more than a person who have experience in work for 11 -20 years; the percentage of work in the same position for a long time is 55.1, the percentage of lifting or the patient movement is 50.8 of a nurse in Sub – Sahara area of all Africa and the percentage of curing too many patients in one day is 44.9 of a nurse in Sub – Sahara area of all Africa.

The most risk factor of work-related musculoskeletal disorders the percentage of request of assiatance in supervising of intensive care 50.4 of a nurse in Sub – Sahara area of all Africa, the percentage of adjustment in the curing method to avoid a pain again is 45.4 of a nurse in Sub – Sahara area of all Africa, and the percentage of adjustment of the position in curing or patient is 40.3 of a nurse in Sub – Sahara area of all Africa. Three mentions previously that are the method to handle with work-related musculoskeletal disorders) which is a right for a nurse (Tinubu *et al.***,** 2010**).**

Sinsonsook (2004) studied the prevalence of work-related musculoskeletal disorders (WRMDs) in a nurse in Chulalongkorn hospital and he found that the percentage of the prevalence of work-related musculoskeletal disorders in a nurse in twelve months (one year) was 97.8 of a nurse in Chulalongkorn hospital. There were top three in the highest prevalence in the body of a nurse such as the percentage of lower back was 33.6 of a nurse in Chulalongkorn hospital, upper back (19.1%) and the right shoulder (18.4%). Work and activities of nursing were the majority cause in work-related musculoskeletal disorders such as lifting or supporting the patient on bed (92.9%), adjusting and managing the posture of patient on bed (91.8%), and an assistance to rub the body of patient and addressing the patient on bed (90.9%). Activities of nursing were a hard work such as the percentage of a movement the patient by one person without tools for lifting was 29.9 of a nurse in Chulalongkorn hospital. The result of analyzing the factor relate to musculoskeletal disorders in lower back found that the relation of the statistical significance with musculoskeletal disorders in lower back such as there is not exercise regularly (OR 2.66, 95% CI 1.06 -6.64) and it showed that there is the prevalence of musculoskeletal disorders in the lower back of a nurse cause of a hard work and the inappropriate posture.

In conclusion**,** a health problem can meet generally that was inconvenient for doing activities or working and affected to the quality of life in worker, family, and social. Musculoskeletal disorders was general health problem that can happen with all occupations and there was a cause from activities or work including working environments; both repetitive work and a prolonged work, and working without break that caused using the more power in work to be health problem in worker.

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research materials and methods, which were organized into the following topics: design and setting, target population, sample size, conducting research process, research instrument, data collection and data analysis (statistical analyses).

1. **Design and settings**: the descriptive study design was used and conducted among Thai traditional massage therapists (TTMs) who work at Thai traditional medicine unit in general hospitals throughout Thailand. The ethical consideration was approved by Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University.

2. Target population*:* Two thousand six hundred and fifty six of Thai traditional massage therapists who work at Thai traditional medicine unit in public general hospitals throughout Thailand.

3. Sample size

3.1 The sample size was calculated using self administered questionnaire. A Thai traditional massage therapist number was calculated for the sample size at the significant level of lowers than 0.05 and was used reliability at 95%. The following was the procedure of sample size calculation.

The formula from Yamane (1967) is:

$$n = \frac{N}{1+Ne^2}$$

Where:

N=2,656 (the total of number of Thai traditional massage therapists, 2007)

n = sample size

e = the level of precision (0.05)

Method:

$$n = \frac{2,656}{1+2,656\ (0.05)^2}$$

$$n = \frac{2,656}{1+2,656(0.0025)}$$

$$n = \frac{2,656}{1+6.64}$$

$$n = \frac{2,656}{7.64}$$

N ~ 350

Number of sample size that was 350 therapists. As the returned rate of self administered questionnaire expected about 25-30 %, total number distribution was 1,426.

4. Inclusion criteria

1. Thai traditional massage (TTMs) therapists who trained on the Common Thai massage or the Court-type Thai massage and certified by Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health.

2. Thai traditional massage (TTMs) therapists who worked at Thai traditional medicine unit in general hospitals throughout Thailand.

3. Thai traditional massage (TTMs) therapists who had experience more than 6 months.

4. Thai traditional massage (TTMs) therapists had ever traning more than 150 hours because there was standard massage traning course by Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health.

5. Thai traditional massage (TTMs) therapists who agreed to answer the questionnaires.

5. Exclusion criteria

1.Thai traditional massage (TTMs) therapists who had chronic diseases such as osteoporosis, heart disease, kidney disease, diabetes or high blood pressure that was not caused by working. Chornic diseases were separied by self-adminstered questionnaire.

2.Thai traditional massage (TTMs) therapists who previously got accident which reducing their work efficiency.

3.Thai traditional massage (TTMs) therapists use the other massage such as baby massage, Autistic Child's massage, foot massage (Reflexology), benefit from the hospital (Yoka course, Luesri Dadton's exercise course, and Arabic's exercise course), oil massage, spa massage, aroma massage, Swedish massage, and Chinese's massage etc. Because their did not the Common Thai massage or the Court-type Thai massage and must not train or certificate by Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health.

4. Conducting research process

One thousand four houndred and twenty six copies of questionnaire were distributed to all Thai traditional massage therapists who worked at Thai traditional medicine unit in general hospitals in Thailand.

Each member was asked to complete the self-administered questionnaire if they have more than 6 months of experience in practice. The samples were asked to complete all questionnaires by themselves and the all questionnaires were returned to the principal investigator within 1 month. This distribution process was during March to July 2012. Finally, 982 copies wwere returned and 444 copies were completed and fulfill inclusions criteria.

5. Instrument

This study was used self administered questionnaires. The questionnaires were constructed by the researcher, validated by 3 experts.

The questionnaire composed of 30 questions and the respondent was used 30 minutes and answered 1 time per the questionnaire.

The questionnaire was divided into 4 parts as follows:

Part I: Socio-demographic characteristics consisted of gender, age, marital status, position of work, education status, duration of working and other jobs.

Part II: Physical health of Thai traditional massage therapists consisted of body mass index (BMI), general health problem of Thai traditional massage therapist, previous accident, smoking, and drinking alcohol.

Part III: Information about Thai traditional massage therapist's worker comprises 5 questions. The questions were asked about the working characteristics of Thai traditional massage therapists consisted of the type of massage (the Common

Thai massage and the Court-typeThai massage), duration of massaging (hours per day), method of Thai massage, posture of Thai massage, and position of Thai traditional massage.

Part IV: The questions were asked about health problem from working which consisted of workplace, bed size, room size, room temperature, workplace environment, the posture of Thai massage had affected to Thai traditional massage therapists health (knowledge self assignment), an accident related to their work, the pain in some parts of body (e.g. hands ,finger, joint, elbow) sign and symptoms of illness, the symptoms of injuries at some parts of the body, the working activities in last six months, the process to take care of therapists's health when they have pains and the cause of pain or injury that therapists receive each day.

6. Data collection

A letter of introduction explanting the purpose of the study was attached to the questionnaire. The researcher requested the letter issued from the college of public health science, Chulalongkorn University to contact with Kanchanabhisheck Institute of Medical and Public Health Technology, Nonthaburi province. The Institute has Thai traditional medicine class for the therapists throughout Thailand.

The researcher asked the therapists in the class to fill the questionnaire and distribute to their friends. After two weeks, reminders were sent two weeks after the first one. The questionnaire was returned by only those who agreed to participate in the study.

A letter of introduction explaining the purpose of the study was enclosed to the questionnaire. Pre-addressed stamped envelopes with the address of the corresponding author were also included in the package sent to the each hospital.

7. Data analysis

Data were analyzed electronically using a statistical package. SPSS version 17.0 was used for analysis statistics and calculated data. The following statistics were applied: Using the descriptive statisticsand the variables were assessed by scores. For description calculation of number, percentage, mean and standard deviation including minimum and maximum value were performed to explain the distribution of socio-demographic characteristics, physical health, working characteristics and health problem from working in Thai traditiona massage therapists.

For analytical statistics, chi-square test was used to find if there was any association between social-demographic characteristics, working caracterrisitcs of Thai traiditional massage therapists, the work places (etc.size of bed and the size of massage room), health problem from working, the significant level in this study set up at 0.05.

CHAPTER IV

RESULTS

The researcher had determined the health problem in Thai traditional massage (TTMs) therapists who worked at general hospitals throughout Thailand. The data was collected by using the self administered questionnaires. The questionnaire was posted to Thai traditional massage therapists. After administration, the questionnaire was returned to the College of Public Health Science, Chulalongkorn University between March and July 2012. The questionnaire was returned and completed 444 sets (31.1% from all of questionnaire distribution).

The presentations are divided into four parts as follows:

Part I: Socio-demographic characteristics consisted of gender, age, marital status, position of work, education status, duration of working and other jobs.

Part II: Physical health of Thai traditional massage therapists consisted of body mass index (BMI), general health problem of Thai traditional massage therapist, previous accident, smoking, and drinking alcohol.

Part III: Working characteristics of Thai traditional massage therapists consisted of the type of massage (the Common Thai massage and the Court-type Thai massage), period of massage work (hours per a day), method of Thai massage, posture of Thai massage, and position of Thai traditional massage, the working activities in the last six months.

Part IV: Health problem from working consisted of workplace, bed size, room size, room temperature, workplace environment, the posture of Thai massage had affected to Thai traditional massage therapists health, an accident related to their work, the pain in some parts of body (e.g. hands ,finger, joint, elbow) sign and symptoms of illness, the symptoms of injuries at some parts of the body, the process to take care of their own health when they have injuries and the cause of pain or injury that the therapists receive each day.

Part I: Socio-demographic characteristics

Table 4.1: Socio-demographic characteristics of Thai traditional massage therapists

Personal Attributions	N (%)
Gender	
Male	65(14.6)
Female	379(85.4)
Total	444(100.0)
Age (years)	
≤ 25	39(8.8)
25-29	24(5.4)
30-34	44(10.0)
35-39	82(18.6)
40-44	82(18.6)
45-49	93(21.0)
50-54	48(10.9)
≥ 55	30(6.8)
Missing	(2)
Total	442(100.1)
Median	40.50
Mean ± SD	40.65±9.55
Marital status	
Single	111(25.1)
Married	265(59.8)
Widow/Divorced/Separated	67(15.1)
Missing	(1)
Total	443(100.0)

Table 4.1 (continues)

Personal Attributions	N (%)
Education	
Primary education	87(19.6)
Secondary education	264(59.4)
≥High school	93(21.0)
Total	444(100.0)
Current position	
Thai traditional massage therapists	379(85.4)
Others (e.g. Applied / Thai traditional medicine, Ayuravadic, Head of Thai traditional medicine etc.)	65(14.6)
Total	444(100.0)
Finished Applied / Thai Traditional Medicine	
No	371(83.6)
Yes	73(16.4)
Total	444(100.0)
Trained for Thai traditional massage	
No (Finished Applied / Thai Traditional Medicine **)**	73(16.4)
Yes	371(83.6)
Total	444(100.0)

Table 4.1 (continues)

Personal Attributions	N (%)
Duration of working (years)	
<1	29 (6.5)
1 -5	208(47.0)
6-10	162(36.6)
11-15	39(8.8)
>15	5(1.1)
Missing	(1)
Total	443(100.0)
Therapists had other jobs.	
No	350 (78.8)
Yes	94(21.2)
Total	444(100.0)
Specified the jobs (Excepted Therapists masseged outside general hospital)	
Employee	12(12.8)
Agriculturist	40(42.6)
Merchant	8(8.5)
Others	34(36.2)
No other jobs (Massage only)	(350)
Total	94(100.1)

Table 4.1 (continued):

Personal Attributions	N (%)
Other jobs required physical effort or hard exertion	
No	21(22.3)
Yes	71(77.7)
No other jobs	(350)
Total	94(100.0)

The table 4.1 showed the majority of Thai traditional massage therapist (85.4%) was female and 14.6% of the therapist was male. The average age of Thai traditional massage therapists were 40.65 years (40.65±9.55). Most therapists aged in the range of 45-49 years (20.9%) followed by age 35-39 years and 40-44 years which showed equal number of 18.5%. About 60% was married while 25 % was single. The result of education level showed 59.4% of the therapists had finished secondary level and 21.0% of them had finished more than high school level. Approximately 84% of all therapists did not finish Applied/Thai traditional medicine but they have been training for Thai traditional massage. The study showed 85.4% of their current position was Thai traditional massage therapists. In this study, 47.0% of the therapists have been working as masseurs or masseuses for 1 – 5 years, followed by 36.6% of them worked 6-10 years and 8.8% of them wotked 11-15 years. About 80% of the therapists worked as massage therapists only while 20% of them had other jobs. As for other jobs, 43.5% of the therapists worked as agriculturists, 10.9% of them were employees and 8.7% of the therapists were merchants. Another report showed that they worked as pharmacy assistant, housewife, village health volunteer, and nurse assistant. There was 77.2% of the therapists had the job that required physical effort or hard exertion.

Part II: Physical health of Thai traditional massage therapists

Table 4.2: General health of Thai traditional massage therapists

Personal Attributions	Thai traditional message therapists (N=444)
	N (%)
Body Mass Index (kg/m^2) *	
Underweight	26(5.9)
Normal	229(51.9)
Marginally overweight	143(32.4)
Overweight	36(8.2)
Severe overweight, or Obesity	7(1.6)
Missing	(3)
Total	441(100.0)
General Health	
Poor	55(12.4)
Good	301(67.8)
Don't know/not sure	88(19.8)
Total	444(100.0)
In the part years, therapists have ever had an accident that injured and admitted to the hospital.	
No	409(92.1)
Yes	35(7.9)
Total	444(100.0)

*Institute for Innovative Learning. Mahidol University. [Online]. 2012. Available from: http://www.il.mahidol.ac.th/e-media/health1/gen_ap_sub_cal.swf [2012, September 10].

Table 4.2 (continues):

Personal Attributions	Thai traditional message therapists (N=444)
	N (%)
Currently smoking cigarratte	
No	430(96.8)
Sometimes	11(2.5)
Often	3(0.7)
Total	444(100.0)
Currently drinking alcohol	
No	328(73.9)
Sometimes	112(25.2)
Often	4(0.9)
Total	444(100.0)

According to the BMI (Body mass Index) weight status (table 4.2), 51.6% of the therapists had a BMI in normal range. Only 32.2 % of them were in marginally overweighed and 7 % of the therapists were in obesity range.

From the result of the BMI weight status reported that the most masseurs and masseuses were very low risk for many disease and health condition (e.g. drinking, eating, and smoking). The overweight and severe overweight were increased risk for many diseases and health conditions including hypertension, coronary heart diseases, stroke, and osteoarthritis (reference of disease: Pongchaiyakul *et al.*, 2006). Thai traditional massage therapists reported that 67.8% of them were healthy. Majority of the therapists have never had an accident which injured or admitted to the hospital (92.1%). More than 90% of the Thai traditional massage therapists have never smoked and 70.3% of them have never drunk alcohol.

Part III; Working characteristics of Thai traditional massage therapists

Table 4.3: Working characteristics of therapists

Personal Attributions	N (%)
Type of Thai traditional massage	
Common Thai massage	44(10.0)
Court-type Thai massage	130(29.2)
Both of 1 and 2	270(60.8)
Total	444(100.0)
Duration or working per day (Massage hours per day)	
≤ 2	16(3.7)
3-5	78(18.0)
6-8	294(67.7)
9-11	31(7.1)
≥12	15(3.5)
Missing	(10)
Total	434(100.0)

Table 4.3 showed the majority of-Thai traditional massage therapists used both of the Common Thai massage and the Court-type Thai massage (60.8%). About 29% of the therapists used the Court-type Thai massage and a small percentage of therapists used the common Thai massage (10.0%). The therapists reported duration of working per day that most of them worked for 6-8 hours per day (67.7%) followed by 18% of the therapists worked for 3-5 hours per day.

Table 4.4: Posture of massages and part of body that therapists mostly used

Personal Attribution	Thai traditional massage therapists (N=444)	
	No	Yes
	N (%)	N (%)
Which posture of Thai massage that therapists mostly use?		
Sitting posture (Thai name- Nang Pup Pieb)	234(52.7)	210(47.3)
Hanuman Thawaiwan Posture	223(50.2)	221(49.8)
Hok-Sung Posture, Hok-Glang Posture,and Hok-Tam Posture	189(42.6)	255(57.4)
Promseenha Posture	225(50.7)	219(49.3)
Kneeling Posture on the heel	107(24.1)	337(75.9)
Others (etc. changed from working place)	395(89.0)	49(11.0)
Which part of the body that therapists mostly use ?		
Thumb and Joint of Thumb	127(28.6)	317(71.4)
Palm, the knife edge of hand, palm heel, and finger	159(35.8)	285(64.2)
Forearm	338(76.1)	106(23.9)
Elbow	301(67.8)	143(32.2)
Foot, Heel, and Claw foot	406(91.4)	38(8.6)
Knee	352(79.3)	92(20.7)
All (number 1-6)	362(81.5)	82(18.5)

From table 4.4 showed the postures and parts of body that the therapists mostly used to massage. The postures mostly use were kneeling posture on the heel (75.9%) followed by Hok-Sung Posture, Hok-Glang Posture, and Hok-Tam posture (57.4%) and Hanuman Thawaiwan posture (49.8) respectively. The parts of the body that therapists mostly use were thumb and joint of thump (71.4%) followed by palm, the knife edge of hand, palm heel finger (64.2%) and elbow (32.2%) to massage.

Table 4.5: Working activities in a week

Working activities	Thai traditional massage therapists (N=444)			
	No N (%)	1-3 times/week N (%)	3-5 times/week N (%)	> 5 times/week N (%)
How often do therapists experience the following activities during a week?				
1.) Use many parts of their body (e.g. thumbs, palms, wrists) for making hard exertion to massage.	34(7.7)	118(26.6)	120(27.0)	172(38.7)
2.) Lift or twist the client's body.	192(43.2)	132(29.7)	53(11.9)	67(15.1)
3 Use only fingers and wrists to make the hard exertion for massage.	18(4.1)	92(20.7)	130(29.3)	204(45.9)
4.) Bending or Craning their neck.	58(13.1)	127(28.6)	107(24.1)	152(34.2)
5.) Bending their back and twisting your waist while giving the massage for the client.	149(33.6)	115(25.9)	92(20.7)	88(19.8)
6.) Sitting for a long time	120(27.0)	109(24.5)	124(27.9)	91(20.5)
7.) Standing for a long time	165(37.2)	142(32.0)	85(19.1)	52(11.7)
8.) Using their joints of thumb to press or push to the point of massage for a long time.	36(8.1)	102(23.0)	125(28.2)	181(40.8)

Table 4.5(continues):

Working activities	Thai traditional massage therapists (N=444)			
	No N (%)	**1-3 times/week N (%)**	**3-5 times/week N (%)**	**> 5 times/week N (%)**
9.) Massage by incorrect posture that makes they feel uncomfortable and pain.	95(21.4)	166(37.4)	102(23.0)	81(18.2)
10.) Massage for a long time by squat or kneel.	130(29.3)	126(28.4)	83(18.7)	105(23.6)
11.) Incorrect posture in massage (e.g. the extremely body bending).	199(44.8)	136(30.6)	74(16.7)	35(7.9)
12.) Exceed the body's power by giving hard exertion in press or massage.	126(28.4)	140(31.5)	109(24.5)	69(15.5)
13.) Massage the muscles knots or the rigid muscles often.	57(12.8)	174(39.2)	115(25.9)	98(22.1)
14.) Massage for an overweight client or muscleman.	46(10.4)	221(49.8)	114(25.7)	63(14.2)
15.) Use the other tools in massage (e.g. pressing and point wood)	281(63.3)	90(20.3)	55(12.4)	18(4.1)
16.) Massage for men	25(5.6)	128(28.8)	146(32.9)	145(32.7)
17.) Massage for women	165(37.2)	142(32.0)	85(19.1)	52(11.7)
18.) Massage for children.	263(59.2)	136(30.6)	27(6.1)	18(4.1)
19.) Massage for the disability people	51(11.5)	252(56.8)	96(21.6)	45(10.1)
20.) Massage for a long time without a break	162(36.5)	157(35.4)	81(18.2)	44(9.9)
21.) Lifting the water more than three liters	204(45.9)	157(35.4)	48(10.8)	35(7.9)
22.) Cleaning Thai traditional massage rooms	63(14.2)	151(34.0)	97(21.8)	133(30.0)

Table 4.5(continues):

Working activities	Thai traditional massage therapists (N=444)			
	No N (%)	**1-3 times/week N (%)**	**3-5 times/week N (%)**	**> 5 times/week N (%)**
23.) Preparing bed sheets and bed, moving the bed, and lifting the heavy thing etc.	46(10.4)	130(29.3)	119(26.8)	149(33.6)
24.) Producing the herbal medicine such as herbal ball, herbal medicine, balm, the package of herbal medicine, containing the herbal and labeling etc.	210(47.3)	154(34.7)	45(10.1)	35(7.9)

The result from this table showed numerous factors resulting from working types which had affected to Thai traditional massage therapists' health during a week of the study.

The research reported 92.3% of Thai traditional massage therapists used many parts of their body (e.g. thumbs, palms, wrists and others) for making hard exertion to massage during a week. The results showed the frequency of their work by using many parts of their bodies more than five times per a week, three to five times per a week, and one to three times per a week (38.7%, 27.0%, and 26.6% respectively). Moreover, the study revealed 56.8% of the massage therapists experienced with lifting or twisting the clients' bodies, showing the frequency of the therapists lifted or twisted the clients' bodies one to three times per a week, more than five times per a week, and three to five times per a week (29.7%, 15.1%, and 11.9% respectively). Majority of massage therapists used only fingers and wrists to make the hard exertion for massage during a week of the study (95.9%). The frequency of the therapists used only fingers and wrists to make the hard exertion for massage was divided into using only fingers and wrists to massage more than five times per week, three to five time per week, and one to three times per week (45.9%, 29.3%, and 20.9% respectively).

The massage therapists who reported of bending and craning their necks during week of the study was 86.9%. Most of therapists had bended and craned their neck with more than five times per week, one to three times per week, and three to five times per week (34.2%, 28.6%, and 24.1% respectively). Additionally, the therapists reported of bending their backs and twisting their waists while giving the massage for the clients over a week of the study was 66.4 %. There was separated by frequency of therapists do in a week. Twenty five point nine of therapists bended their backs and twisted their waists one to three times per week, followed by three to five times per week and more than five times per week at 20.7% and 19.8 respectively. The massage therapist who sat for a long time during the massage treatment over a week of the study was 73.0%. The frequency of sitting for a long time during the massage treatment, three to five times per week, one to three times per week, and more than five times per week was 27.9%, 24.5%, and 20.5% respectively. In addition, 62.8% of the massage therapists stood for a long time while working over a week of the study, one to three times week, three to five times a week and more than five times week at 32.0%, 19.1% and 11.7% respectively. Another factor from the table expressed 91.9% of the massage therapists used their joints of thumb to press or push to the point of massage for a long time over a week of the study, more than five times per week, three to five times per week, and one to three times per week at 40.8%, 28.2%, and 23.0% respectively.

The incorrect postures of massage were observed over a week in this study, showing 21.4% of the therapists who had incorrect postures that made them felt uncomfortable and pain. The results showed the frequency of the therapists who massaged with the incorrect postures one to three times per week, three to five times per week, and more than five times per week at 37.4%, 23.0%, and 18.2% respectively. Massage for a long time by squat or kneel is also the interested postures to study. Over a week of the study, 70.7% of the massage therapists massaged the clients by squat or kneel for a long time. The study showed the frequency of the therapists gave the massage treatment to the clients by squat or kneels one to three times per week, more than five times per week, and three to five times per week at 28.4%, 23.6%, and 18.7% respectively. Bending too much is also one of the incorrect postures. The research taken over a week showed 55.2% of the therapists with the

incorrect posture in massage (e.g. bending too much). The therapists massaged by the incorrect posture one to three times per week, three to five times per week, and more than five times per week (30.6%, 16.7%, and 7.9% respectively).

In a study taken over a week, 28.4% of the therapists exceeded their body's power to give the hard exertion for massage treatment. The study showed the frequency of the therapists used their body's power to give the hard exertion in massage exceedingly one time per week, three to five times per a week and more than five times per week at 31.5%, 24.5%, and 15.5% respectively. Furthermore, 87.2% of the therapists often massaged the muscle knots or the rigid muscles. The results showed the frequency of the therapists massaged the muscle knots or the rigid muscles one to three times per week, three to five times per week, and more than five times per week at 9.2%, 25.9%, and 22.1% respectively. The body size of the clients also affected to the therapists' health. In a one week study, 89.6% of the therapists massaged the overweight clients or the musclemen, resulting in the frequency of the therapists massaged those clients one to three times per week, three to five times per week, and more than five times per week (49.8%, 25.7%, and 14.2% respectively). Using the other tools in massage (e.g. pressing and point wood) was observed over a week in this study. The results showed 63.3% of the therapists did not use the tools in massage; however, there were the massage therapists who used the other tools to massage one to three times per a week, three to five times per week, and more than five times per week (20.3%, 12.4%, and 4.1% respectively).

The results from Table 4.5 (No. 16-20) showed various characteristics of the clients such as women, men, children, and disability people. In this research taken over a week, the therapists massaged the man clients more than disability clients, woman clients, and child clients (40.8%, 94.4%, 88.5%, and 62.8% of each character respectively). Unfortunately, 36.5% of the massage therapists had to work for a long time without a break during one week of the study. The research revealed the frequency of the therapists massaged without a break more than one to three times per a week, three to five times per week, and more than five times per week at 35.4%, 18.2%, and 9.9% respectively. In addition, not only they had work as a massage therapist but they also have other works that they had to do over a week. The article number 21- 24 from Table 4.5 revealed that the therapists had to prepare the bed or

move heavy things; clean the massage room, lift the water more than three litters, and produce the herbal medicines (89.8%, 85.8%, 54.1%, and 52.7% of each topic respectively).

Part IV: Health problem from working

Table 4.6: Workplace for massage

Personal Attributions	Very small/ Uncomfortable	Good N (%)	Missing	Total N (%)
How do therapists think about the workplace for massage?				
A. The size of the workplace	111(25.1)	331 (74.9)	(2)	442(100.0)
B. The size of massage bed	52(11.8)	388(88.2)	(4)	440(100.0)
C. The room temperature in the workplace for massage	80(18.1)	362(81.9)	(2)	442(100.0)
D. The environment in the workplace such as noisy.	71(16.0)	370(83.9)	(3)	441(100.0)
E. The overview of your workplace or massage	58(13.1)	384(86.9)	(2)	442(100.0)

From table 4.6 showed the workplace for massage. Thai traditional massage therapists were satisfied the size of the workplace (74.9%), the size of massage bed (88.2%), the room temperature (81.9 %), the environment in the workplace (83.9%), and the overall of their workplace for massage (86.9%).

Table 4.7: Knowledge by self assignment

Personal Attributions	Thai traditional massage therapists (N=444)	
	No N (%)	**Yes N (%)**
Does the posture of massage affect to their health?	111(25.0)	333(75.0)
Therapists ever had an accident-related to their work (e.g. falling from the massage bed, the herbal pot burned their skin)	398(89.6)	46(10.4)
At work, if thereapits had a pain in some parts of body (e.g. hands, fingers, joints, elbow, feet), how did they do?		
A. Change their massage posture or client's posture	124(27.9)	320(72.1)
B. Change the part of their body while giving massage for the client	178(40.0)	265(60.0)
C. Stop massage for a few minutes by asking for permission from client	386(86.9)	57(13.1)
D. Use the balm or balm oil while massaging the client to reduce the pain	257(58.0)	186(42.0)
E. Apply the heat from the hot towel or the hot herbal ball to reduce the pain during the massage therapy for the client	277(62.4)	167(37.6)
F. Asking another Thai Traditional Massage Therapist to work instead of them	389(87.8)	54(12.4)
G. Other….. (All a-f, exercises etc.)	410(92.3)	34(7.7)

Table 4.7 showed the posture of Thai massage had affected to their health (75%). Majority therapists have never had an accident-related to their work such as falling from the massage bed or the herbal pot burned their skin (89.6%). At work, most therapists (72.1%) was changing their massage posture or client's posture and 60% was changing the part of their bodies while giving massage for the client when they had a pain in some parts of body such as hands, fingers, joints, elbow and feet.

Table 4.8: Perception of pain or illness

Personal Attributions	**N (%)**
Do therapists agree that working in massage therapist that cause more risk of musculoskeletal system such as back pain, finger pain and elbow pain?	
No	43(9.7)
Yes	345(77.7)
Not sure	56(12.6)
Total	444(100.0)
What is the cause of pain, sign and symptom of	
Incorrect massage posture	309(69.6)
Caused from other works	54(12.2)
Not sure	48(10.8)
Both incorrect massage posture and courser from	33(7.4)
Total	444(100.0)

Table 4.8 showed most therapists (77.7%) who was at risk for musculoskeletal symptoms such as back pain, finger pain and elbow pain which caused from working. Majority therapists reported the cause of pains, signs, and symptoms of pains was incorrect massage postures (69.6%) and other jobs (12.2 %).

Table 4.9: The parts of therapists's body that they pained in the last six months.

The symptoms of pains at some parts of the body	**Thai traditional massage therapists (N=444)**		
	No N (%)	**Sometimes N (%)**	**Often N (%)**
Have you ever had symptoms of pain or injury that caused by working as a massage therapist during the past six months?			
Neck	96(21.6)	277(62.4)	71(16.0)
Upper back.	88(19.8)	277(62.7)	79(17.8)
Lower back.	79(17.8)	297(66.9)	68(15.3)
Left shoulder.	197(44.4)	200(45.0)	47(10.6)
Right shoulder.	111(25.0)	249(56.1)	84(18.9)
Left elbow.	212(48.0)	200(45.0)	32(7.0)
Right elbow.	207(46.6)	194(43.7)	43(9.7)
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	94(21.2)	248(55.9)	102(23.0)
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	88(19.8)	247(55.6)	109(24.5)

Table 4.9 (continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)		
	No N (%)	**Sometimes N (%)**	**Often N (%)**
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	94(21.2)	248(55.9)	102(23.0)
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	88(19.8)	247(55.6)	109(24.5)
Wrist / left hand.	129(29.1)	260(58.6)	55(12.4)
Wrist / right hand.	123(27.7)	254(57.2)	67(15.1)
Hip / left thigh.	177(39.9)	235(52.9)	32(7.2)
Hip / right thigh.	177(39.9)	225(50.7)	42(9.5)
Left knee.	159(35.8)	242(54.5)	43(9.7)
Right knee.	157(35.4)	246(55.4)	41(9.2)
Ankle / left foot.	226(50.9)	199(44.8)	19(4.3)
Ankle / right foot.	229(51.6)	199(44.8)	16(3.6)

Table 4.9 (Continoues):

Personal Attributions	**N (%)**
Do these symptoms affect your work?	
No	83(18.7)
Yes, sometimes.	304(68.5)
Yes, often.	57(12.8)
Total	444(100.0)

In addition (Table 4.9), most therapists sometimes had lower back pain (66.9%) followed by upper back (62.7%) and neck (62.4%) respectively. The parts of the body most often associated with these pains were right hand pain with 24.5%, left hand pain (23%), and right shoulder (18.9%) in that order.

Table 4.10: If therapists have these symptoms (in Table 4.9), how do therapists take care of themselves?

Personal Attributions	**Thai traditional massage therapists (N=444)**	
	No N (%)	**Yes N (%)**
If therapits have these symptoms (Table 4.9) How do they take care of themselves? (More than 1 answer is acceptable)		
Untreated	397(89.4)	47(10.6)
Self treatment	392(88.3)	52(11.7)
Modern medicine	346(77.9)	98(22.1)
Thai traditional medicine	286(4.4)	158(35.6)
Therapist's friend helps to heal	124(27.9)	320(72.1)
Other…… (e.g. ate drug, exercised, used true standard massage, used herbal ball)	368(82.9)	76(17.1)

In addition (Table 4.10), about 68% of the therapists sometimes had the symptoms that affected their work. When they had the symptoms, pain or injuries, they mostly took care of themselves by asking their peers to heal them (72.1%).

Table 4.11: The cause of pain that therapists received each day

Personal Attributions	**Thai traditional massage therapists (N=444)**	
	No N (%)	**Yes N (%)**
What is the cause of pain or discomfort that therapists receive each day? (More than 1 answer is acceptable)		
Using incorrect posture while giving a Thai traditional massage to the client.	1.06(23.9)	338(76.1)
The incorrect posture (e.g. lift a thing)	164(36.9)	280(63.1)
Housework	348(78.4)	96(21.6)
Lifting heavy objects.	321(72.3)	123(27.7)
Others (etc. accident, used computer, exercised)	391(88.1)	53(11.9)

From table 4.11 showed majority of Thai traditional massages therapists thought about the cause of pain at therapists received each day when they worked. About 76 percent of therapists used incorrect posture while gave Thai traditional massage to the client and 63.1% of therapists was using incorrect posture such as lift a thing and others.

Table 4.12: Relationship between duration of working (years) and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=443)* Duration of working (years)				p-value
	≤5 yrs (N=237) N (%)		>5 yrs (N=206) N (%)		
	No	Yes	No	Yes	
Neck	45 (19.0)	192 (81.0)	51 (24.8)	155 (75.2)	0.14
Upper back	45 (19.0)	192 (81.0)	42 (20.4)	164 (79.6)	0.71
Lower back	34 (14.3)	203 (85.7)	45 (21.8)	161 (78. 2)	**0.04**
Left shoulder	105 (44.5)	132 (55.7)	91 (44.2)	115 (55.8)	0.98
Right shoulder	57 (24.1)	180 (75.9)	54 (26.2)	152 (73.8)	0.60
Left elbow	112 (47.3)	125 (52.7)	99 (48.1)	107 (51.9)	0.87
Right elbow	107 (45.1)	130 (54.9)	99 (48.1)	107 (51.9)	0.54
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	45 (19.0)	192 (81.0)	49 (23.8)	157 (76.2)	0.22
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	40 (16.9)	197 (83.1)	48 (23.3)	158 (76.7)	0.09
Wrist / left hand	71 (30.0)	166 (70.0)	58 (28.2)	148 (71.8)	0.68
Wrist / right hand	65 (27.4)	172 (72.6)	58 (28.2)	148 (71.8)	0.86
Hip / left thigh	94 (39.7)	143 (60.3)	83 (40.3)	123 (59.7)	0.89

Table 4.12 (continouse):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=443)* Duration of working (years)				p-value
	≤5 yrs (N=237) N (%)		>5 yrs (N=206) N (%)		
	No	Yes	No	Yes	
Hip / right thigh	93 (39.2)	144 (60.8)	84 (40.8)	122 (59.2)	0.74
Left knee	84 (35.4)	153 (64.6)	75 (36.4)	131 (63.6)	0.83
Right knee	90 (38.0)	147 (62.0)	67 (32.5)	139 (67.5)	0.23
Ankle / left foot	118 (49.8)	119 (50.2)	108 (52.4)	98 (47.6)	0.58
Ankle / right foot	115 (48.5)	122 (51.5)	114 (55.3)	92 (44.7)	0.15

*Some therapists did not answers (Missing =1 person)

In table 4.12, showed Thai traditional massage thereapitsts was divided to two groups by duration of working: group one was therapists who worked less than and equal 5 years and group two was therapists who worked more than 5 years.

Therapists who worked less than and equal 5 years had lower back **(**85.7%), right hand pain including/ finger / thumb / index finger / middle finger / ring finger / right little finger (83.1%), neck, upper back, left hand pain including/ finger / thumb / index finger / middle finger / ring finger / left little finger (81.0%) respectively.

Therapists who worked more than 5 years had upper back (79.6%), low back (78.2), right hand pain including/ finger / thumb / index finger / middle finger / ring finger /right little finger(76.7%), left hand pain including/ finger / thumb / index finger / middle finger / ring finger /left little finger (76.2%) respectively.

Therapists who worked less than and equal 5 years (group one) had pains at some part of body more than therapists who worked more than 5 years (group two)

because their had experience of working, massage skill, strength muscle from Yoke-Kra-Dan exceciese (Yoke-Kra-Dan exceciese used in Court-type Thai massage that increase flexible, stretching muscle, force and weight to finger, and wrist when Curt-type Thai massage therapists press to massaging) that was caused a little number of therapist who had pains less than group one (≤ 5years).

Part of this study sought to analyze the relationship between duration of working related to the symptoms of pains at some parts of the body in the last six months. Thai traditional massage therapists worked massage more than 5 years and they demonstrated a statistically significance relationship with lower back pain (p=0.04).

Table 4.13: Relationship between hours massaging per day and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	**Thai traditional massage therapists (N=434)***				
	Duration of massaging (Hours massaging per day)				**p-value**
	≤ 6 hours (N=176) N (%)		**>6hours (N=258) N (%)**		
	No	**Yes**	**No**	**Yes**	
Neck	44 (25.0)	132 (75.0)	50 (19.4)	208 (80.6)	0.16
Upper back	34 (19.3)	142 (80.7)	51 (19.8)	207 (80.2)	0.90
Lower back	27 (15.3)	149 (84.7)	47 (18.2)	211 (81.8)	0.43
Left shoulder	74 (42.0)	102 (58.0)	122 (47.3)	136 (52.7)	0.28
Right shoulder	43 (24.4)	133 (75.6)	68 (26.4)	190 (73.6)	0.65

Table 4.13 (continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=434)*				
	Duration of massaging				p-value
	≤ 6 hours (N=176) N (%)		>6hours (N=258) N (%)		
	No	Yes	No	Yes	
Left elbow	83 (47.2)	93 (52.8)	123 (47.7)	135 (52.3)	0.92
Right elbow	87 (49.4)	89 (50.36)	112 (43.4)	146 (56.6)	0.22
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	37 (21.0)	139 (79.0)	52 (20.2)	206 (79.8)	0.83
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	25 (19.9)	141 (80.1)	49 (19.0)	209 (81.0)	0.82
Wrist / left hand	54 (30.7)	122 (69.3)	71 (27.5)	187 (72.5)	0.46
Wrist / right hand	50 (28.4)	126 (71.6)	69 (26.7)	189 (73.3)	0.70
Hip / left thigh	69 (39.2)	107 (60.8)	100 (38.8)	158 (61.2)	0.93
Hip / right thigh	77 (43.8)	99 (53.2)	93 (36.0)	165 (64.0)	0.11
Left knee	64 (36.4)	112 (63.6)	90 (34.9)	168 (65.1)	0.75
Right knee	67 (38.1)	109 (61.9)	85 (32.9)	173 (67.1)	0.27
Ankle / left foot	88 (50.0)	88 (50.0)	131 (50.8)	127 (49.2)	0.87
Ankle / right foot	93 (52.8)	83 (47.2)	128 (49.6)	130 (50.4)	0.51

* Some therapists did not answers (Missing=10 persons)

From table 4.3 the data showed duration of massage was divided to two groups such as Thai traditional massage therapists who worked massage less than and equal 6 hours per day and Thai traditional massage therapists who work more than 6 hours per day. Therapists who worked massage more than 6 hours per day had pains more than therapists who worked less than and equal 6 hours per day because their was continual work for a long times and using their joints of thump to press or push to thepoint of massage for a long time.

Part of this study sought to analyze the relationship between duration of massaging (hours massaging per day) related to the symptoms of pains at some parts of the body in the last six months. Thai traditional massage therapists worked massage less tahan and equal 6 housrs per day and more than 5 years. Duration of massaging per day did not relate the symptoms of pains at some parts of therapists' body. They did not demonstrate statistical significance (p>0.05).

Table 4.14: Relationship between type of massage and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of injuries at some parts of the body	**Thai traditional massage therapists (N=444)**						
	Type of massage						
	Common Thai (N=44) N (%)		**Court-type Thai (N=130) N (%)**		**Both Types (N=270) N (%)**		**p-value**
	No	**Yes**	**No**	**Yes**	**No**	**Yes**	
Neck	8 (18.2)	36 (81.8)	30 (23.1)	100 (76.9)	58 (21.5)	212 (78.5)	0.79
Upper back	11 (25.0)	33 (75.0)	23 (17.7)	107 (82.3)	54 (20.0)	216 (80.0)	0.57
Lower back	6 (13.6)	38 (86.4)	23 (17.7)	107 (82.3)	50 (18.5)	220 (81.5)	0.73
Left shoulder	9 (20.5)	35 (79.5)	55 (42.3)	75 (57.7)	133 (49.3)	137 (50.7)	**0.00**
Right shoulder	5 (11.4)	39 (88.6)	26 (20.0)	104 (80.0)	80 (29.6)	190 (70.4)	**0.01**

Table 4.14(Continues):

The symptoms of pains **at some parts of the body**	**Thai traditional massage therapists (N=444)**						
	Type of massage						**p-value**
	Common Thai (N=44) N (%)		**Court-type Thai (N=130) N (%)**		**Both Types (N=270) N (%)**		
	No	**Yes**	**No**	**No**	**Yes**	**No**	
Left elbow	12 (27.3)	32 (72.7)	69 (53.1)	61 (46.9)	131 (48.5)	139 (51.5)	**0.01**
Right elbow	16 (36.4)	28 (63.6)	64 (49.2)	86 (50.8)	127 (47.0)	143 (53.0)	0.33
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	5 (11.4)	39 (88.6)	32 (24.8)	98 (75.4)	57 (21.1)	213 (78.9)	0.18
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	6 (13.6)	38 (86.4)	27 (20.8)	103 (79.2)	55 (20.4)	215 (79.6)	0.55
Wrist / left hand	13 (29.5)	31 (70.5)	42 (32.3)	88 (67.7)	74 (27.4)	196 (72.6)	0.60
Wrist / right hand	9 (20.5)	35 (79.5)	41 (31.4)	89 (68.5)	73 (27.0)	197 (73.0)	0.34
Hip / left thigh	12 (27.3)	32 (72.7)	51 (39.2)	79 (60.8)	114 (42.2)	156 (57.8)	0.17
Hip / right thigh	12 (27.3)	32 (72.7)	53 (40.8)	77 (59.2)	112 (41.5)	158 (58.5)	0.20
Left knee	10 (22.7)	34 (77.3)	42 (32.3)	88 (67.7)	102 (37.8)	168 (62.2)	**0.04**
Right knee	13 (29.5)	31 (70.5)	42 (32.3)	88 (67.7)	102 (37.8)	168 (62.2)	0.39
Ankle / left foot	19 (43.2)	25 (36.8)	60 (46.2)	70 (53.8)	147 (54.4)	123 (45.6)	0.17
Ankle / right foot	19 (43.2)	25 (56.8)	62 (47.7)	68 (52.3)	148 (54.8)	122 (45.2)	0.21

From table 4.14, type of massage was divied to three group that found both Cmmon Thai massage and Court-type Thai massage had pain at some part body more than Court-type Thai massage,Common Thai massage because both the Common Thai massage and Court-type Thai massage had applied, changed posture, and used many part of body while giving massaging to client.

The data showed type of massage Common Thai massage, Court-type Thai massage and both Common and Court-type Thai massage) that related the symptoms of pains at left shoulder (p=0.00) followed by right shoulder (p=0.01), left elbow (p=0.01) and left knee (p=0.04). They demonstrated statistical significance.

Table 4.15: Relationship between age (years) and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	**Thai traditional massage therapists (N=442)****				
	Age (years)*				**p-value**
	≤41yrs (N=234) N (%)		**>41yrs (N=214) N (%)**		
	No	**Yes**	**No**	**Yes**	
Neck	47 (20.6)	181 (79.4)	48 (22.4)	166 (77.6)	0.64
Upper back	43 (18.9)	185 (81.1)	45 (21.0)	189 (79.0)	0.57
Lower back	36 (15.8)	192 (84.2)	43 (20.1)	171 (79.9)	0.24
Left shoulder	92 (40.4)	136 (59.6)	104 (48.6)	110 (51.4)	0.08
Right shoulder	49 (21.5)	179 (78.5)	61 (28.5)	153 (71.5)	0.09
Left elbow	105 (46.1)	123 (53.9)	106 (49.5)	108 (50.5)	0.46

*Classified by mean age

**Some therapists did not answers (Missing=2 persons)

Table 4.15(continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=442)**				
	Age (years)*				p-value
	≤41yrs (N=234) N (%)		>41yrs (N=214) N (%)		
	No	Yes	No	Yes	
Right elbow	105 (46.1)	123 (53.9)	101 (47.2)	113 (52.8)	0.81
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	41 (18.0)	187 (82.0)	52 (24.3)	162 (75.7)	0.10
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	37 (16.2)	191 (83.8)	50 (23.4)	164 (76.6)	0.06
Wrist / left hand	64 (28.1)	164 (71.9)	64 (29.9)	150 (70.1)	0.67
Wrist / right hand	57 (25.0)	171 (75.0)	66 (30.8)	148 (69.2)	0.17
Hip / left thigh	83 (36.4)	145 (63.6)	93 (43.5)	121 (56.5)	0.13
Hip / right thigh	90 (39.5)	138 (60.5)	87 (40.7)	127 (59.3)	0.80
Left knee	79 (34.6)	149 (65.4)	79 (36.9)	135 (63.1)	0.62
Right knee	82 (36.0)	146 (64.0)	75 (35.0)	139 (65.0)	0.84
Ankle / left foot	113 (49.6)	115 (50.4)	112 (52.3)	102 (47.7)	0.56
Ankle / right foot	114 (50.0)	114 (50.0)	115 (53.7)	99 (46.3)	0.43

*Classified by mean age

**Some therapists did not answers (Missing=2 persons)

From table 4.15, the data showed Thai traditional massage therapists aged less than and equal 41 years and more than 41 years who had pained at some parts of the body in the last six months.

Thai traditional massage therapists aged less than and equal 41 years had lower back (84.2%) right hand pain including/ finger / thumb / index finger / middle finger / ring finger /right little finger (82.0%), left hand pain including / finger / thumb / index finger / middle finger / ring finger / left little finger (82.0%) repectively.

Thai traditional massage therapists aged more than 41 years had upper back (79.0%), low back (79.9%), neck (77.6%), right hand pain including /finger / thumb / index finger / middle finger / ring finger / right little finger (76.6%) repectively. From the result, age did not relate painedat some parts of therapists' body and there were not statistical significance (p>0.05).

Table 4.16: Relationship between the overall environment in the working place for massage and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	**Thai traditional massage therapists (N=442)***				
	Overall environment				
	Uncomfortable (N=58) N (%)		**Comfortable (N=384) N (%)**		**p-value**
	No	**Yes**	**No**	**Yes**	
Neck	14 (24.1)	44 (75.9)	80 (20.8)	304 (79.2)	0.57
Upper back	10 (17.2)	48 (82.2)	78 (20.3)	306 (79.7)	0.59
Lower back	13 (22.4)	45 (77.6)	65 (16.9)	319 (83.1)	0.31
Left shoulder	25 (43.1)	33 (56.9)	170 (44.3)	214 (55.7)	0.87
Right shoulder	8 (13.8)	50 (86.2)	102 (26.6)	282 (73.4)	**0.04**

Table 4.16 (continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=442)*				p-value
	Overall environment				
	Uncomfortable (N=58) N (%)		Comfortable (N=384) N (%)		
	No	Yes	No	Yes	
Left elbow	28 (48.3)	33 (51.7)	182 (47.4)	202 (52.6)	0.90
Right elbow	25 (43.1)	33 (56.9)	180 (46.9)	204 (53.1)	0.59
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	12 (20.7)	46 (79.3)	81 (21.1)	303 (78.9)	0.95
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	12 (20.7)	46 (79.3)	75 (19.5)	309 (80.5)	0.36
Wrist / left hand	16 (27.6)	42 (72.4)	112 (29.2)	272 (70.8)	0.81
Wrist / right hand	15 (25.9)	43 (74.1)	108 (28.1)	276 (71.6)	0.72
Hip / left thigh	18 (31.0)	40 (69.0)	158 (41.1)	226 (58.9)	0.14
Hip / right thigh	18 (31.0)	40 (69.0)	158 (41.1)	226 (58.9)	0.14
Left knee	20 (34.5)	38 (65.5)	138 (35.9)	246 (64.1)	0.82
Right knee	21 (36.2)	37 (63.8)	135 (35.2)	249 (64.8)	0.88
Ankle / left foot	33 (56.9)	25 (43.1)	192 (50.0)	192 (50.0)	0.33
Ankle / right foot	32 (55.2)	26 (44.8)	196 (51.0)	188 (46.0)	0.56

* Some therapists did not answers (Missing=2 persons)

From table 4.16, the chi-squared test demonstrated the overall environment in the working place for massage and the symptoms of pains at some parts of the body in the last six months.

Most therpaitsts (N=384) (the overall environment iscomfortable group) had pains at lower back (83.1%) followd by right hand pain including / finger / thumb / index finger / middle finger / ring finger / right little finger (80.5%), upper back (79.7%), neck (79.2%) and left hand pain including / finger / thumb / index finger / middle finger / ring finger / left little finger (78.9%), repectively.

Therpaitsts (N=58) (the overall environment is uncomfortable group) had pains at rightshoulder (86.2%) followed by upper back (82.2%), left and right hand pain including / finger / thumb / index finger / middle finger / ring finger / left little finger (79.3%), low back (77.6%) and neck (75.9%), repectively.

The overall environment the working place for massage which related therapists' pains at right shoulder ($p=0.04$) in the last six months. There was statistically significant relationships ($p<0.05$).

Table 4.17: Relationship between other jobs and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)				
	Other jobs				
	Therapists had massage only (n=352) N (%)		Therapists had other jobs (n=92) N (%)		p-value
	No	Yes	No	Yes	
Neck	75 (21.4)	275 (78.6)	21 (22.3)	73 (77.7)	0.85
Upper back	66 (18.9)	284 (81.1)	22 (23.4)	72 (76.6)	0.33
Lower back	61 (17.4)	289 (82.6)	18 (19.1)	76 (80.9)	0.70
Left shoulder	162 (46.3)	188 (53.7)	35 (37.2)	59 (62.8)	0.12
Right shoulder	88 (25.1)	262 (74.9)	23 (24.5)	71 (75.5)	0.89
Left elbow	176 (503.)	174 (49.7)	36 (38.3)	58 (61.7)	**0.04**
Right elbow	174 (49.7)	176 (50.3)	33 (35.1)	61 (64.4)	**0.01**
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	78 (22.3)	272 (77.7)	16 (17.0)	78 (83.0)	0.27
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	72 (20.6)	278 (79.4)	16 (17.0)	78 (83.0)	0.44
Wrist / left hand	109 (31.1)	241 (68.9)	20 (21.3)	74 (78.7)	0.06
Wrist / right hand	97 (27.7)	253 (72.3)	26 (27.7)	68 (72.3)	0.99
Hip / left thigh	141 (40.3)	209 (59.7)	36 (38.3)	58 (61.7)	0.73

Table 4.17(continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)				p-value
	Other jobs N (%)				
	Therapists had massage only (n=350) N (%)		Therapists had other jobs (n=94) N (%)		
	No	Yes	No	Yes	
Hip / right thigh	141 (40.3)	209 (59.7)	36 (38.3)	58 (61.7)	0.73
Left knee	125 (35.7)	225 (64.3)	32 (34.0)	62 (66.0)	0.69
Right knee	181 (51.7)	169 (48.3)	45 (47.9)	49 (52.1)	0.76
Ankle / left foot	178 (50.9)	172 (49.1)	51 (54.3)	43 (45.7)	0.51
Ankle / right foot	178 (50.9)	172 (49.1)	51 (54.3)	43 (45.7)	0.56

From table 4.18, the data showed therapist who worked massage only (n=352) that had pain at low back (82.6%) followed by upper back (81.1%), right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger (79.4%), and neck (78.6%), repectively.

Therapists had other jobs (N=92) that had pain at left and right hand pain including / finger / thumb / index finger / middle finger / ring finger / little finger (83.0%) followed by lower back (80.9%), upper back (76.6%), right shoulder (75.55) , repectively.

Thai traditional massage therapists who worked other jobs that related pains at the left elbow ($p=0.04$) and the right elbows ($p=0.01$). They demonstrated statistically significance ($p<0.05$).

Table 4.18: Relationship between gender and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)				
	Gender				p-value
	Male (N=65) N (%)		Female (N=379) N (%)		
	No	Yes	No	Yes	
Neck	12 (18.5)	53 (81.5)	84 (22.2)	295 (77.8)	0.50
Upper back	12 (18.05)	53 (81.5)	76 (20.6)	303 (79.9)	0.77
Lower back	11 (16.9)	54 (83.1)	68 (17.9)	311 (82.1)	0.84
Left shoulder	30 (46.2)	35 (53.8)	167 (44.1)	212 (55.9)	0.75
Right shoulder	16 (24.6)	49 (75.4)	95 (25.1)	284 (74.9)	0.94
Left elbow	26 (40.0)	39 (60.0)	186 (49.1)	193 (50.9)	0.18
Right elbow	27 (41.5)	38 (58.5)	180 (47.5)	199 (52.5)	0.37
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	10 (15.4)	55 (84.6)	84 (22.2)	295 (77.8)	0.22
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	11 (16.9)	54 (83.1)	77 (20.3)	302 (79.7)	0.53
Wrist / left hand	19 (29.2)	46 (70.8)	110 (29.0)	269 (71.0)	0.97
Wrist / right hand	22 (33.8)	43 (66.2)	101 (26.6)	278 (73.8)	0.23
Hip / left thigh	23 (35.4)	42 (64.6)	154 (40.6)	225 (59.4)	0.43

Table 4.18 (continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)				
	Gender				p-value
	Male (N=65) N (%)		Female (N=379) N (%)		
	No	Yes	No	Yes	
Hip / right thigh	22 (33.8)	43 (66.2)	155 (40.9)	224 (59.1)	0.28
Left knee	22 (33.8)	43 (66.2)	137 (36.1)	242 (63.9)	0.72
Right knee	22 (33.8)	43 (66.2)	135 (35.6)	244 (64.4)	0.78
Ankle / left foot	30 (46.2)	35 (53.8)	196 (51.7)	183 (48.3)	0.41
Ankle / right foot	31 (47.7)	34 (52.3)	198 (52.2)	181 (47.8)	0.50

From table 4.18, the data showed the relationship between gender and the symptoms of pains at some parts of the body in the last six months.

Male had left hand pain including/ finger / thumb / index finger / middle finger / ring finger /left little finger (84.6%), right hand pain including /finger / thumb / index finger/ middle finger / ring finger / right little finger(83.1%), low back (83.1%), neck and upper back (81.5%) repectively.

Female had low back (82.1%), upper back (79.9%), right hand pain including / finger / thumb / index finger / middle finger / ring finger / right little finger (79.7%), left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger and neck (77.8%), repectively.

Number of female (N=379) had pain more than mumber of male (N=65) because the femle massaged a long time. Male and female did not show a relationship of statistical significance.

Table 4.19: Relationship between body mass index (kg/m^2) and the symptoms of pains at some parts of the body in the last six months analyzed by chi-squared test.

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)										
	Body mass Index (kg/m^2)										
	Underweight (N=26)		Normal (N=229)		Marginally overweight (N=143)		Overweight (N=36)		Severe overweight, or obesity (N=7)		p-value
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	
Neck	7 (26.9)	19 (73.1)	54 (23.6	175 (76.4)	24 (16.8)	119 (83.2)	7 (19.4)	29 80.6)	2 (28.6)	5 (71.4)	0.52
Upper back	2 (7.7)	24 (92.3)	51 (22.3)	178 (77.7)	24 (16.8)	119 (83.2)	9 (25.0)	27 (75.0)	1 (14.3)	6 (85.7)	0.30
Lower back	4 (15.4)	22 (84.6)	46 (20.1)	183 (79.9)	20 (14.0)	123 (86.0)	8 (22.2)	28 (77.8)	0 (0.0)	7 (100.0)	0.36
Left shoulder	1 (23.1)	20 (76.9)	106 (46.3)	123 (53.7)	67 (46.9)	76 (53.1)	14 (38.9)	22 (61.1)	2 (28.6)	5 (71.4)	0.16
Right shoulder	7 (26.9)	19 (73.1)	57 (24.9)	172 (75.1)	37 (25.9)	106 (74.1)	8 (22.2)	28 (77.8)	0 (0.0)	7 (100.0)	0.63
Left elbow	11 (42.3)	15 (57.7)	108 (47.2)	121 (52.8)	70 (49.0)	73 (51.0)	20 (55.6)	16 (44.4)	1 (14.3)	6 (85.7)	0.35
Right elbow	12 (46.2)	14 (53.8)	106 (46.3)	123 (53.7)	67 (46.9)	76 (53.1)	19 (52.8)	17 (47.2)	1 (14.3)	6 (85.7)	0.48
Left hand pain/ finger / thumb / index finger / middle finger / ring finger / left little finger	5 (19.2)	21 (80.8)	43 (18.8)	186 (81.2)	38 (26.6)	105 (73.4)	7 (19.4)	29 (80.6)	0 (0.0)	7 (100.0)	0.26
Right hand pain/ finger / thumb / index finger / middle finger / ring finger / right little finger	5 (19.2)	21 (80.8)	44 (19.2)	185 (80.8)	33 (23.1)	110 (76.9)	5 (13.9)	31 (86.1)	0 (0.0)	7 (100.0)	0.47

Table 4.20 (continues):

The symptoms of pains at some parts of the body	Thai traditional massage therapists (N=444)										
	Body mass Index (kg/m^2)										
	Underweight (N=26)		Normal (N=229)		Marginally overweight (N=143)		Overweight (N=36)		Severe overweight, or obesity (N=7)		p-value
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	
Wrist / left hand	6 (23.1)	20 (76.9)	61 (26.6)	168 (73.4)	50 (35.0)	93 (65.0)	10 (27.8)	26 (72.2)	0 (0.0)	7 (100.0)	0.17
Wrist / right hand	4 (15.4)	22 (84.6)	66 (28.8)	163 (71.2)	42 (29.4)	101 (70.6)	10 (27.8)	26 (72.2)	0 (0.0)	7 (100.0)	0.29
Hip / left thigh	9 (34.6)	17 (65.4)	99 (38.9)	140 (61.1)	62 (43.4)	81 (56.6)	14 (39.9)	22 (61.1)	1 (14.3)	6 (85.7)	0.55
Hip / right thigh	10 (38.5)	16 (61.5)	88 (38.4)	141 (61.6)	65 (45.5)	78 (54.5)	13 (36.1)	23 (63.9)	0 (0.0)	7 (100.0)	0.14
Left knee	10 (38.5)	16 (61.6)	82 (35.8)	147 (64.2)	59 (41.3)	84 (58.7	5 (13.9)	31 (86.1)	1 (14.3)	6 (85.7)	**0.03**
Right knee	8 (30.8)	18 (69.2)	84 (36.7)	145 (63.3)	55 (38.5)	88 (61.5)	7 (19.4)	29 (80.6)	1 (14.3)	6 85.7)	0.17
Ankle / left foot	12 (46.2)	14 (53.8)	121 (52.8)	108 (47.2)	77 (53.8)	66 (46.2)	13 (36.1)	23 (63.9)	1 (14.3)	6 85.7)	0.09
Ankle / right foot	11 (42.3)	15 (57.7)	122 (53.3)	107 (46.7)	80 (55.9)	63 (44.1)	13 (36.1)	23 (63.9)	1 (14.3)	6 85.7)	**0.05**

The relationship between body mass index related the symptoms and pains at some parts of therapists' body was analyzed as part of this study. The body mass index related left knee (p=0.03), ankle, and right foot pain (p=0.05) and they demonstrated statistical significance.

CHAPTER V

CONCLUSION, DISCUSSION, AND RECOMMEDATION

Conclusion

The health problem from working among Thai traditional massage therapists who work in a Thai traditional medicine section in the general hospitals throughout Thailand was studied by a cross-sectional survey. The objectives were determined the health problem in Thai traditional massage (TTMs) therapists who work at public hospitals throughout Thailand. The data was collected by using the self administered questionnaire between March and July 2012. The questionnaire was returned and completed 31.1% from all of questionnaire.

Majority of Thai traditional massage therapists (85.4%) was female and 14.6% of the therapist was male. The average age of the therapists was 40.65 years (40.65±9.55). Most therapists aged in the range of 45-49 years (20.9%) followed by age 35-39 years and 40-44 years which showed equal number of 18.5%. About 60% was married while 25 % was single. The result of education level showed 59.4% graduated secondary level and 21.0% graduated more than high school level. Approximately 84% of all therapists did not finish Applied/Thai traditional medicine but they have been training for Thai traditional massage course. Their current position was Thai traditional massage therapists (85.4%). In this study, therapists have been working as masseurs or masseuses for 1 – 5 years (47.0%) followed by worked 6-10 years (36.6%) and 11-15 years (8.8%). About 80% worked as therapists only while 20% had another jobs. As for other jobs, 42.6% worked as agriculturist, 12.8% was employees and 8.5% was merchants. Some reported that they worked as pharmacy assistant, housewife, village health volunteer, and nurse assistant. The job required physical effort or hard exertion (77.7%).

According to part two, 51.1% of the therapists had a BMI in the normal range. Only 32.2 % was marginally overweighed and 1.8 % was overweight. Thai traditional massage therapists reported that they were healthy (67.8%). Majority have never had an accident which injured or admitted to the hospital (92.1%). More than 90% of the therapist has never smoked and 70.3% has never drink alcohol. Majority of the Thai

traditional massage therapists used both of the Common Thai massage and the Court-type Thai massage (60.8%). About 29% of therapists used the Court-type Thai massage and a small percentage of the therapists used the Common Thai massage (10.0%). The therapists reported duration of massaging that most of them worked for 6-8 hours per a day (67.7%) followed by 18% of therapists worked for 3-5 hours per a day.

The posture mostly used kneeling posture on the heel (75.9%) followed by Hok-Sung posture, Hok-Glaang posture, and Hok-Tamhum posture to massage (57.4%) and Hanuman Thawaiwan posture (49.8) respectively. The part of the body that therapists mostly used thumb and joint of thump (71.4%) followed by palm, the knife edge of hand, palm heel finger (64.2%) and elbow (32.2%) to massage.Numerous factors resulting from working types had affected to Thai traditional massage therapists' health during weeks of the study. The research reported 95.9% of Thai traditional massage therapists used only fingers and wrists to make the hard exertion for massage followed by massage services to women (95%), and massage service to men (94.4%). Activity of therapists worked more than 5 times per a week that was used only finger and wrists to make the hard exertion for massage (45.9%) followed by using joint of thumb to press, push, more press, or press the point of massage for a long time (40.8%) and using many parts of the body (e.g. thumbs, Palms, wrists) for making hard exertion to massage (38.7%).

Thai traditional massage therapists were satisfied the size of the workplace (74.9%) and the size of massage bed (88.2%). About 82% was satisfied the room temperature, and the environment in the workplace (83.9%). Finally, 86.9% was satisfied the overall of their workplace for massage. The posture of Thai massage had affected to their health (75%). Majority therapists have never had an accident-related to their work such as falling from the massage bed or the herbal pot burned their skin (89.6%).

At work, most therapists (72.1%) were changing their massage posture or client's posture and 60% was changing the part of their bodies while giving massage for the client when they had a pain in some parts of body such as hands, fingers, joints, elbows and feet. Most therapists (77.7%) were severe at risk for musculoskeletal symptoms such as low back pain, finger pain and elbow pain which

caused from working. Majority therapists reported the cause of pains, signs, and symptoms of injuries were incorrect massage postures (69.6%) and other jobs (12.2 %).

Most therapists sometimes had lower back pain (66.9%) followed by upper back (62.7%) and neck (62.4%) respectively. The parts of the body most often associated with these injuries were the right hand pain with 24.5%, the left hand pain (23%), and the right shoulder (18.9%) in that order. About 68% of therapists sometimes had the symptoms that affected their work. When they had the symptoms, pain, they mostly took care and heal themselves by the help of their therapist's friend (72.1%). Majority of Thai traditional massage therapists used incorrect posture when they gave the Thai traditional massage to the client (76.1%) and 63.1% of therapists was using incorrect posture such as lifting things. Other Thai traditional massage therapists who worked as massage therapists more than 5 years demonstrated a statistically significance relationship with lower back pain ($p=0.04$). Period of working did not relate the symptoms of pain at some parts of therapists' bodies and they did not demonstrate statistical significance ($p>0.05$). Type of massage (the Common Thai massage, and the Court-type Thai massage and both the Common the Court-type Thai massage) related the symptoms of injuries at left shoulder ($p=0.00$) followed by the right shoulder ($p=0.01$), the left elbow ($p=0.01$) and left knee ($p=0.04$). They demonstrated statistical significance. Thai traditional massage therapists aged more than 41 years who had pained at some parts of the body in past of six months. From the result, age did not relate pains at some parts of therapists' bodies and there was not statistical significance ($p>0.05$).

The overall environment of the working place for massage which related therapists' pains at right shoulder ($p=0.04$) in past of six months. There was statistically significant ($p<0.05$) relationships. Thai traditional massage therapists who worked other jobs that related pains at the left elbow ($P=0.04$) and the right elbows ($p=0.01$). There were statistically significance ($p<0.05$) relationships. Male and female did not show a relationship of statistical significance ($p>0.05$). The body mass index related left knee ($p=0.03$), ankle, and right foot pain ($p=0.05$) and they demonstrated statistical significance.

Discussion

This study of work related health problems among Thai traditional massage therapists is cross-sectional study. Some of the therapist may be educated with additional knowledge, massage technic, including changing of posture or part of body used during massage in order to avoid pain caused to the part that has high risk to get musculoskeletal disorder. Such risk from the work is not found during the time of study. Most of work related health problems among Thai traditional massage therapists is musculoskeletal disorder. Health problem in Thai traditional massage therapists caused by many factors such as type of massage, incorrect posture used during massage, as well as other factors such as place, bed size, duration of work, massage duration, over-work, no rest, or work for a long time continuously, etc.

In addition, there are other factors such as other overtime work which is not massaging can cause the therapists getting more pain and the question in questionnaire asks about the symptoms occurred in the past six months and the questionnaire needs to be answered by the therapist himself or herself, therefore, they may forget, cannot remember or do not understand question in the questionnaire well, which can lead to bias which is a limitation of this study.

In this study, it was found that most of Thai traditional massage therapists have musculoskeletal disorder at the lower back during the past 6 months which accounted for 82.2% (followed by upper back which accounted for 80.2% and neck which accounted for 78%. This result revealed that Thai traditional massage therapists are at the risk to have problem of musculoskeletal disorder at the lower back area. When compared this result with previous study both within the country and in foreign countries from Glover *et al.* (2005), Bork *et al*. (1996), Cromie *et al*. (2000), and Sinsonsook (2004), the difference in definition, occupation, work condition were found, for instance study of musculoskeletal disorder symptoms measurement conducted by Ozguler *et al*. (2000), in some cases, study of prevalence of musculoskeletal disorder among nurses in the past 12 months conducted by Sinsonsook (2004), study of prevalence of musculoskeletal disorder among physiotherapists in the past 12 months conducted by Adegoke *et al*. (2008) and work condition of physiotherapists who use energy saving tools, etc, and when categorized the period of frequency of musculoskeletal disorder, it was found that:

Sometimes: In the past 6 months, most of Thai traditional massage therapists had lower back pain (66.9%) sometimes, followed by upper back (62.7%) and neck (62.4%) which corresponds to "A survey of musculoskeletal symptoms and Injuries among experienced massage and body work professionals survey result" conducted by Greene and Goggins (2010), where it was found that in general the massage therapists has problem with lower back (25%), followed by shoulders (24%), thumbs (23%), neck (21%) and hands (21%). Many of questionnaire respondents reported the pain or disorder occurred in more than one part of body in the past 2 years.

Often: When taking the information about musculoskeletal disorder often occurred with Thai traditional massage therapists in the past 6 months into consideration, right hand pain (24.5%), followed by left hand pain (23%), and right shoulder pain (18.9%) were found. This corresponds to "A survey of musculoskeletal symptoms and injuries among experienced massage and body work professionals survey result" conducted by Greene and Goggins(2010), which revealed that most of the pain found in taking not of massage work in the past two years were at thumbs (30%), wrist (27%), shoulders (26%) and lower back (25%).

However, even researches showed similar results, it was notable that study of health problems among Thai traditional massage therapists in government hospitals in Thailand showed different activity during performing the work, massage characteristic, posture used while massaging, and massage equipment, when compared with study conducted by Greene and Goggins (2010). That is to say, massage therapists in America does not perform Thai massage, massage with hot press or herbal stream, and make herbal medicine together with massaging, and the study was not conducted with specialized massage such as relaxing massage, oil massage, medical treatment massage, etc.

Personal factors

1. **Age:** The group of Thai tradition massagers who has the age equal to or lowers than 41 years has more pain in parts of their body than the group of Thai tradition massagers who has the age more than 41 years because of the job function. The group of Thai tradition massagers who has the age more than 41 years is supervisors who have less work than the group of Thai tradition massagers who has

the age equal or lower than 41 years or the operators. Moreover, these supervisors have management work such as Hospital Accreditation (HA), Hospital quality assurance, meetings, and other works excluding massage, thus the case of this group is less than other group.

Study results in Thai traditional massage therapists revealed no relation with musculoskeletal disorder at the lower back. This was not consistent with results from study conducted by Smedley *et al*. (1997) which revealed that increased age cause a risk to have musculoskeletal disorder and may make the work increase the risk of having Musculoskeletal disorder at the lower back more.

2. **Gender:** Previous studies revealed no clear relation between gender and musculoskeletal disorder in Thai traditional massage therapists. This was consistent with research conducted by Dempsey *et al*. (1997) which indicated that there was no significant difference in the pain occurred with male employee and female employee. However, this result was not consistent with Alrowayeh *et al*. (2010) which indicated that the prevalence of the work causing lower back pain in physiotherapists related to different gender significantly; most of lower back pain was found in female more than male.

Health Problems Factors:

1. **Body Weight and Body Mass Index:** Based on study conducted with Thai traditional massage therapists revealed that body weight and body mass index lightly related or not related to musculoskeletal disorder at the lower back. This result was consistent with Symmons *et al*. (1991), Kang *et al*. (1995), Mirtz and Greene (2005) but not with Ozguler *et al*. (2000), which indicated that body mass index was significantly related to the back pain. It was found that the trend of musculoskeletal disorder at the lower back increased according to increased body weight and body mass index, causing increased pressure in intervertebral disc which was a high risk to have to musculoskeletal disorder at the lower back. Based on most of the studies, body mass index was not related to musculoskeletal disorder at the lower back in Thai traditional massage therapist, and this was consistent with study conducted by Smedley *et al*. (1997).

At the same time, it was found that body mass index of Thai traditional massage therapists was a factor that was related to musculoskeletal disorders at the left knee (p=0.03), ankle, and right foot (p=0.05) significantly. This result was analyzed with textbook written by Limityayaotin and Suwanatri, 2011 and it was found that this result was consistent with posture used during performing massage in different type of massage, e.g. The Court-type Thai massage or normal Thai traditional massage, which knee, ankle, and feet are used as basic massage postures include Sitting posture (Thai name-Nang Pup Pieb), Hanuman Thawaiwan posture, Promseenha posture, Standing posture and others. These posture was considered to be related to problems occurred at knee, ankle and feet also. When Thai traditional massage therapists who had a lot of weight kneeled or used aforementioned posture in massaging for a long time, there will be an effect occurred to the therapist him/herself.

2. **Smoking and drinking:** The number of therapists who smokes and drinks, were very little, therefore result cannot be analyzed.

3. **Prior accidents:** Study result revealed that most of Thai traditional massage therapist had never have accident or was in danger and went to hospital in the past 1 year, thus, it cannot be clearly indicated that the cause of heal problems in Thai traditional massage therapists was prior accident. This was not consistent with study conducted by Greene and Goggins (2010), which showed that massage therapists who had accident before or whose health was not yet recovered and still suffered from prior accident, had weaker health with a chance to get more injury, when compare with those who reported the symptoms both before and just being injured (81%), and those who did not report of prior injury, but had the symptoms that related to work (74%). In addition, it was found also that 11% of massage therapists who responded to the questionnaire were sick, but it was not work related sickness.

Work Factors:

1. **Overall environment in working place:** It was found to be related to problems with right shoulder (p=0.04) during the last six months with statistical significance. Based on comparison with “A survey of musculoskeletal symptoms and Injuries among experienced massage and body work professionals survey result” conducted by Greene and Goggins (2010). The study did not survey environment in

working place affecting to muscular system and injury among massage therapists in America. Anyhow, it was indicated in the suggestion part of this study that it should be further study on ergonomics and application in massaging such as area for moving part of body or changing massage posture, workplace, equipment installation, including bed size, etc.

Part time job, done by Thai traditional massage therapists after work such as agriculture, employee, trader, was related to the occurrence of musculoskeletal disorder at the left elbow (p=0.04) and the right elbow (p=0.01). This result was consistent with Croft *et al.,* 1992, Osborne *et al*., 2012. Anyhow, in comparison with Greene and Goggins (2010), and Ye, Wong and Fu (2005), no other occupation or activity other than massage was studied.

2.Duration of working (Number of years that therapist worked Thai traditional massage therapists position) and symptoms of pain at some parts of therapist's body in the last six months: the group of Thai tradition massagers who has duration of working equal to or lower than 5 years has more pain in parts of their body than the group of Thai tradition massagers who worked more than 5 years because they are less familiar with work, technique in release pain, the strength of muscle from training such as The Court-type Thai massage group has the finger training to increase pressure and stretchiness called Yok-Kra-Dan Position, a crossed-leg sitting with feet on knees and using hands to push up the body above from floors. Therefore, the group of Thai tradition massagers who has work experience equal to or lower than 5 years has more pain in parts of their body than the group of Thai tradition massagers who worked more than 5 years.

Relationship number of therapistsh work (years) between duration of working and occurrence of musculoskeletal disorder at the lower back (p =0.04) was found and this was consistent to Greene and Goggins (2010), where the massage therapists were studied by comparing number our massaging hours and injury occurred during massaging. The study was not able to indicate more detail causing the study became failure as the studied was done with the injury occurred in the past two years.

3. Number of massaging hours and symptoms ofpains at some parts of therapist's body in the past six months: Normally, Thai tradition massagers have 6

working hours a day. But there are some hospitals have special clinic and have massagers working overtime and other place, thus some massagers have to work more than 6 hours per day. Overload working can harm heath especially for Thai tradition massagers.

This factor was not related to the occurrence of musculoskeletal disorder with any statistical significant. This was consistent with Greene and Goggins (2010), where the comparison between number of massaging hours and pain was studied. Based on survey and comparison of symptoms and injuries, there was no clear result available. Greene and Goggins, 2010 studied different duration of working (hours per week) and it was found that questionnaire respondents had health indicator as 40 hours per week or more. When compared with those who worked 21 – 30 hours per week, the researchers mentioned that this answer did not mean the more massaging hours will make the therapist becomes more healthy. It might be possible that these questionnaire respondents were able to do the massage more because they take care of their health. The study could not indicate number of massaging hours when the symptoms occurred. Furthermore, Greene and Goggins (2010) studied massaging duration in minutes in comparison with health indicator. Study result revealed no significant different between these two variables.

4. **Type of massage:** From the beginning hypothesis that Common Thai massagers should have more health problems than Court-type Thai massagers, the study reveals that it is against this hypothesis because most of massagers work in both Common Thai massage style and Court-type Thai massage style. Most Thai massagers in state hospitals use both Common Thai massage and Court-Type Thai massage style which has more pain in parts of their body more than those who use only Court-Type Thai massage style or Common Thai massage style.

Thai massagers who use both Common and Court-Type Thai massage style (N=270) has Finger, thump, index finger, middle finger, ring finger, and the left little finger pain (69.0%). Followed by wrist and left hand (62.2%), neck (60.9%), finger, thump, index finger, middle finger, ring finger, and the right little finger (60.4%) and upper back (60.7%). The reason of their pain comes from the using of fingers, knuckles, and wrists in reflexology massage and use inappropriate postures to increase pressure to the specific point such as the right-handed massager who does not

have enough pressure on the right thumb has to use the left thumb pressed on the right one and pass the pressure from shoulder to left thumb and to the right thumb.

While the Court-type Thai massagers group (N=130) has ankle and the left foot pain (32.1%) followed by ankle and the right foot (31.6%) and the left knee and the right shoulder (31.2%) respectively. From the analysis, this type of massagers have to use postures that transfer pressure from ankles, feet, knees, and to shoulders such as Hok-Sung Posture, Hok-Glang Posture and Hok-Tam Posture, Nang Pub Pieb Posture, Promseenha Posture, and Hanuman Thawai Wan Posture which are the fundamental postures of Court-type Thai massage style.

Common Thai massagers (N=44) mostly have the left shoulder pain (14.2%), followed by the left elbow pain (13.2%), Hip/the left and the right thigh (12.0%), and the right shoulder (11.7%). From the analysis, this type of massagers have to use postures that transfer pressure from shoulders, hips, thigh, and sometimes elbows in order to press, roll, or save other part of their body. Therefore, postures, parts of body, the size of customers are the significant factors that cause health problem of this type of massagers.

Type of massaage included the Common Thai massage, the Court-type massage and both the Common Thai and the Court-type Thai massage was related to pain occurred at left shoulder ($p=0.01$), right shoulder ($p=0.01$), left elbow ($p=0.01$) and left knee ($p=0.04$) in the past 6 months with statistical significance. This finding was consistent with Greene and Goggins (2010) where the result indicated that type of massage is one of the causes for pain, injury or sickness of massage therapists at the high risk during performing the work. When Greene and Goggins(2010) studied type of massage causing pain or sickness among massage therapists in different time range by categorizing type of massage into 3 groups included relaxation massage, heavy pressure and light pressure, it was found that massage therapists in heavy pressure massage (81% of total number of massage therapists) has more health problems than therapists in other 2 groups, even when categorized by degree of symptoms (symptoms > 7days, south treatment, diagnosed condition, change practice and considered leaving). Thus, it can be concluded that type of massage is related therapist's symptoms.

4. Most health problems of Thai traditional massagers are incurred with muscle and skeleton. The first reason is the imbalance of the body. The outside pressure causes the twist of skeleton structure. Even though it is a little twist but the balance of the body has already been lost. This pressure affects muscle, tendons and fascia pulling angle and causes the tension and difficulty in blood circulation around that area. Second, the inappropriate postures such as slouched sitting, bending arms and back while massaging, twisting, and heavy lifting, and so forth. Once these postures are performed, they can lead to habitude so massagers do not realize that they are doing wrong postures. Causes the imbalance of body, twisting, spondyloptosis, and other diseases such as muscle aches, feet and hands anesthesia, scoliosis. The third reason is an accident, such as falling out of bed, fall down, car crash, fall out of tree, or fracture. Even though the accident seems not serious but it affects the bones and skeleton. For example, a broken arm still has a joint after splint. Some patients have a twist at their wrist. Forth, the part of body that used often will have the bigger size than the other according to the balance and metabolism of the body.

Remark, most of Thai traditional massagers have left-muscle pain more than the right one which can be presumed that most massagers are right-handed, thus they regularly use the right hand. But if there are not enough pressure, they will have to put more pressure on the left hand to help. Postures, parts of body used in massaging, weight, and environment are the significant factors affect the muscle and skeleton pain in Thai traditional massagers.

Health problems among Thai traditional massage therapists depends on number of massaging hours, and massage duration, as well as the difference of pressing massage , duration of having symptoms, duration of treatment, and massage characteristics such as relaxation massage, heavy pressure and light pressure, etc.

5. Work Activity: Work related activities affected symptoms and injuries at different part of body. This was consistent with Greene and Goggins (2010), where 80% of questionnaire respondents were sick because of doing massage at work. This is to say that massaging was related to work related activities, and at the same time, it was also related to health condition.

6. Work Posture: It was found that major cause of pain or sickness among Thai traditional massage therapists was using incorrect posture in massaging. Most of the postures used in massaging needed a lot of pressing force and each posture required a lot of time. Sometimes it was required for the therapists to press at the same point on patient's body or to do massaging for large and overweighed patient. All of these caused health problems to Thai traditional massage therapists. This was consistent with textbook written by Limityayaotin and Suwanatri (2011) indicating that the Court-type Thai massage focuses on correct use of posture, correct direction, and pressing, if a massage therapist does not use correct posture, direction and pressing, he/she will have health problems. It was also consistent with West and Gardner (2001) which indicated that most of physiotherapists had work-related injury, for instance, the work that long time posture is required such as too much standing, body twisting, kneeling, and followed by waist twisting and bending for more than 20% from normal posture. In addition, West and Gardner (2001) found that to lift heavy object or to work over capacity caused injury to the physiotherapist and approximately 50% of injured physiotherapists was injured from massaging with incorrect posture and using too long time for doing such incorrect posture.

Activities that caused or aggravated symptoms or pains: Activities used in each day of work differently affected to the injury among Thai traditional massage therapists. This was consistent with Greene and Goggins (2010), where activities that caused or aggravated symptoms or pains were studied by categorizing those activities into 2 groups: perceived contributing factors and perceived aggravating factors.

Study of perceived contributing factors revealed that most of the massage therapists indicated that to use force, pressing force, and standing for a long time during massaging was a major cause of pains in massage therapist. Only few of them indicated that the symptoms were not related to work or if there were, only few of them caused by work.

Study of perceived aggravating factors revealed that to use force and pressing in massaging were the activities that aggravated the symptoms most. Long time standing and massaging, lifting, or moving massaging table or other equipment tended to aggravate the existing symptoms, mostly from the place of massaging.

Especially, lower back pain will cause the lifting becomes more difficult if the symptom is aggravated.

7. Other jobs: Ninety four out of 444 Thai traditional massagers have other jobS such as agriculturist which requires strength of the body. These other jobs become one of the factors that cause health problems to massagers. Even though they already know that other job is hard and harm their health, but massagers cannot avoid, change the postures or job because the job is one of the source of money to support their family.

Limitation

This study was educated health problems from working among Thai traditional massage therapists at Thai traditional medicine unit in general hospitals throughout Thailand. Therefore, the result may not be able to apply to any other types of massage therapists.

The response of self-administered questionnaires might not represent the therapists in Thailand.

The self-administered questionnaire can initiate the misunderstanding of questions due to no explanation from the researcher directly.

Recommendation

According to this study, health problems in Thai traditional massagers involved with muscle and skeleton system are caused by improper working postures that against the principle and application of postures that help massagers more convenient, increase pressure in massaging. Moreover, the activities during the day, working environment, and the size of massage bed are also factors that make Thai tradition massagers have low back pain, followed by pain in hands, arms, shoulders, and neck. It has been said that "the improper massage makes massagers feel pain" in the treatise of Court-type Thai massage. Therefore there should be the way to protect and treat as followed;

1. Provide instruction, rehabilitate and revising work postures courses in each massage category. These courses should reflect the causes and effects from working to Thai tradition massage staff and related person to solve a health problems

in Thai tradition massagers, which the study shows that involved with muscle and skeleton system

2. Support an exercise program to strengthen and stretching muscle or set up a specific exercise such as Luesri Dadton's exercise or yoga to protect muscle and skeleton system pain.

3. Set up an hourly break to reduce the risk of health problems in Thai tradition massagers.

4. Evaluate ergonomics in Thai traditional medicine department to prevent health problems in Thai tradition massagers and improve work environment to increase safety to both massagers and customers. Moreover, the evaluation system should be rectified conscientiously because Thai massage, including Common Thai massage and Court-type Thai massage is the traditional knowledge inherited from our ancestors. Therefore every stakeholder should value both staff and skills in Thai massage. Furthermore, the emphasizing on their health is crucial to develop Thai traditional medicine department in state hospitals and reflect the enhancement of the department according to the objective of hospital in order to point out the distinctive point of Thai traditional medicine.

Recommendation for further study

1. Use the face to face interview to gather information for the correct and precise answers.

2. Use focus group technique on specified target such as interview with hourly-trained massagers instead of Traditional Thai medicine staff, therapist, or public health officers who also work as a massager because the information might be bias.

3. Make a further study in cross sectional study, especially in frequency and factors influence on muscle and skeleton system.

4. Study on the approach to prevent muscle and skeleton system pain by using intervention study

5. Use more tools to estimate the pain or injury from work level to illustrate the change in Thai tradition massagers' muscle after work such as Electromyography (EMG).

6. Study more on workspace of Thai tradition massagers because this study emphasizes only on Thai tradition massagers who work in state hospitals.

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APPENDICES

Information for the respondents

The research of Health Problem from working as Thai Traditional Massage Therapists

1. Dear the respondents

You have been invited to participate in the studies of Health Problem from working as Thai Traditional Massage Therapists from the researcher. Before participant in the studies, we are pleased to inform you to know the reasons and the details of this research studies.

Health Problem from working as Thai Traditional Massage Therapists are a key issue that has not been mentioned, which may affect themselves to be absence from work as well changing jobs. If Thai Traditional Massage Therapists have the Health Problem, it will affect the quality of their life. This research is the studying of Health Problem from working as Thai Traditional Massage Therapists, which recognizes the size of Health Problem from working as Thai Traditional Massage Therapists that affect their health in a system of Musculoskeletal as well as the environment in workplace that affect the health of their employee. The research is useful toThai Traditional Massage Therapists as a whole and it is also beneficial to organization that uses this information to guide prevention and solving of work-related health problems as well as raising awareness to the personnel.

If you agree to participate in this research, please take the time to answer these queries about 30 minutes and kindly send the questionnaire back to the researcher. However, you are the right not to answer any question or answer questions as your need.

If you have any questions, please contact the author Miss Monvalee Chumnanya (Tel: 0809383913), a student graduated Master of Science, Department of Thai Traditional and Alternative Medicine (International course), College of Health Sciences, Chulalongkorn University. We are pleased to give the explanation for you. Or if you have any questions that concern about the ethical problems of research and Plases contact the Human Rearch Ethics Committee, No. 2 Institute of Chulalongkorn University, 4th Floor,Soi Chulalongkorn 62, Phyathai Road, Pathumwan, Bangkok 10330. Tel: 0-2218-8147, 0-2218-8141, and Fax: 0-2218-8147, E-mail: eccu@chula.ac.th.

2. **The quesionaire divied to 4 parts.**
   Part 1: Socio-demographic charateristices
   Part 2: General Health Problem
   Part 3: Working as a Therapist
   Part 4: Health Problem that caused from massage

Questionnaire number.....ID

Office address.....

The questionnaire of health problems from working as Thai Traditional Massage Therapists

(This information will be used especially for this research)

Explanation: Please answer the following questions by "X" in the "□" or fill the space given below

Part 1 Socio-demographic charateristices

1. Gender ☐ 1 Male ☐ 2 Female
2. Age …… years old
3. Marital status ☐ 1 Single ☐ 2 Married

   ☐ 3 Widow/Divorced/Separated

   ☐ 4 Others……
4. In a position of ☐ 1 Thai Traditional Massage Therapists

   ☐ 2 Others..... (specify)
5. What is your highest educational degree you earned?

   ☐ 1 Below bachelor's degree ☐ 2 Bachelor's degree

   ☐ 3 Master's degree or higher ☐ 4 Others..... (specify)
6. Did you directly finish Thai / Applied Thai Traditional Medicine?

   ☐ 0 No, I did not ☐ 1 Yes, I did
7. Have you been train for Thai traditional massage?

   ☐ 1 No

   ☐ 2 Yes, I obtained the course for ……hours.

   From an institution/ organization…… ……Date…..

8. How long have you been working as a Thai traditional masseur / masseuse?
   I worked in Thai traditional message for ……..year(s)……..month(s)
9. Do you have another job?

☐ 0 No, I do not

☐ 1 Yes, I do. (If you say "yes", continues answer no. 9.1, pleases.)

What is another job? …… (specify)
Does your job require physical effort or hard exertion?

☐ 0 No, it does not ☐ 1 Yes, it does

Part2 General Health Problems

10. Current Weight……. kilograms Height…… centimeters
11. Would you say that in general your health is

☐ 0 Poor ☐ 1 Good ☐ 3 Don't know/not sure

12. Have you ever had a very serious accident or accident-related injury within one year?

☐ 0 No, I have not

☐ 1 Yes, I have.....Date..... (specify)

13. Do you currently smoke?

☐ 0 Never ☐ 1 I have recently quit

☐ 2 Yes, I smoke sometimes ☐ 3 Yes, I smoke often

14. Do you currently drink alcohol?

☐ 0 Never ☐ 1 I have recently quit

☐ 2 Yes, I drink sometimes ☐ 3 Yes, I drink often

Continues…….

Part3 Working in Thai massage Therapists

15. Which type of Thai traditional massage you used?

☐ 1 Common Thai massage ☐ 2 Cour-type Thai massage

☐ 3 Both of 1 and 2 ☐ 4 Others……..…..

16. At present, do you work for……. hour(s) per a day.

17. What is the purpose of most people coming for massage therapy?

☐ 0 Massage for healthy ☐ 1 Relif pains

☐ 2 Ordered from doctor ☐ 3 Others……..... (specify)

18. Which posture of Thai massage that you mostly use? Please put numbers from mostly to rarely use in the boxes (1,2,3,..) if you choose more than one answer.

☐ A Sitting posture, Thai name- Nang Pup Pieb

☐ B Hanuman Thawaiwan posture

☐ C Hok-Sung posture, Hok-Glang posture, and Hok-Tam posture

☐ D Promseenha Posture ☐ E Kneeling posture on the heel

☐ F Others……..……... (specify)

19. Which part of the body that you mostly use to massage? <u>(more than 1 answer is acceptable)</u>

☐ 1 Thumb and Kknuckles

☐ 2 Palm, The knife edge of hand, Palm Heel, and Finger

☐ 3 Forearm ☐ 4 Elbow

☐ 5 Foot, Heel of foot, and Claw foot ☐ 6 Knee

☐ 7 All (from number 1 – 6) ☐ 8 Others …… (specify)

Part4: Health problem from working

20. Does the posture of massage affect to your health?

☐ 0 No, it does not. ☐ 1 Yes, it does..... (specify)

21. How do you think about your workplace?

A. The size of the workplace

☐ 1 Very small/ Uncomfortable ☐ 2 Good

B. The size of massage bed ☐ 1 Very small/ uncomfortable ☐ 2 Good

C. The temperature in the workplace ☐ 1 Very hot/cold ☐ 2 Good

D. The environment of the workplace ☐ 1 Nosing ☐ 2 Good

E. The overview of your workplace ☐ 1 Unsatisfied ☐ 2 Good

22. Have you ever had an accident-related to your work? (e.g. falling from the massage bed, the herbal pot burned your skin)

☐ 0 Never

☐ 1 Yes, I have.....Date..... (specify)

23. At work, if you have a pain in some parts of body (e.g. hands, fingers, joints, elbow, feet), how did you do? **(Three answers are acceptable and please put the number (1,2,3) in boxes from mostly to rarely relieve methods.)**

☐ A .Change your massage posture or client's posture

☐ B. Change the part of your body while giving massage for the client

☐ C. Stop massage for a few minutes by asking for permission from client

☐ D. Use the balm or balm oil while massaging the client to reduce the pain

☐ E. Apply the heat from the hot towel or the hot herbal ball to reduce the pain during the massage therapy for the client

☐ F. Asking another Thai Traditional Massage Therapist to work instead of you

☐ G. Others……..…….. (specify)

24. How often do you experience the following questions during a week?

Performance	**(0) None**	**(1) 1- 2 times/ a week**	**2 3 – 5 times/ a week**	**3 More than 5 times/ a week**
1. Use many parts of your body (e.g. thumbs, palms, wrists) for making hard exertion to massage.				
2. Lift or twist the client's body.				
3. Use only fingers and wrists to make the hard exertion for massage.				
4. Bending or Craning your neck.				
5. Bending your back and twisting the waist while giving the massage for the client.				
6. Sitting for a long time				
7. Standing for a long time				
8. Using your joints of thumb to press or push to the point of massage for a long time.				

Performance	(0) None	(1) 1- 2 times/ a week	2 3 – 5 times/ a week	3 More than 5 times/ a week
9. Massage by incorrect posture that makes you feel uncomfortable				
10. Massage for a long time by squat or kneel.				
11. Incorrect posture in massage (e.g. bending too much).				
12. Exceed the body's power by giving hard exertion in press or massage.				
13. Massage the muscles knots or the rigid muscles often.				
14. Massage for an overweight client or muscleman.				
15. Use the other tools in massage (e.g. pressing and point wood)				
16. Massage for men				
17. Massage for women				

Performance	(0) None	(1) 1- 2 times/ a week	2 3 – 5 times/ a week	3 More than 5 times/ a week
18. Massage for children				
19. Massage for the disability people.				
20. Cleaning Thai Traditional massage rooms				
21. Lifting the water more than three liters20. Massage for a long time without a break.				
22. Cleaning Thai Traditional massage rooms				
23. Preparing bed sheets and bed, moving the bed, and lifting the heavy thing etc.				
24. Producing the herbal medicine such as herbal ball, herbal medicine, balm, the package of herbal medicine, containing the herbal and labeling etc.				

25. Do you agree that working in massage therapist that cause more risk of musculoskeletal system such as back pain, finger pain and elbow pain?

☐ 0 No, I do not agree ☐ Yes, I agree ☐ 2 Not sure

26. What is the cause of pain, sign and symptom of illness?

☐ 1 Incorrect massage posture ☐ 2 Caused from other works ☐ 3 Not sure

27. Have you ever had symptoms of pain or injury that caused by working as a massage therapist during the last six months? (If all the answer is no, then you **complete the questionnaire**).

Painful symptoms at parts of the body.	**(0) No**	**(1) Sometimes**	**(2) Often**
1. Neck			
2. Upper back.			
3. Lower back.			
4. Left shoulder.			
5. Right shoulder.			
6. Left elbow.			
7. Right elbow.			
8. Finger / thumb / index finger / middle finger / ring finger /left little finger.			
9. Finger / thumb / index finger / middle finger / ring finger / right little finger			
10. The wrist / left hand.			
11. The wrist / right hand.			

Painful symptoms at parts of the body.	**(0) No**	**(1) Sometimes**	**(2) Often**
12. Hip / left thigh.			
13. Hip / right thigh.			
14. Left knee.			
15. Right knee.			
16. Ankle / left foot.			
17. Ankle / right foot.			

28. If you have these symptoms (article 27). How do you take care of yourself? (More than 1 answer is acceptable)

☐ 0 Doing nothing ☐ 1 Buy own medicine

☐ 2 Hospital care by modern medicine

☐ 3 Hospital care by Thai Traditional medicine

☐ 4 Therapist's friend helps to heal ☐ 6 Others…….….. (specify)

29. Do these symptoms affect your work?

☐ 0 No, it does not ☐ 1 Yes, sometimes ☐ 2 Yes, often.

30. What is the cause of pain or discomfort that you receive each day? (More than 1 answer is acceptable)

☐ 1 Using incorrect posture while giving a Thai Traditional Massage to the client.

☐ 2 The incorrect posture (e.g. lift a thing etc.) ☐ 3 Housework

☐ 4 Lifting heavy objects. ☐ 5 Others……... (specify)

ข้อมูลสำหรับผู้ตอบแบบสอบถาม

การวิจัย เรื่อง การศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย

(Health Problem from working as Thai Traditional Massage Therapists)

คำชี้แจง

1. ขอเรียนเชิญท่านเข้าร่วมในการศึกษาการศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย ก่อนที่ท่านจะเข้าร่วมการศึกษา ขอเรียนให้ท่านทราบถึงเหตุผลและรายละเอียดของการศึกษาวิจัยในครั้งนี้

ปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผนไทย เป็นปัญหาสำคัญที่ยังไม่มีการกล่าวถึง ซึ่งอาจจะส่งผลกระทบถึงการขาดงานรวมถึงการเปลี่ยนงาน หากพนักงานนวดแผนไทยมีปัญหาสุขภาพก็จะส่งผลต่อคุณภาพชีวิต งานวิจัยนี้ต้องการศึกษาปัญหาสุขภาพที่เกิดจากการทำงานนวดแผนไทย ซึ่งจะทำให้ทราบถึงขนาดของปัญหาสุขภาพที่เกิดจากการทำงานของผู้ประกอบอาชีพนวดแผนไทยที่มีผลต่อสุขภาพทั้งในระบบกระดูกและกล้ามเนื้อ ตลอดจน ด้านสิ่งแวดล้อมในสถานที่ทำงาน ที่ส่งผลต่อสุขภาพของผู้ประกอบอาชีพนวดแผนไทย นอกจากจะเป็นประโยชน์ต่อพนักงานนวดแผนไทยโดยส่วนรวมแล้ว ยังเป็นประโยชน์ต่อหน่วยงาน ในการนำข้อมูลไปใช้เพื่อเป็นแนวทางป้องกัน แก้ไข ปัญหาสุขภาพที่เกิดจากการทำงาน รวมถึงการสร้างความตระหนักให้แก่บุคลากรต่อไป

หากท่านตกลงที่จะเข้าร่วมการศึกษาวิจัยนี้ กรุณาใช้เวลาในการตอบแบบสอบถามที่ท่านได้มานี้ซึ่งจะใช้เวลาประมาณ 30 นาที และขอความกรุณาให้ท่าน ส่งแบบสอบถามกลับคืนมายังผู้วิจัย ทั้งนี้ท่านมีสิทธิที่จะไม่ตอบข้อคำถามใดๆ หรือหยุดตอบคำถามได้ตามต้องการ

หากท่านมีข้อสงสัยประการใดโปรดสอบถามไปยังผู้วิจัย นางสาวมนต์วลี ชำนาญยา (โทรศัพท์ 0809383913) นิสิตปริญญาโทหลักสูตรวิทยาศาสตรมหาบัณฑิต สาขาวิชาการแพทย์แผนไทยและ

การแพทย์ทางเลือก (หลักสูตรนานาชาติ) วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย ซึ่งยินดีให้คำชี้แจงแก่ท่านทุกประการ หรือหากท่านมีข้อคำถามใดอาจเป็นปัญหาต่อจริยธรรมการวิจัย โปรดติดต่อไปยังคณะกรรมการพิจารณาจริยธรรมการวิจัยในคน จุฬาลงกรณ์มหาวิทยาลัย ชั้น 4 อาคาร สถาบัน 2 ซอย จุฬาลงกรณ์ 62 ถนน พญาไท เขต ปทุมวัน กรุงเทพฯ 10330 โทรศัพท์ 0-2218-8147, 0-2218-8141 โทรสาร 0-2218-8147 E-mail: eccu@chula.ac.th

2. แบบสอบถามแบ่งออกเป็น 4 ส่วน คือ

ส่วนที่ 1: ข้อมูลส่วนตัวของผู้ตอบแบบสอบถาม

ส่วนที่ 2 : ปัญหาสุขภาพทั่วไป

ส่วนที่ 3: การทำงานเป็นพนักงานนวด

ส่วนที่ 4: ปัญหาสุขภาพที่เกิดจากการนวด

แบบสอบถามชุดที่ .....ID

ที่ทำงาน.....

แบบสอบถาม เรื่องการศึกษาปัญหาสุขภาพที่เกิดจากการทำงานของพนักงานนวดแผไทย

(ข้อมูลเหล่านี้จะใช้เฉพาะงานวิจัยชิ้นนี้เท่านั้น)

ชี้แจง กรุณาทำเครื่องหมาย X ในช่อง ☐ที่ตรงกับคำตอบที่ท่านเลือกหรือกรุณาตอบคำถามในช่องว่าง

ส่วนที่ 1: ข้อมูลส่วนตัวของผู้ตอบแบบสอบถาม

1. เพศ ☐ 1 ชาย ☐ 2 หญิง
2. อายุ …… ปี
3. สถานภาพสมรส ☐ 1 โสด ☐ 2 สมรส
   ☐ 3 หม้าย/หย่าร้าง/แยกทางกัน ☐ 4 อื่นๆ ระบุ……
4. ท่านเป็น ☐ 1 พนักงานนวดแผนไทย ☐ 2 อื่นๆ โปรดระบุ.....
5. ระดับการศึกษาสูงสุดของท่าน
   ☐ 1 ต่ำกว่าปริญญาตรี ☐ 2 ปริญญาตรี
   ☐ 3 ปริญญาโทและสูงกว่า ☐ 4 อื่นๆ ระบุ.....
6. ท่านจบ การแพทย์แผนไทย หรือ การแพทย์แผนไทยประยุกต์มาโดยตรงหรือไม่
   ☐ 0ไม่ได้จบโดยตรง ☐ 1จบโดยตรง
7. ท่านได้รับการอบรมหลักสูตรการนวดแผนไทยมาโดยตรงหรือไม่
   ☐ 1 ไม่ได้รับการอบรม
   ☐ 2 ได้รับการอบรมหลักสูตร.....ชั่วโมง
   จากสถาบัน/หน่วยงาน.....เมื่อปี พ.ศ. .....
8. ระยะเวลาการทำงานในอาชีพนี้ รวม..... ปี …….. เดือน
9. ท่านทำอาชีพอื่นๆด้วยหรือไม่
   ☐ 0 ไม่ได้ทำ ☐ 1 ทำ (โปรดระบุ งานที่ทำ) ……
   งานที่ทำเป็นงานที่ต้องใช้แรง หรือออกแรงหนัก หรือไม่
   ☐ 0 ไม่ใช่ ☐ 1 ใช่

หน้าต่อไป.....

ส่วนที่ 2: ปัญหาสุขภาพทั่วไป

10. น้ำหนักในปัจจุบัน ……..…กิโลกรัม ส่วนสูงในปัจจุบัน …….. เซนติเมตร

11. ปัญหาสุขภาพโดยทั่วไปของท่านเป็นอย่างไร ☐ 0 ไม่ดี ☐ 1 ดี ☐ 3 ไม่แน่ใจ

12. ในระยะเวลา 1 ปีที่ผ่านมา ท่านเคยมีอุบัติเหตุที่ได้รับอันตรายจนต้องเข้ารับการรักษาที่โรงพยาบาล หรือไม่

☐ 0 ไม่มี ☐ 1 มี (โปรดระบุ เป็นอะไร)…… ……เป็นเมื่อไหร่……

13. ปัจจุบันสูบบุหรี่หรือไม่ ☐ 0 ไม่สูบ ☐ 1 เคยสูบ แต่เลิกได้แล้ว

☐ 2 สูบอยู่เป็นบางครั้ง ☐ 3 สูบเป็นประจำ

14. ปัจจุบันท่านดื่มสุรา เบียร์ หรือเครื่องดื่มแอลกอฮอล์หรือไม่

☐ 0 ไม่ดื่ม ☐ 1 เคยดื่ม แต่เลิกได้แล้ว

☐ 2 ดื่ม บางครั้ง บางคราว ☐ 3 ดื่มเป็นประจำ

ส่วนที่ 3: การทำงานเป็นพนักงานนวด

15. ท่านนวดโดยวิธีใด

☐ 1 นวดเชลยศักดิ์ ☐ 2 นวดราชสำนัก

☐ 3 นวดทั้ง 2 ประเภท ☐ 4 นวดอื่นๆ ระบุ..... …….....

16. ปัจจุบันท่านทำงานนวดแผนไทยประมาณ ..... ชั่วโมง/วัน

17. ส่วนใหญ่ผู้มารับบริการจะมารักษาอาการอะไร

☐ 0 ไม่ได้ป่วย (นวดเพื่อสุขภาพ) ☐ 1 ปวดเมื่อย

☐ 2 แพทย์สั่ง ☐ 3 อื่นๆ ระบุ……...

18. ท่านใช้ท่านวดแผนไทยท่าไหน บ่อยที่สุด (ตอบได้มากกว่า 1 ข้อและ **<u>กรุณาเรียงลำดับท่าที่ใช้บ่อยที่สุด จำนวน 3 อันดับ</u>**)

☐ ก ท่านั่งพับเพียบ

☐ ข ท่าหนุมานถวายแหวน หรือ การนั่งคุกเข่าข้างหนึ่ง ตั้งขาข้างหนึ่ง

☐ ค ท่าหกสูง หกกลาง และหกต่ำ

☐ ง ท่าพรหมสี่หน้า หรือ ท่านั่งคุกเข่าโดยไม่นั่งทับส้นเท้าทั้งสองข้าง

☐ จ ท่านั่งคุกเข่าทับส้นเท้า

☐ ฉ อื่นๆ โปรดระบุ……

19. ท่านใช้อวัยวะส่วนไหนในการนวดแผนไทยมากที่สุด (ตอบได้มากกว่า 1 ข้อ)

☐ 1 นิ้วโป้ง และข้อนิ้วโป้ง ☐ 2 ฝ่ามือ สันมือ อุ้งมือ นิ้วมือ ☐ 3 ท่อนแขน

☐ 4 ข้อศอก ☐ 5 ฝ่าเท้า ส้นเท้า อุ้งเท้า ☐ 6 เข่า

☐ 7 ใช้ทุกส่วนที่กล่าวมา ☐ 8 อื่นๆ โปรดระบุ .....

ส่วนที่ 4: ปัญหาสุขภาพที่เกิดจากการนวด

20. ท่านคิดว่าท่านวดแผนไทยมีผลต่อสุขภาพของท่านหรือไม่

☐ 0 ไม่มีผล ☐ 1 มีผลต่อสุขภาพ เพราะ .....

21. ท่านคิดว่าสถานที่ทำงานในการให้บริการนวดเป็นอย่างไร

A. สถานที่ ☐ 1 คับแคบ ☐ 2 ดีแล้ว

B. ขนาดเตียงนวด ☐ 1 เล็กเกินไป ☐ 2 ดีแล้ว

C. อากาศ ☐ 1 ร้อน /หนาวไป ☐ 2 ดีแล้ว

D. สภาพแวดล้อมในที่ทำงาน เช่น มีเสียงดังรบกวน ☐ 1 ไม่ดี ☐ 2 ดีแล้ว

E. โดยรวมแล้วท่านคิดว่าสภาพแวดล้อมที่นวดเป็นอย่างไร

☐ 1 ไม่น่าพึงพอใจ ☐ 2 ดีแล้ว

22. ท่านเคยได้รับอุบัติเหตุจากการพลัดตกเตียง ลื่นล้ม สิ่งของหล่นใส่ศีรษะ หม้อลูกประคบลวก มือ หรือ อุบัติเหตุอื่นๆในระหว่างทำงาน หรือไม่

☐ 0 ไม่เคย ☐ 1 เคย (อุบัติเหตุนั่นคือ โปรดระบุ)..... เมื่อไหร่.....

23. ระหว่างที่ท่านให้บริการนวดแผนไทย ท่านมีวิธีการบรรเทาอาการปวดมือ ข้อนิ้วมือ ปวดนิ้ว ปวดเท้า ปวดข้อศอก ของท่านอย่างไร (ตอบได้มากกว่า 1 ข้อและ **<u>กรุณาเรียงลำดับ วิธีการ 3 อันดับที่ใช้บ่อยที่สุด</u>**)

☐ ก ปรับเปลี่ยนอิริยาบถของตนเองหรือผู้มารับบริการ เพื่อช่วยบรรเทาอาการปวดเมื่อยของตัวท่านเอง

☐ ข ปรับเปลี่ยนอวัยวะที่ทำการนวดในขณะนวดผู้มารับบริการ

☐ ค ขออนุญาตผู้มารับบริการพักสักครู่หนึ่ง

☐ ง ใช้ยาหม่องหรือน้ำมันปาล์ม เป็นตัวช่วยในการออกแรงและลดอาการปวด ในขณะที่นวดผู้มารับบริการ

☐ จ ใช้ผ้าหรือลูกประคบผู้มารับบริการและประคบมือตัวเองในขณะทำการนวด

☐ ฉ ให้พนักงานนวดแผนไทยคนอื่นมานวดแทน

☐ ช อื่นๆ โปรดระบุ .....

หน้าต่อไป.....

24. ขณะปฏิบัติงาน ช่วง 1 สัปดาห์ ท่านกระทำสิ่งต่อไปนี้บ่อยเพียงใด

การปฏิบัติงาน	(0) ไม่เคย	(1) 1-2 ครั้ง/ สัปดาห์	(2) 3-5 ครั้ง/ สัปดาห์	(3) มากกว่า 5 ครั้ง/ สัปดาห์
1.นวดโดยต้องออกแรงมากๆ เช่นใช้ นิ้วโป้ง ฝ่ามือ ข้อมือ ในการนวดแรงๆ				
2.ออกแรงยกตัวหรือบิดตัวผู้มารับบริการ				
3.ใช้แรงของนิ้วมือ ข้อมือหรือออกแรงในการนวด				
4. ก้มหรือเงยคอ				
5.ก้มหลัง และบิดเอวในการนวด				
6.นั่งนวดอยู่กับที่เป็นเวลานาน				
7.ยืนนวดอยู่กับที่เป็นเวลานาน				
8.ใช้ข้อนิ้วโป้งในการกด หน่วง เน้น นิ่ง หรือกดจุดนวดเป็นระยะเวลานาน				
9.ทำงานในท่าทางนวดที่ทำให้รู้สึกไม่สบายและมีอาการปวดเมื่อย				
10.นั่งยองๆ หรือนั่งคุกเข่านวดเป็นระยะเวลานาน				
11.ใช้ท่าทางในการนวดที่ไม่ถูกต้อง เช่น ก้มโค้งมากเกินไป				
12.ใช้แรงในการกดหรือออกแรงในการนวดที่มากเกินกำลัง				
13. กดนวดกล้ามเนื้อที่มีลักษณะแข็ง เกร็ง มากเกินไป				
14. นวดผู้มารับบริการที่มีน้ำหนักตัวมาก /นวดผู้มารับบริการที่มีขนาดตัวอ้วนเกินไป /นวดผู้มารับบริการที่มีกล้ามเนื้อมาก				

หน้าต่อไป.....

การปฏิบัติงาน	(0) ไม่เคย	(1) 1-2 ครั้ง/ สัปดาห์	(2) 3-5 ครั้ง/ สัปดาห์	(3) มากกว่า 5 ครั้ง/ สัปดาห์
15. ใช้เครื่องทุนแรงในการนวด เช่น ไม้ตอกเส้น ไม้กดจุด เครื่องช่วยนวด				
16. นวดผู้มารับบริการที่เป็นผู้ชาย				
17. นวดผู้มารับบริการที่เป็นผู้หญิง				
18. นวดผู้มารับบริการที่เป็นเด็ก				
19. นวดผู้มารับบริการที่เป็นโรคอัมพฤกษ์-อัมพาต				
20. นวดผู้มารับบริการเป็นระยะเวลาติดต่อกันโดยไม่ได้พัก				
21. ยกถังน้ำ มากกว่า 3 ลิตรขึ้นไป				
22. ทำความสะอาดห้องนวดแผนไทย				

25. ท่านคิดว่าการนวดเป็นอาชีพที่เสี่ยงต่อการเจ็บป่วยทางระบบกระดูก กล้ามเนื้อ เช่น ปวดหลัง ปวดนิ้ว ข้อศอก หรือไม่

☐ 0 ไม่เห็นด้วย ☐ 1 เห็นด้วย ☐ 2 ไม่แน่ใจ

26. ท่านคิดว่าอาการปวดเมื่อย หรืออาการไม่สบายของหมอนวดแผนไทยมาจากสาเหตุใด

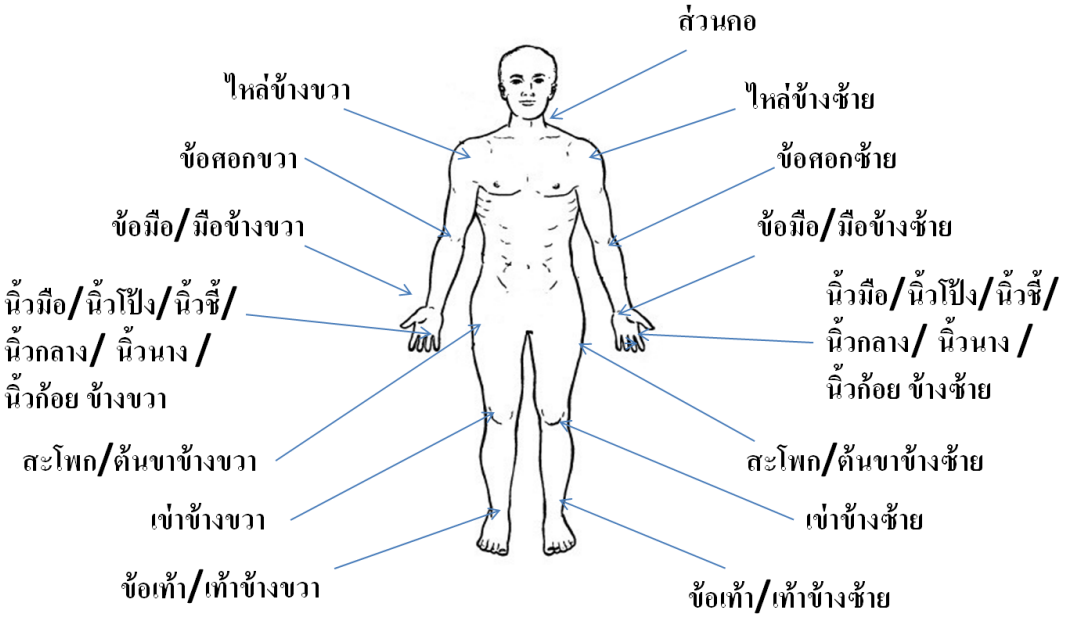
☐ 1 มาจากการใช้ท่าทางนวดไม่ถูกต้อง ☐ 2 สาเหตุจากการทำงานอื่นๆ ☐ 3 ไม่แน่ใจ

หน้าต่อไป.....

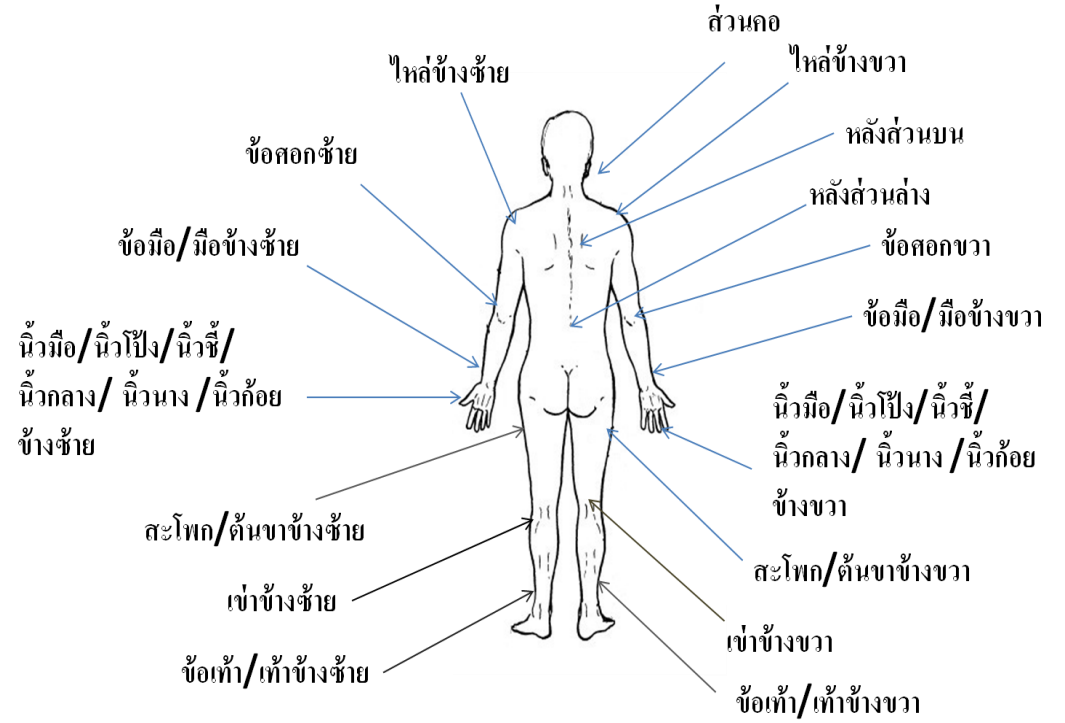
27. ท่านเคยมีอาการเจ็บป่วย ปวดเมื่อย หรือได้รับบาดเจ็บบริเวณส่วนต่างๆของร่างกายโดยมีสาเหตุมาจากการทำงาน ในช่วง ระยะเวลา 6 เดือนที่ผ่านมาหรือไม่ (**ถ้าไม่มี <u>จบการตอบคำถาม</u>**)

อาการเจ็บปวดบริเวณส่วนต่างๆ ของร่างกาย (ดูรูปประกอบด้านหน้า 118-119)	**0 ไม่มี**	**1 บางครั้ง**	**2 ประจำ**
1.ส่วนคอ			
2.หลังส่วนบน			
3.หลังส่วนล่าง			
4.ไหล่ข้างซ้าย			
5.ไหล่ข้างขวา			
6.ข้อศอกซ้าย			
7.ข้อศอกขวา			
8.นิ้วมือ/นิ้วโป้ง/นิ้วชี้/นิ้วกลาง/ นิ้วนาง / นิ้วก้อย ข้างซ้าย			
9. นิ้วมือ/นิ้วโป้ง/นิ้วชี้/นิ้วกลาง/ นิ้วนาง / นิ้วก้อย ข้างขวา			
10.ข้อมือ/มือข้างซ้าย			
11.ข้อมือ/มือข้างขวา			
12.สะโพก/ต้นขาข้างซ้าย			
13.สะโพก/ต้นขาข้างขวา			
14.เข่าข้างซ้าย			
15.เข่าข้างขวา			
16.ข้อเท้า/เท้าข้างซ้าย			
17.ข้อเท้า/เท้าข้างขวา			

หน้าต่อไป.....



รูปที่ 1 แสดงอวัยวะส่วนต่าง ๆ ของร่างกายมนุษย์ (ด้านหน้า)



รูปที่ 2 แสดงอวัยวะส่วนต่าง ๆ ของร่างกายมนุษย์ (ด้านหลัง)

28. ถ้าท่านมีอาการดังกล่าว (ข้อ 27) ท่านดูแลตนเองอย่างไร (ตอบได้มากกว่า 1 ข้อ)

☐ 0 ไม่ได้รักษา

☐ 1 ซื้อยากินเอง

☐ 2 ไปหาแพทย์แผนปัจจุบัน ☐ 3 ไปหาแพทย์แผนไทย

☐ 4 ให้เพื่อนหมอนวดช่วยรักษา ☐ 5 อื่นๆ โปรดระบุ.....

29. อาการดังกล่าวมีผลต่อการทำงานหรือไม่

☐ 0 ไม่มีผลต่อการทำงาน

☐ 1 มีผลต่อการทำงาน บางครั้ง

☐ 2 มีผลต่อการทำงาน เป็นอย่างมาก

30. ท่านคิดว่าอาการปวดเมื่อย หรืออาการไม่สบายที่ท่านได้รับในแต่ละวันมาจากสาเหตุใด (ตอบได้มากกว่า 1 ข้อ)

☐ 1 การทำงานนวดแผนไทย สาเหตุมาจากการใช้ท่าทางนวดไม่ถูกต้อง

☐ 2 อิริยาบถไม่ถูกต้อง เช่น การก้มตัวยกของ เป็นต้น

☐ 3 การทำงานบ้าน

☐ 4 ยกของหนัก

☐ 5 อื่นๆ โปรดระบุ .....

****

ขอบคุณค่ะ

VITAE

Name: Miss Monvalee Chumnanya

Birth Date: 26 October 1986

E-mail: Parrot_luktak@hotmail.com

Education:

- Mae Fah Luang University (Thailand)

Degree: Bachelor of Applied Thai Traditional Medicine

Minor Medicine: Applied Thai Traditional Medicine (2009)

Work Experience:

- Jun 2009- February 2010 Song Hospital, Phrae Province (Thai Traditional Medicine)