SELF-CARE BURDEN AND QUALITY OF LIFE OF PATIENTS WITH OSTEOARTHRITIS OF THE KNEE

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF NURSING SCIENCE
(ADULT NURSING)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2003**

ISBN 974-04-3941-1

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was submitted to the Faculty of Graduate Studies, Mahidol University
For the degree of Master of Nursing Science (Adult Nursing)
on
8 October, 2002

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ACKNOWLEDGEMENT

I would like to take this opportunity to acknowledge my sincere appreciation to these people who concerned and helped me sincerely until this thesis was succeeded.

First, I would like to express my gratitude and faithfulness to Associate Professor Yauwaluk Lauhachinda my Major-Advisor and Associate Professor Prakong Intarasombat my Co-Advisor for their kindness, encouragement, help, advise and guidance throughout this study.

My appreciation was expressed to Associate Professor Darunee Junhavat and Assoc. Professor Viroj Kawinwonggowit for their valuable comment and supervision.

My appreciation was expressed beyond those patients with osteoarthritis of the knee who were the participants of the study. Thank for all of you and wish you all could perform the self-care action. Thank all staff nurses of Orthopeadic clinic, Hatyai Hospital for their assistance during the data collection was done.

I was particular indebted to Mr.Kamol Veerapradist the directors of Hatyai Hospital for their inspiration and thank all my colleagues for giving me an opportunity to study.

Finally, my special indebted and thankfulness went to my parents, my relatives and all of my best friends in the Ramathibodi School of Nursing for their sincerity, encouragement, help and love.

Nonglak Jangtrakoon

SELF- CARE BURDEN AND QUALITY OF LIFE OF PATIENTS WITH

OSTEOARTHRITIS OF THE KNEE

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ABSTRACT

People with osteoarthritis of the knee must often change their life-style to improve their self-care. This change can be experienced as a burden. My study of this burden is intended to provide information for healthcare providers working with patients with osteoarthritis of the knee.

My descriptive research studied self-care burden and quality of life, and the relationship between self-care burden and quality of life among patients with osteoarthritis of the knee. I gave questionnaires to a sample group of 114 patients with osteoarthritis of the knee in Songkhla province, Thailand.

Patients perceived that they had a moderate level of self-care burden and a high level of quality of life. Self-care items with the highest burden scores were the need to avoid sitting on the floor, on the heels, or cross-legged, standing/ walking for a long time, and the need to rest knee joints when experiencing severe pain and keep an optimal weight. Among patients with osteoarthritis of the knee, those reporting a higher self-care burden tended to report a lower quality of life($r= 0.25$ $P<0.01$).

The moderate level of self-care burden of most osteoarthritis knee patients means they can without much difficulty be active in an adjusted life-style because their condition is not severe.

This study provides knowledge of self-care practices of patients with osteoarthritis of the knee. It can help healthcare providers understand the burden of patients with change or increase in self-care demand due to chronic illness. These findings can also be used as information for developing an intervention program to facilitate the self-care ability of patients with osteoarthritis of the knee performing self-care actions.

KEY WORD: SELF- CARE BURDEN / QUALITY OF LIFE / OSTEOARTHRITIS

OF THE KNEE

56 P. ISBN 974-04-3941-1

ภาระในการดูแลตนเองและคุณภาพชีวิตของผู้ป่วยโรคข้อเข่าเสื่อม(SELF-CARE BURDEN AND QUALITY OF LIFE OF PATIENTS WITH OSTEOARTHRITIS OF THE KNEE)

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คณะกรรมการควบคุมวิทยานิพนธ์ : เยาวลักษณ์ เลาหะจินดา, ค.ม., ประคอง อินทรสมบัติ, ค.ม.

บทคัดย่อ

การศึกษาครั้งนี้เป็นการวิจัยเชิงบรรยาย เพื่อศึกษาภาระในการดูแลตนเองและคุณภาพชีวิต และศึกษาความสัมพันธ์ของภาระในการดูแลตนเองและคุณภาพชีวิต โดยใช้กรอบทฤษฎีความพร่องในการดูแลตนเองของโอเร็มและแนวคิดภาระในการดูแลตนเองของโอเบิซท์เป็นแนวทางในการศึกษา กลุ่มตัวอย่างที่ศึกษาเป็นผู้ป่วยโรคข้อเข่าเสื่อมที่มารับการรักษาที่คลินิกศัลยกรรมกระดูกและข้อ แผนกผู้ป่วยนอก โรงพยาบาลหาดใหญ่ จังหวัดสงขลา โดยเลือกแบบเจาะจงตามเกณฑ์ที่กำหนดไว้ จำนวน 114 ราย เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลได้แก่ แบบสอบถามข้อมูลส่วนบุคคล แบบวัดคุณภาพชีวิต และแบบวัดภาระในการดูแลตนเอง เก็บข้อมูลโดยให้กลุ่มตัวอย่างตอบแบบสอบถามด้วยตนเอง วิเคราะห์ข้อมูลโดยใช้โปรแกรมสำเร็จรูป SPSS/FW

ผลการศึกษาพบว่า กลุ่มตัวอย่างรับรู้ภาระในการดูแลตนเองในระดับปานกลาง และรับรู้คุณภาพชีวิตในระดับสูง สำหรับกิจกรรมในการดูแลตนเองที่กลุ่มตัวอย่างรับรู้ว่าทำให้เกิดภาระในการดูแลตนเองมากที่สุดคือ การหลีกเลี่ยงการนั่งกับพื้นในลักษณะนั่งยอง พับเพียบ ขัดสมาธิ หรือยืน เดินเป็นเวลานาน การพักการใช้ข้อเข่าเมื่อมีอาการปวดเข่า และการรักษาน้ำหนักตัวไม่ให้อ้วน ตามลำดับ สำหรับภาระในการดูแลตนเองมีความสัมพันธ์เชิงลบกับคุณภาพชีวิตในผู้ป่วยโรคข้อเข่าเสื่อมอย่างมีนัยสำคัญทางสถิติที่ระดับ .001 ($r = -.25$ $p < .001$)

ผลการศึกษาครั้งนี้ ได้ให้ความรู้เกี่ยวกับการปฏิบัติกิจกรรมการดูแลตนเองของผู้ป่วยโรคข้อเข่าเสื่อม และเป็นแนวทางสำหรับพยาบาลและบุคลากรทางสุขภาพให้เข้าใจถึงภาระในการดูแลตนเองที่เพิ่มขึ้นและเปลี่ยนแปลงไปในผู้ป่วยเรื้อรัง และผลการวิจัยครั้งนี้สามารถนำไปใช้เป็นแนวทางในการโครงการส่งเสริมการพัฒนาความสามารถในการดูแลตนเองในผู้ป่วยโรคข้อเข่าเสื่อมต่อไป

56 หน้า. ISBN 974-04-3941-1

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CHAPTER 1

INTRODUCTION

Background and Rationale

Osteoarthritis is the most common form of arthritis. The specific risk factor of the disease is still unclear. Age is a confounding variable in term of cause, but osteoarthritis is not a consequence of aging (McKeag cited by Kee, et al., 1998: 20). Recent demographic changes in Thailand have resulted in improving the longevity of life among Thais thereby increasing the proportion of elderly in the population. The proportion of elderly increased from 7.22 % in 1990 to 9.13 % in 2000 and is expected to reach 11.36 % in the year 2010 (The National Economic and Social Development Board, 2538 cited by Suvit Vibulpolprasert, et al., 2540). Therefore, the number of people in Thailand suffering from the disease is likely to rise as a consequence of the increasingly elderly population.

Osteoarthritis is a chronic degenerative disease of the synovial joints. The areas most commonly affected are the small finger joints or large, weight-bearing joints, such as the knee and hips. The clinical course of osteoarthritis is slow, uneven, and variable (Kee & Epps, 2001: 195). These patients typically present with symptoms of joint pain and stiffness, bony enlargement and decreased range of motion (Messier, et al., 1992: 29). The main clinical feature of osteoarthritis is pain. Initially, pain is present only when the affected joints are active, but as the disease progress the pain persists even at rest, until ultimately sleep is disturbed. (O'Brien, et al., 1994: 195) In addition to pain, the major clinical consequence is physical disability. Osteoarthritis of the knee is more likely to result in disability than osteoarthritis of any other joint (Blixen & Kippes, 1999). The World Health Organization has reported that osteoarthritis of the knee is the fourth most common cause of disability in women and the eighth in men (Murray, 1997 cited by Vad, et al., 2002: 730).

In osteoarthritis of the knee, when pain and disability progress to the point that the patient cannot tolerate it any more, then total knee replacement is the final solution (Haq, et al., 2001: 382). For some, however, surgical interventions are not possible. Some people refuse to have surgery and others are not appropriate candidates (Baird, 2001: 18). Artificial joints often last only 10 to 15 years and therefore are not recommended for people under the age of 50 (Altizer, 1998: 488).

Over recent years , there has been a lot of interest in osteoarthritis, and the research effort has led to several new treatments, such as lubricating injections into joints and cartilage transplants. But this trend has inherent dangers and expensive. Not only do we not yet know whether these new treatments really help patients in the long term (Dieppe, 1999: 1299).

There are many patients with this common and disabling condition who do not receive surgery and these people have to live with the chronic and often severe pain and disability of osteoarthritis (Baird, 2001: 18). Individuals with osteoarthritis of the knee have a limited range of joint motion and hence experience difficulty with activities such as walking, climbing stairs, rising from a chair, getting in and out of a car, lifting and carrying. These activities are essential for independent living and to maintain a reasonable quality of life (Kupniratisaikul, et al., 2002: 34). If patients can take better care of them and adhere to the treatments recommended for osteoarthritis of the knee, they can expect to have fewer symptoms and better functional capabilities. To do so, patients must cope with pain and disability, modify their behavior to minimize undesirable outcomes, adjust their social and work lives to accommodate their symptoms, and functional limitations, and cope with the emotional consequences (Sobel, et al., 2002). Patients need to follow treatment regimens regularly and religiously, such as pain management, diet control, exercise, and joint protection. These tasks can be interminable and can be burdensome. Oberst and colleagues suggested that self-care tasks might be more burdensome when they cannot be accomplished independently. Dependency on others has been reported to predict perceptions of self-care burden (Oberst, et al., 1991: 77).

Functional health status and the ability to manage independently may be altered. Patients with osteoarthritis of the knee tend to report their health status as fair or poor rather than excellent or very good (Marisa Suwanraj,B.E., 2001). Some patients cannot do self-care activities and this causes them to depend on their family. Loss of ability to care for self creates increasing dependence on others for tasks that were previously done without help. When people perceived that their independence had been affected and/or when they felt dependent, they were more likely to report feeling helpless, believe that they were not coping successfully, and report that they were having difficulty tolerating and adjusting to the demands of their condition (Gignac, et al., 2000: 362- 372).

In summary, osteoarthritis of the knee is a chronic illness which results in biopsychosocial changes in patients and it also considerably affects their quality of life. The goals in managing chronic illnesses are to maintain the highest possible level of functioning, promote independence in self- care and enhance quality of life. Nurses play a key role in assessing self-care ability and aiding the patient in development of necessary illness related self-care tasks and behaviors. The better understanding of the self-care burden may serve as a guideline for developing nursing intervention in osteoarthritis of the knee patients and enable patients to have a better quality of life.

Conceptual Framework

Conceptually, this study was guided by Orem' s Self-Care deficit theory (2001) and Oberst ' s concept of self-care burden@berst, et al., 1991).

Self-care deficit refers to the relationship between therapeutic self-care demands and the self-care agency. When the powers and capabilities of people to meet their therapeutic self-care demands are not adequate, there is a deficit relationship between what people should do and what they can or will do. This type of relationship refers to self-care deficit. These deficits gives rise to requirements for nursing .

Orem (2001) defines self-care as the practice of activities that individuals initiate and perform for themselves to maintain life, health, and well-being by prevention, alleviation, cure, or control of unwanted conditions and also includes the seeking of and participation in medical care. Therapeutic self-care demands are the

self-care actions performed for some duration in order to meet known self-care requisites by using valid methods and related sets of operations or actions (Orem, 1995: 111). General descriptions of the three identified types of self-care requisites are:

1. Universal self-care requisites are common to all human beings during all stages of the life cycle. They are associated with life process, with the maintenance of the integrity of their structure and functioning, and with general well-being.

2. Developmental self-care requisites are associated with age and developmental processes.

3. Health deviation self-care requisites are associated with genetic and constitutional defects and human structural and functional deviations and with their effects and with medical diagnosis and treatment measures.

Individuals may be able to initiate and preserve self-care actions to meet their requirements but may be unable at a particular time to change old practices or to add new practices. This may be very difficult for some individuals (Orem, 1995: 233).The demand for a particular activity in the individuals' life and the difficulty experienced in fulfilling that demand is the self-care burden. Oberst and colleagues utilized Orem' s Self-Care Theory to measure self-care burden. They represented the concept of self-care burden, which was developed to reflect self-care demands and the difficulty of carrying them out. From this concept, self-care demands of the patients and difficulty related to self-care demands is described as self-care burden. Patients who perceive difficultie in their self-care burden can result in a negative appraisal of illness (Oberst, et al., 1991) and may impact on the perception of their quality of life.

The impact of chronic illness on quality of life is an increasing concern to society and heath care professionals. Especially patients with osteoarthritis because cure is not a realistic expectation. Quality of life may be decreased when patients can not perform self-care demands and perceive this as a burden. Orem (1985:179) defines quality of life in terms of well-being and states that well-being is characterized by experience of contentment, pleasure, and happiness that person's perceived condition of existence. (Orem, 2001:186) This is similar to the concept of Cantril's self-anchoring scale (Cantril, 1965 cited by McKeehan, et al., 1986), which he suggests

can measure patient's perceptions of their own worlds of reality. Therefore, life satisfaction and happiness, as an outcome of self-care, was used as an indicator of quality of life in this study and measured by the Cantril Self-Anchoring Striving Scale.

Patients with osteoarthritis of the knee were found to be affected by alterations in their ability to perform work, maintain mobility, remain independent in many other aspects of their lives, and experience change in their usual patterns of behavior (Burks, 2002). Patients living with the effects of pathologic conditions from osteoarthritis have markedly increased their self-care demands and needed to perform treatment regimens regularly. Physical and psychosocial changes associated with osteoarthritis are purported to influence both therapeutic self-care demands and self-care agency. The relationship between therapeutic self-care demands and self-care agency refers to Self-care deficit. In addition, if patients perceive difficulty related to self-care demands or change in demands, the impact of these deficits may be magnified (Anastasio, et al., 1995: 34), resulting in further reduction in the quality of life of patients with osteoarthritis of the knee.

Research Objectives

1. To determine the Self- Care Burden and Quality of Life of patients with osteoarthritis of the knee.
2. To determine the relationship between Self-Care Burden and Quality of Life of patients with osteoarthritis of the knee.

Research Hypotheses

Self -Care Burden is negatively correlated with Quality of Life of patients with osteoarthritis of the knee.

Research Questions

1. What is the Self-Care Burden and Quality of Life of patients with osteoarthritis of the knee?
2. Is there a negative relationship between the Self-Care Burden and Quality of Life of patients with osteoarthritis of the knee?

Scope of the Study

The study aimed to describe the perceived self-care burden and quality of life of patients with osteoarthritis of the knee. The 114 patients were recruited from the outpatient orthopaedic clinic of Hatyai Hospital during June to September 2003.

Expected Outcomes and Benefits

The results of this study could be beneficial for health care providers in terms of:

1. Providing further guidelines in the improvement of the self-care agency or development of self-care of patients with osteoarthritis of the knee.

2. Developing nursing research for improve nursing interventions for patients with osteoarthritis of the knee.

Definitions of terms

1. Self-Care Burden is the perception of patients with osteoarthritis of the knee about demands or changes in universal and health-deviation self-care activities and the degree of difficulty ascribed to meeting that demand. It was measured by the Self-Care Burden Scale for patients with osteoarthritis of the knee, which was modified by the researcher. Higher scores indicated more self-care burden.

2. Quality of Life is defined as the perception of satisfaction and happiness in the life of patients with osteoarthritis of the knee. Quality of Life was measured by using Cantril Self-Anchoring Striving Scale (Cantril, 1965 cited by McKeehan, et al. 1986). The score range is 0-20, with higher scores representing better Quality of Life.

CHAPTER II
LITERATURE REVIEW

The literature concerning the self-care burden associated with quality of life of patients with osteoarthritis of the knee is reviews in 4 parts as follow:

1. Therapeutic self-care demand for patients with osteoarthritis of the knee
2. Self-care burden in patients with osteoarthritis of the knee
3. Quality of life among osteoarthritis of the knee patient
4. The relationship between self-care burden and quality of life.

Therapeutic self-care demand for patients with osteoarthritis of the knee

Osteoarthritis (OA), also often called osteoarthrosis or degenerative joint disease, is the most common form of arthritis. A dominant pathological feature of the osteoarthritic joint is focal areas of damaged articular cartilage, which is the connective tissue that cushions the ends of bones within the joint. However, it is quite clear that osteoarthritis is a disorder of the whole synovial joint organ such as the synovium and subchondral bone, not just the cartilage (Dieppe, 1999: 1299). It is extremely common in persons over 40 years of age and is one of the most prevalent diseases of elderly people. Although the disease can impact several joints, the knees are often affected. In United States, symptomatic osteoarthritis of the knee occurs in 6% of adult's age 30 and over. This frequency is comparable with the findings of studies from Britain. In Thailand can be found incident of osteoarthritis of the knee more than Westerners. Because of Thai's lifestyle often using their knees such as squatting, kneeling, and Thai traditional sitting in one's daily task that these posture increase pressure on the knees as increase the risk of osteoarthritis developing in the knee joint. (Bancha Chuachujit, 2546: 218).

Although osteoarthritis is not a terminal disease, it is the most activity limiting chronic illness. It can effect on functional status, physical activity, and psychological health (McCarberg, 2001: 16). Osteoarthritis of the knee can impair

a patient's ability to complete basic activity of daily living because of osteoarthritis pain is a major cause of disability which is associated with progressive reduction in function and with a decrease in mobility. Patients with osteoarthritis of the knee have pain in and around the knee that is typically worse with weight-bearing and improved with rest, morning stiffness, and gel phenomenon (Hochberg, 1999: 1541). In severe disease, individuals have pain at rest and limited motion as a result of incongruous joint surfaces, muscle or capsular contracture, or mechanical block from osteophytes or loose bodies (Resnick, 2001: 144). Patients were affected by osteoarthritis experience alterations in their ability to perform work, maintain mobility, and remain independent in many others aspect of they lives (Burks, 2002: 28). These patients is also affected with experiencing a decreased self-image, self-esteem (Sirin Sartranurak, B.E. 2538) and increased stress level (Suparb Aree-ue, B.E. 1997), and depression (Elizabeth, et al., 2003: 2428).

Osteoarthritis of the knee is a long- term chronic disease. The degeneration of the knee joint cannot be reversed. However, with appropriate self-care, the process can be slowed, and it is possible to alleviate or prevent impact of osteoarthritis and improve quality of life. Various studies suggested that self-care requisite in patients with osteoarthritis of the knee include maintain optimal weight, encourage activity and regular exercise, joint protection**,** pain management. For these issues will be elaborated as follow:

1. Maintain optimal weight. Maintaining appropriate body weight may be the single most important factor in preventing osteoarthritis from occurring in weight-bearing joints. Ngamsutikul (2000: 82) found that body mass index (BMI) 25.0-29.9 kg/m^2 increased risk for 2.7 times and BMI $\geq$ 30 kg/m^2 increased risk for 6.75 times compared with BMI 18.5-24.9 kg/m^2. This finding confirms obesity is an important risk for knee osteoarthritis. Moreover obesity may precede the onset of osteoarthritis. In the Chingford study, obese women with unilateral knee osteoarthritis had a greater risk of progression of structural change in the affect knee and a greater risk of developing ostoarthritis in the unaffected knee (Spector, et al., 1994: 53). Increased weight results in more stress and amount of force on the weight- bearing joint and possibly redistribution of stress points, causing even more damage (Kee, et al., 1998: 24).

Weight loss can affect progression and symptoms of osteoarthritis of the knee (Kee, 2000: 203). In the retrospective study, a decrease in body mass index (BMI) of at least 2 units from baseline was associated with a 50% reduction risk of developing symptomatic osteoarthritis of the knee. This improvement is probably due to the decrease in force applied across the joint (Felson, et al., 1992: 535). Therefor weight reduction is desirable in obese patients and may reduce progression of knee osteoarthritis (Jones & Doherty, 1995: 460).

Weight control is an integral part of decreasing stress on the joint and there by minimizing joint destruction and pain. Patients who are overweight should have clear understanding of the importance of weight control and maintain optimal weight. Therefor Patient with osteoarthritis of the knee should to control their body weight within normal range. An overweight or obese adult is determined by body mass index, defined as weight in kilograms divided by the square of height in meters. The International Obesity Task Force (2000: 18) proposed the cut-offs for overweight and obesity in Asian populations as a person with a BMI of less than 23 is normal weight range. A BMI of 23 or more is classified as being overweight whereas BMI of 25 or more indicates obesity.

In term of weight reduction in general, dietary change in combination with exercise and behavior therapy is recommended (Wing, 1999 cited by O' Reilly & Doherty, 2001: 565). Patient with osteoarthritis of the knee should have ability to identified and adjust behavior that conducive to weight gain such as overeating or under-activity and able to maintain optimal weight. However, For people with osteoarthritis, weight loss by exercise may be difficult to achieve and maintain. Many patients have pain and functional disability that limit or preclude exercise. They may require intervention to improve their knee pain before they can exercise at adequate levels to achieve weight loss (Marshall & Waddell, 2000: 3).

2. Encourage activity and regular exercise. In osteoarthritis of the knee, patients with osteoarthritis tend to avoid physical activity because of fearing that activity will lead to an increase in pain. In short term, avoiding physical activity can reduce pain. In the long term, low activity levels will result in deterioration of physical

condition, especially in muscle weakness. Due to this muscle weakness, joints become fewer stables and their ability to carry a load is reduced. This results in increased disability. Consequently, the patient avoids activity even more, thus entering a downward spiral toward increasing physical disability that adversely affects the quality of life of these patients (Rejeski & Shumaker, 1994; Schulz & Williamson, 1993).

Appropriate exercise has been shown to be a key factor in maintaining muscle strength, reduce impairment, improve function, protect the osteoarthritis joint from further damage, prevent disability and control body weight (Minor, 1994: 198; Birchfield, 2001: 128; Burbank, et al., 2002: 51). Several randomized controlled trials in patients with osteoarthritis of the knee demonstrated that strengthening of quadriceps musculature with either isometric or isotonic exercises was associated with significant improvement in quadriceps strength, knee pain and walking distance (Penninx, et al., 2001: 13; Vilai Kupniratisaikul, et al., 2002: 33).

However, exercise done excessively or inappropriately may worsen osteoarthritis symptoms. Preservation of joint motion and maintenance of muscle strength require a balance of rest and activity (Altizer, 1998: 494). Rest is an important part of the treatment for osteoarhtritis, but it must be balanced by regular exercise (Petrella, 1999: 1). The exercises should not be performed with actively inflamed joints (Resnick, 2001: 146). In the presence of acute inflammation, the joint must rested. Weight bearing is restricted. Because stiffness is a consequence of rest, immobility should not exceed 1 week (Altizer, 1998: 494). In addition, exercise programs should be individually tailored according to the patient's age, severity of osteoarthritis, and generalized conditioning. (Murphy & Jurisson cited by Lonner, 2003: 1016). Many older patients have cardiovascular disease, a complete history and physical examination should be conducted before prescribing increased physical activity (American Geriatrics Society Panel, 2001).

In the early stages, strengthening may be done using isometric exercise. These are exercises in which the muscles contract, but the joint stays in one position. Isometrics help patient with osteoarthritis restore strength while protecting them

from further pain and irritation. As their muscles gain strength, they may notice less pain in the knee while feeling a sense of ease with walking and doing general activities. If patient found pain worse after exercise, the intensity should be reduced or halted until the symptoms have subside (Birchfield, 2001: 128).

3. Joint protection. Osteoarthritis of the knee may be more common in persons who perform heavy physical activity. Jobs that require heavy lifting together with high levels of squatting and kneeling are associated with high levels of knee osteoarthritis (Coggon et al, 2000: 1443). Patients with osteoarthritis of the knee should take joint protection and reduction of joint stress by adjust behavior that limit strain on knee, which includes

3.1. Avoid standing for greater than 10 minutes; instead use a high stool or take frequent rests.

3.2. Limit stair climbing; take the elevator, escalator, or ramp.

3.3. Avoid bending and squatting

3.4. Avoid low beds, chairs, and toilets; elevate them when possible.

3.5. Don't remain in the same position for a long time; get up and walk around periodically.

3.6. Use a chair with a straight back, high seat and arms, so they can push on the arms when getting up.

3.7. Use a cane, crutches or a walker, if physician recommends them, to reduce stress on weight-bearing joints.

3.8. Use carts, such as luggage carts, so they can push or pull instead of carrying heavy items.

4. Pain management. The main symptom of osteoarthritis is pain and the one that causes persons to seek treatment (Kee & Epps, 2001: 195; Chomchan & Waikakul, 1984: 137). When pain disrupts patients with osteoarthritis of the knee daily lives, they initiated self-care actions to help them to manage pain and allow them to continue with their usual activities. Self-care strategies to manage pain over the long term are an important factor in controlling the disease and maintaining a good quality of life.

Each person used a variety of combinations of treatments to relieve pain and help himself or herself to be as active as possible. If pain is not manage successfully, the individual favors the affected joint; surrounding muscles eventually weaken; the joint becomes less able to bear weight and maintain flexibility; and immobility, misery, dependence result (Kee, 1998: 21), and they feel that it discouraged them (Phakakrong Thangsuchon, B.E. 1999).

There are many treatment options available for pain management. The patients should have ability to select treatment that best meet their need for pain relief. If properly treated, patients can use this period of pain relief to increase their activity and build up strength in the affected joint (Burks, 2002: 32). The variety of methods selected at any one time may depend on a variety of factors such as pain intensity and what is available (Davis & Atwood, 1996: 236). For mild symptoms has found that acetaminophen is the drug of choice for mild to moderate arthritis pain. If the pain persists, then the non- steroidal anti-inflammatory drug may be prescribed. However the side effect of NSAIDs included gastric ulcers and renal insufficiency, especially in people over 60 years old and in patients at risk of developing gastrointestional adverse affects. (Dieppe, 1993 cited by Scott, et al., 1998: 549). To help prevent these side effects, patients should take NSAIDs with food and a glass of water and carefully monitors effect of drug when they use taken over extended periods such as symptoms of black stool or vomiting blood (Cooke, 2002).

In the past several years, the newer drugs are referred to as the cyclooxygenase (COX)-2 inhibitors. The new medications such as celecoxib (celebrex), rofecoxib (vioxx), only work against COX-2, and allow COX-1 to function normally. Because COX-1 helps to protect the stomach lining and prevent ulcers. Cox-2 has the enzymes that contribute to pain and inflammation. The NSAIDs inhibit both COX-1 and COX-2, hence their effectiveness in relieving pain and their dangerous gastrointestinal side effects. The COX-2 inhibitors relieve pain, but because they do not inhibit COX-1, the gastrointestinal tract is protected. However the effects of their long- term use are not yet clear(Kee, 2000: 205).

A new medical treatment currently approved for osteoarthritis of the knees, also called viscosupplementation, is injectible hyaluronates. This viscous fluid, which

naturally occurs in cartilage, is injected into the knee joints and has improved the symptoms of osteoarthritis and joint function (LaPrade, 1999: 876). Hyaluronates may help to heal cartilage defects that occur in osteoarthritis (Kee, 1998: 21).

Nonpharmalogic pain management may be useful in diminishing pain**.** Heat can provide analgesia, promote relaxation, and enhance flexibility of muscle and periarticular structures. Common methods for applying heat include electric pads, paraffin baths, ultrasound, and warm water baths. Payom Suwan (B.E. 2000) conducted quasi-experimental study of the effect of hot herbal compress. The result showed that the subjects who received hot herbal compression had more decreasing scores on joint pain, joint stiffness, and physical disability than those received only hot compression. Result of the study revealed the helpful treatment for the patients with osteoarthritis of the knee.

Self-care burden in osteoarthritis of the knee

The concept of Self-care burden is derived from Oberst and colleagues (1991). Perceived demand or change and difficulty in universal and health-deviation self-care activity, the product of which describes numerically the concept of burden, were measured using the Self-Care Burden Scale.

Oberst (Oberst, et al., 1991) studied the self-care burden, stress appraisal and mood in 72 cancer patients during radiation therapy. The result showed that among health deviation self- care demands, coming for treatment was the most demanding, and self-treatment, such as administering medications, was the most difficult. Universal self-care activities most disrupted by treatment were social and recreational activities. Path analysis revealed that dependency on others was the best predictor of burden associated with health deviation self-care, while symptom distress was the best predictor of universal self-care burden. It was explained that self-care tasks might be more burdensome when they cannot be accomplished independently and symptom distress experience was produce disruption of daily activities and considerable self-care burden. Moreover, changes in universal self-care demands strongly affect the formulation of negative appraisals of the illness, leading to appraisals of the illness situation as stressful. One year later, Munkres and colleagues

(Munkres, et al., 1992) studied to explore response differences in 60 patients receiving chemotherapy for new versus recurrent cancer. This study was consistent with the study of Oberst (Oberst, et al., 1991). They also reported self-care burden was predicted best by economic status.

To perform self-care behavior, the patients with osteoarthritis of the knee must use their effort in taking whatever action they judge to be appropriate, even though it is neither pleasurable nor appealing to them (Orem & Taylor, 1986 cited by Somchit Hanucharurnkul, B.E. 2540: 34). If patients are able to perform self-care actions and adhere to the treatments recommended for osteoarthritis of the knee, they can expect to have better functional capabilities and quality of life.

Quality of life of patients with osteoarthritis of the knee

Quality of life is a multidimensional construct and it is an appropriate outcome for measuring the impact of patient care. In the research on quality of life, most of studies focus on patients' perception of their quality of life, especially patient with chronic illness (Macmillan, 1996). Patient quality of life is an increasingly important outcome measure in medicine and healthcare. It is now widely used in clinical trials and in patient management for assessing morbidity and the impact of treatment (Spilker, 1996 cited by Rees, et al., 2001: 563). In Medline database, using the key word "quality of life" in the field MeSH terms, for the years 1980, 1990 and 2000, it will obtain 389, 1220 and 4133 published articles, respectively (Mapi Research Institute, 2002).

Quality of life is a complex, elusive concept. Different researchers define it in different ways. Sometimes, the term Quality of life, life satisfaction or well-being were often used interchangeably (Jakobsson & Hallberg, 2002: 433). In reviewing the literature on quality of life, Frank-Stromborg (Frank-Stromborg, 1988 cited by Canam& Acorn, 1999: 193) found a variety of terms equated with quality of life: life satisfaction, self-esteem, well-being, health, happiness, adjustment, value of life, meaning of life, and functional status. Quality of life was defined as the perceptual

component of overall satisfaction with life including subjective and objective indicators (Penckofer & Holm, 1984: 60). Quality of life has been described in terms of objective measures, such as income, housing, physical functioning, work, socioeconomic status, and support networks, and in terms of subjective measures, such as attitudes, perceptions, aspirations, and frustrations (Canam & Acorn, 1999: 193).

In this study, quality of life was measured by the Self-Anchoring Striving Scale. Two major components of quality of life, happiness and satisfaction were identified from the quality of life research of Cantril and Orem's concept of well- being. Satisfaction is an evaluative or cognitive aspect of experience that is defined as the perceived discrepancy between aspiration and achievement. Satisfaction as a conceptualization of QOL is related closely to happiness, although they are not synonymous. Happiness characterizing the emotional and satisfaction measuring the cognitive component of subjective well-being (Rubin, 2000: 21).

The impact of chronic illness on quality of life is an increasing concern to heath care professional. One of the reasons behind the rapid development of quality of life measures in health care has been the growing recognition of the importance of understanding the impact of healthcare interventions on patients' lives rather than just on their bodies. This is particularly important for patients with chronic, disabling, or life threatening diseases who live without the expectation of cure and have conditions that are likely to have an impact on their physical, psychological, and social well-being (Addington & Kalra, 2001: 1417).

Osteoarthritis of the knee can cause severe pain and can impair function and reduce quality of life. Cure is not a realistic expectation for osteoarthritis patient (Burckhardt, 1985: 11). Patient with osteoarthritis of the knee had focused on clinical trials and assessed morbidity and the impact of treatment that have been associate to quality of life in this population (Briggs, et al., 1999; McGuigan, et al., 1995; Colker, et al., 2002). However, the continued increase impact among persons with osteoarthritis of the knee that support the need for continued research for self-care to maintain health and to promote quality of life.

There has been proliferation of research on quality of life in clinical research. However, five researches were found that studied the quality of life of patients with osteoarthritis of the knee in Thailand as follows:

In a study of 100 elderly people with osteoarthritis of the knee, Yupin Gorin (B.E 1993) constructed the quality of life interview form, which based on modified arthritis impacts measurement scales (MAIMS) of Selman and Roy's adaptation model to measures perceptions about the impact of osteoarthritis on quality of life. The quality of life of the elderly with osteoarthritis was at moderate level. Quality of life of the female elderly with osteoarthritis was lower than for males, especially in interdependent mode.

Khanokporn Sucamvang (B.E. 2540) studied to examine the casual relationship among severity of illness, knowledge of disease, sense of coherence, coping, and quality of life. The Cantril Self anchoring Striving scale (CSAS) (Cantril, 1965 cited by McKeehan, et al. 1986) was used to measures the quality of life of 150 elderly osteoarthritis elderly. The result showed that the quality of life of the elderly with osteoarthritis was at high level. Coping, sense of coherence, and knowledge of disease positively effect on quality of life and these variable can explain 95% of variability in quality of life.

Superb Aree-ue (B.E. 2540) studied impact of illness and quality of life in elderly women with osteoarthritis of the knee. The study indicated that the women perceived moderate level of quality of life that measure by The Cantril Self anchoring Striving scale (CSAS) (Cantril, 1965 cited by McKeehan, et al. 1986) and stress and palliative coping were the significant predictors variance of perceived quality of life.

Pranee Kanjanavorawong (B.E. 2540) used Zhan' s concept as a framework for studied the quality of life in subjectivity among 100 elderly patients with osteoarthritis of the knee. The quality of life in the elderly with osteoarthritis of the knee was fair. Age, duration of illness and severity of the disease correlated negatively to the quality of life but the marital status, education and income correlated positively to the quality of life. Moreover severity of the disease and patient' s income were predictors accounting for 81.09 percent variance in the degree of the quality of life.

Ngamsutikul (2001) studied comparison of quality of life between osteoarthritis knee patients and non-osteoarthritis knee patients. The result indicated that the quality of life of the patients with osteoarthritis of the knee was lower than patients with other orthopaedic conditions. In addition, when patients with osteoartritis of the knee were divided into 3 groups such as mild, moderate, and severe symptom. Patients with moderate and severe symptom have also been shown to have lower quality of life scores than patients with mild osteoarthritis patients, particularly on physical and psychological function.

The review of studies showed inconsistency in the level of quality of life among patients with osteoarthritis of the knee. One reason for this is different regarding the conceptual definition of quality of life (Ferrans, 2000 cited by Hacker, 2003: 614) and measurement quality of life. Two of these studies used the Cantril Self anchoring Striving scale (CSAS) (Cantril, 1965 cited by McKeehan, et al., 1986), two used investigator-developed instruments, and one used the World health organization Quality of life (WHOQOL) to measure quality of life.

The relationship between self-care burden and quality of life

Research base on Oberst's concept reveals that self-care burden leading to appraisals of the illness situation as stressful. Nongnut Boonyoung (B.E. 2536) studied relationships among self-care burden and quality of life of 90 kidney transplanted patients. It was found that there was a significantly negative relationship between self-care burden and quality of life. In addition, self-care burden and quality of life were studied in other patients such as waiting-kidney transplant patients, post mechanical valvular replacement patients, this result was similar to other studies that perform by the researchers as follow:

Tippawan Wangpe-tra (B.E. 2541) studied the relationships between Self-care burden and quality of life among waiting-kidney transplant patients. Results of the study show that subjects reported a moderate mean score on self-care burden and high mean score on quality of life. Self-care burden had significantly negative correlation with quality of life ($r = -.41$, $p < .001$).

Prissana Attaphon (B.E. 2543) studied the ability of self-care burden to predict the quality of life of 170 post mechanical valvular replacement. Oberst' s concept of self-care burden and Zhan' s concept of the quality of life were used to guide the study. The results revealed that negatively significant correlation between self-care burden and quality of life ($r = -.30$, $p < .001$) and self-care burden explained 9 % of the variance of quality of life ($R2 = .09$, $p < .001$).

In summary osteoarthritis is chronic and incurable. Even though it is not life threatening but it can significantly change lifestyle to patients than previously. Associated pain that can be difficult to control affects the quality of life. Therefore, assessing patients' quality of life throughout the osteoarthritis experience has become very meaningful.

CHAPTER III
MATERIALS AND METHODS

This descriptive study was conducted to determine the Self-Care Burden and Quality of Life of patients with osteoarthritis of the knee, and the relationship between Self-Care Burden and Quality of Life .

Population and Sample

The target population of this study was patients who had osteoarthritis of the knee and visited the outpatient orthopaedic department of Hatyai Hospital, Songkhla Province. The subjects were purposively selected using the following inclusion criteria.

1. Aged 40 years or older
2. Diagnosed with osteoarthritis of the knee by Orthopaedists
3. No history of orthopedic surgery for osteoarthritis of the knee
4. Able to communicate well in Thai
5. Willing to participate in the study.

Purposive sampling was used to recruit 114 patients with osteoarthritis of the knee. The sample size for the study was calculated by selecting significance criterion = 0.05, effect size r= 0.20 and desired power of test = .80 (Cohen, 1988:101).

Exclusion criteria

Patients who had osteoarthritis of the knee, but whose chief complaint for this visit was not related to the symptoms of osteoarthritis were excluded.

Setting of the study

This study was conducted at the Orthopaedic clinic of Hatyai Hospital, a regional hospital of 640 beds. The Orthopedic clinic provides service Monday to Friday from 8.00-12.00 noon. The providers are 1-2 orthopaedists, 1 registered nurse, and 2 nurse aids who service 80-100 patients each day. There is no specific health education program for patients.

Instruments

The questionnaire used in this study had 3 parts: (1) Demographic and Clinical Data Form, (2) Cantril Self -Anchoring Striving Scale, and (3) Self-Care Burden Scale.

1. Demographic and Clinical Data Form

The researcher developed this part of questionnaire. It consisted of questions about age, gender, body mass index, religion, marital status, educational level, the method of payment of treatment, occupation, duration of being diagnosed with osteoarthritis of the knee, affected knee joint, difficulty of mobility, activities of daily living, ability to work, source of information about self-care practices, exercise, method of treatment and other diagnoses.

2. Cantril Self -Anchoring Striving Scale

The researcher used the Cantril Self-Anchoring Striving Scale for measuring patient's quality of life. Cantril and his colleagues designed this questionnaire using a likert-type instrument with vertical continuum instead of the usual horizontal continuum (Cantril, 1965 cited by McKeehan, et al. 1986). For this study, the questionnaire consisted of two items, life satisfaction and happiness based on Orem's Concept of the quality of life. When the scale is administered, a drawing of a ladder with 10 steps is presented for each of the items. The subjects were asked to indicate their position on the ladder for each item. The choices in response range from the top step (10) representing very satisfied or very happiness to the step (0) representing very dissatisfied or unhappiness. The possible total score for quality of life range from 0 to 20 with higher scores representing better quality of life. To assist in interpretation, the mean of self- care burden was classified into three categories:

a) Low quality of life score from 0 to 6.66,
b) Moderate quality of life score from 6.67 to 13.33 ; and
c) High quality of life score from 13.34 to 20.

Validity and Reliability

The Cantril Self-Anchoring Striving Scale with two items, life satisfaction and happiness had been used in the study by Khanokporn Sucamvang (B.E. 2540). This tool was validated for language used and content by six experts. After editing and testing among 30 elderly patients with osteoarthritis of the knee, the Cronbach's alpha coefficients were .79 and .86 when used with 150 elderly patients with osteoarthritis of the knee.

Prior to this study, the researcher tested this tool with 20 patients with osteoarthritis of the knee who had similar characteristics to the subjects. Reliability was established by internal consistency, the alpha coefficient for this tool was 0.94. When this tool was used with 114 patients in this study, cronbach's alpha was 0.92.

3. Self-Care Burden Scale

The self-care burden scale is a self-administered questionnaire designed to determine self-care demands or changes in demands as a result of illness and also measures the difficulty a patient experiences in attempting to meet those demands. Oberst (Oberst, et al., 1991) developed this questionnaire. The original scale was designed to measure self- care burden in cancer patients.But the response to self- care demand may vary according to illness and psychosocial environments. Characteristics associated with self-care for patients with osteoarthritis of the knee may differ from cancer patients. For this study the researcher modified the Self-Care Burden scale to make it more specific and suitable for patients with osteoarthritis of the knee, based on the concept of Self-Care Burden (Oberst, et al., 1991), a literature review of osteoarthritis of the knee, and self-care deficit nursing theory (Orem, 2001).

The instrument consists of 20 self-care tasks, each item requires two responses: (a) the extent of demand or change (b) the amount of difficulty or bother associated with the task. A 5 point Likert scale was provided for the response to each item. A burden score is calculated for each item by multiplying demand by difficulty; a square root transformation is used to return the score to the original metric range. The possible total score of self- care burden ranges from 20 to 100. To assist interpretation, the mean of self- care burden was classified into three categories. Í

low self- care burden score from 20 to 46.66;

moderate self- care burden score from 46.67 to 73.33; and

high self- care burden score range from 73.34 to 100.

Validity

Content validity was established by 5-experts; 2 orthopaedists, 1 clinical nurse specialist in orthopedics and 2 staff nurses working in orthopaedic ward. The questionnaire was modified as the experts recommended. All agree to test the applicability of the questionnaires. (The experts' names: Appendix C).

Reliability

This tool was tested with 20 patients with osteoarthritis of the knee who had similar characteristics as the subjects. Reliability was established by internal consistency, the alpha coefficient for this tool was 0.72. When this tool was used with 114 patients in this study, the cronbach's alpha was 0.78.

Protection of Human Subjects

The human rights of the subjects were respected in this study. The data was collected after approval obtained from The Committee on Human Rights related to research involving human subjects, and the director of Hatyai Hospital. The subjects were informed about the purpose of the study and their right to decline or to withdraw from the study at any time. Their names were not attached to the data, but a code number was used on the questionnaires for identification. Subjects were assured that the data would be kept confidential and reported only as group data.

Data collection

Following approval from the Faculty of Graduate Studies and institutional and the committee on the Protection of Human Subjects in Research at Hatyai Hospital, the data collection started.

1. The researcher contacted the head nurse of the outpatient Department to ask her permission and explain the research objectives and ask for cooperation in collecting data.

2. From the orthopaedic clinic's daily medical records the researcher selected eligible subjects according to the inclusion criteria. The researcher contacted

eligible subjects and asked for their participation, having described the objectives of the research and the protection of the human rights of the subjects. The subjects were asked to sign a consent form when they expressed willingness to participate in the research.

3. The researcher asked the subjects to complete the questionnaires, and then the researcher checked for missing data to ensure the questionnaires were complete. For subjects who could not read and complete the questionnaire by themselves, it was read to them as a structured- interview by the researcher. The interview took about 15-20 minutes for each subject.

4. The researcher reviewed all the data, discarded the questionnaires that had incomplete answers, and prepared the data for analysis.

Data analysis

The SPSS for Windows version10.0 was used for data analysis.

1. Demographic data was analyzed by using frequency, percentage, range, mean and standard deviation.
2. Self-Care Burden was analyzed by using mean and standard deviation.
3. Quality of Life was analyzed by using mean and standard deviation.

The relationship between Self-Care Burden and Quality of Life were analyzed by using Pearson product moment correlation coefficient.

CHAPTER IV
RESULTS

A descriptive study was conducted to determine the Self-Care Burden, Quality of Life, and the relationship between Self-Care Burden and Quality of Life, of patients with osteoarthritis of the knee. One Hundred and fourteen subjects met the inclusion criteria during the period of data collection from May 2003 to September 2003. Descriptive statistical analysis was used in terms of frequency, percent, mean and standard deviation. After testing for normal distribution, Pearson correlation coefficient was performed to determine the relationship between Self- Care Burden and Quality of Life. The results are presented as follows:

Part I: The demographic data of the subjects;
Part II: Self- Care Burden and Quality of Life of subjects, and
Part III: Relationship between Self- Care Burden and Quality of Life among the subjects.

Part I: Demographic data of the subjects

Characteristics of the subjects

This study included 97(85.1%) women, 46 (47.4 %) young old (60-74 years) with a mean age of 61.57 years (SD = 12.47). Almost all of them were Buddhist (95.6%). The largest group, 77 samples (67.5%) received high school education while 23 (20.2%) had no formal education. Most of them (95.6%) perceived that they had sufficient income. The majority of samples 77 (67.5%) were married. Half (50%) had government officer welfare for payment of treatment and most (95.4 %) had an adequate income. The period time since being diagnosed with osteoarthritis of the knee of the samples was 2 to 15 years (M= 4.2). More than half (55.3%) were overweight with BMI > 23 kg/m^2. Twenty–four point five percent performed exercise regularly. About half of them (58.7%) were affected by osteoarthritis in both knees.

The majority of the group had difficulty with rising from sitting (88.6%) and squatting (73.7%). However, nearly all of them performed self-care activities by themselves and one patient used walking aids. The majority of subjects (56.1%) were agriculture. When unemployed patients were excluded, only 15.3% performed their work regularly. Eighty- nine point five percent of samples had received self-care instruction for patients with osteoarthritis of the knee and most of these had been provided self-care instruction by a doctor. The details of demographics are shown in Table 1 and Table 2.

Table 1. Characteristics of the subjects: frequency, percentage

Characteristics	Frequency	Percentage
Gender		
Male	17	14.9
Female	97	85.1
Age (years)		
40-59	46	40.4
60-74	54	47.4
75-84	13	11.4
85-90	1	0.8
Body mass index (Kgs/m^2)		
< 23	51	44.7
≥ 23	63	55.3
Religion		
Buddhism	109	95.6
Islam	5	4.4
Marital status		
Single	5	4.4
Married	77	67.5
Widowed/ divorced/ separated	32	28.1
Educational Level		
No- study	23	20.2
Primary school	77	67.5
High school	8	7.0
Bachelor degree or higher	6	5.3

Table 1. (Continue)

Characteristics	Frequency	Percentage
Sufficiency of income		
Sufficient	109	95.6
Insufficient	5	4.4
The method payment of treatment		
Government officer welfare	57	50.0
Heath insurance	52	45.6
Social insurance	5	4.3
Present Occupation		
None	29	25.4
Still working	85	74.6
Government official	7	6.1
Merchant	18	15.8
Agricultural	64	56.1
House wife	5	4.4
Employee	20	17.5
Affected knee joint		
Both knees	67	58.8
Single knee	47	41.2
Difficulty with mobility (One patient may have more than one answer)		
Rising from sitting	101	88.6
Squatting	84	73.7
Speed up walking	65	57.0
Prolonged standing	65	57.0
Prolonged walking	59	51.7
Up- down stairs	57	50.0
Carrying	36	31.5
Activities of daily living		
Doing self-care activities by self	113	99.1
Able to perform activities with assistance from device	1	0.9
Ability to work (n= 85)		
Regularly	13	15.3
Decreased ability to work	72	84.7

Table 1. (Continue)

Characteristics	Frequency	Percentage
Source of information about self-care practice(One patient may have more than one answer)		
Doctor	85	74.5
Nurse	20	17.5
Person with same diagnosis	20	17.5
Nothing	12	10.5
Relatives or friends	8	7.02
Exercise		
Regularly	24	21.0
Sometimes	76	66.7
Do not exercise	14	12.3
Other Diagnoses		
None	80	70.2
GI system	22	19.3
Hypertension	7	6.1
Diabetes	5	4.4

Table 2. Range, mean, and standard deviation of age, period since being diagnosed with osteoarthritis of the knee and BMI of the subjects.

Characteristics	Range	Mean	SD
Age	40- 87	61.6	12.5
Period since being diagnosed with osteoarthritis of the knee	2-15	4.2	4.0
Body mass index	18.3- 29.1	24.7	4.6

Part II: Self- Care Burden and Quality of Life of subjects

Table 3. Range, mean and standard deviation of Demand, Difficulty, Self-Care Burden, and Quality of Life (n = 114)

Variables	Possible Range	Actual Range	Mean	SD
Demand	20-100	59.0-96.0	74.5	7.85
Difficulty	20-100	39.0-74.0	53.6	6.78
Self- Care Burden	20-100	52.6-83.5	62.9	5.82

The possible range of the self-care burden score is 20 –100. The self-care burden consisted of two parts: demands as a result of illness and difficulty experienced in attempting to meet those demands. The mean score of the self-care burden, and the two parts were: the self-care burden score= 62.9, demand with self-care tasks =74.5, and difficulty with performing self-care demands = 53.6, indicating that the total self-care burden score of patients with osteoarthritis of the knee in this study was moderate and the mean score of demand of self-care tasks was higher than the mean score of difficulty with these tasks.

Table 4. Range, mean and standard deviation of Self-Care Burden by the three highest and lowest mean score items (n=114)

Item	Possible Range	Actual Range	Mean	SD
Highest				
11. Avoid sitting on the floor, for example sitting on the heels, sitting cross-legged, or standing/walking for a long time.	1-5	2-5	3.66	.75
1. Resting knee joint when severe pain.	1-5	1-5	3.53	.77
6. Keeping body weight, not too obese.	1-5	1-5	3.49	1.15
Lowest				
12. Using supportive device while standing or walking.	1-5	1-4	2.04	.81
5. Asking a doctor about severity of the disease and treatment plan.	1-5	2-4	2.77	.63
7. Responsibility for expenditure	1-5	1-5	2.85	.88

From Table 4, the three highest mean score items were “Avoid sitting on the floor, for example sitting on the heels, sitting cross-legged, or standing/walking for a long time.”(M= 3.66), “Resting knee joint when in severe pain.” (M=3.53), and “Keeping body weight, not too obese.”(M= 3.49). The three lowest mean score items were “Using supportive device while standing or walking.” (M=2.04), “Asking a doctor about the severity of the disease and treatment plan.” (M=2.77), and “Responsibility for expenditure” (M= 2.85).

Table 5. Frequency, percentage of Quality of Life among the subjects (n=114)

Quality of Life	Possible Range	Actual Range	Mean	SD
Life satisfaction	0-10	5-10	8.56	1.95
Happiness	0-10	4-10	8.41	1.91
Quality of Life	0-20	9-20	16.96	3.72

The Quality of life scale consists of 2 subscales: satisfaction scale and happiness scale. The possible range of Quality of life is 2 to 20. The total Quality of Life score of the sample was high (M= 16.63, SD= 3.72).

Part 3: Relationship between Self-Care Burden, and Quality of Life of the subjects

Pearson correlation coeffient was used to identify the relationship between Self- care burden and Quality of life of the patient with osteoarthritis of the knee. Komogorov Smirnov test indicated that Self- care burden scores and the Quality of life score had normal distribution. The Self- care burden had a significant negative correlation with Quality of life. ($r = -.253$, $P< 0.01$)

CHAPTER V
DISCUSSION

A descriptive study was conducted to determine Self-Care Burden, Quality of Life, and the relationship between Self-Care Burden and Quality of Life of patients with osteoarthritis of the knee. Discussions of the study results were present in this chapter.

Characteristics of the subjects

The 114 patients with osteoarthritis of the knee were included in this study and their age range from 40- 87 years with the mean of 61.6 years. Age of patients in this study was congruent with previous studies that people in middle-age and older are most often affected by osteoarthritis of the knee (Viroj Sukornsogi,B.E. 2535; Marisa suwanraj, B.E. 2543; Ngamsutikul, 2000). This could be explained that middle-age and older populations more frequently encounter other risk factor in long period of the degenerative than younger peoples.

Most of study found that osteoarthritis of the knee affected women more often than men (Yupin Gorin, B.E.2536; Kanokporn Sucamvang, B.E.2540; Vaewdow Taveechai, B.E.2541: 58; Marisa suwanraj, B.E. 2543). In this study, there were only 17 males (14.9%) and 97 females (85.1%). Considering the fact that women greater life- expectancy than men, and gender is also increased prevalence of osteoarthritis in women following the menopause. The high incidence of osteoarthritis in women just after menopause has suggested that estrogen deficiency play a role in causing disease (Felson, et al., 2000: 637).

The majority of subjects (67.6%) were married and 22.7% were widowed. The educational background of the subjects was mainly primary school (67.6%) and founded that 20.2% of the subjected had no formal education. This finding was consistent with other studies in patients with osteoarthritis of the knee (Pranee karnjanavorawong, B.E. 2539; Vaewdow Taveechai, B.E. 2541). Most of them (95.6%) perceived that they had sufficient income. It may be explained that the

subjects had received supporting for payment of treatment by universal coverage (45.6%) and government officer welfare (50%) could help the subjects save money for medical expenses.

The duration of having diagnosis with osteoarthritis of the knee range from 2-15 years. The mean and standard deviation of duration were 4.4 years and 4 years, respectively. About half of them (58.8%) had affected from osteoarthritis in both knees. More than half of subjects (55.3%) had BMI $\geq$ 23 kg/m^2 define as overweight. Being overweight increases the chances of developing osteoarthritis of the knee. The results were similar to those of the previous studies (Ngamsutikul, 2000: 82; Vaewdow Taveechai, B.E. 2541) which found that most of the subjects were overweight. Only 21 % of the subjected performed exercise regularly, 66.7% of the subjected were sometimes exercise, and 12.3% of these subjects do not exercise. Types of exercises included range of motion and walking. Some patients said that they did not exercise, their reasons were no time, forgot and osteoarthritis symptoms such as pain limit them to do that.

Most of them (89.4%) had provided self-care information and only 17.5% had received these self-care informations from nurse. It might be that the orthopaedic outpatient clinic provides service to 80-100 patients each day, but only one register nurse and 2 nurses aide. Nurse usually busy with their routine work so patients may not have enough self-care information. To further develop is need specialized clinical nurses caring able to provide care and to disseminate self-care information to the osteoarthritis of the knee patients. To adequately explain details of self-care demands and help patients to be able to practice self-care action sufficiency.

Most of the subjects (70.2%) had no other chronic disease. However, 19.3% had gastrointestinal (GI) upset. One reason could be that around of the subjects (75.8%) used oral medicine for pain management and maybe take NSAIDs. The most common side effects of NSAIDs are stomach upset, indigestion, and nausea. Most of subjects were diagnosed with osteoarthritis of the knee for more than two years. Open sores on the gastric ulcers may occur in patients who take NSAIDs for a long time.

Self-Care Burden in the patients with osteoarthritis of the knee

In this study, self- care burden was measure by Self-Care Burden Scale. The total score range from 52.6 – 83.5. The mean score of the self-care burden score was 62.96. It suggested that the patients with osteoarthritis of the knee had moderated self-care burden. When considering the part of self-care burden; demand/change and difficulty response, the mean score of demand with self-care tasks were rather high (M = 74.45) and the mean score of difficulty related to this task were found to moderate (M = 53.58). The results showed that 113 patients (99.1 %) perform self-care by themselves. It might be explained that almost all of patients could perform independently self-care. Oberst and colleagues suggested that self-care tasks might be more burdensome when they cannot be accomplished independently. Dependency on others has been reported to predict perceptions of self-care burden (Oberst, 1997: 77).

They perceived the item "Avoid sitting on a floor, for example sitting on the heels, sitting cross-legged, or standing/walking for a long time." as the highest score of self-care burden (M = 3.66). It was suggested by the samples perceived that to reduce the risk of osteoarthritis of the knee these postures should be avoided. But avoiding these behaviors is quite difficult. The possible reasons are that in rural area Thai people have a habit to sit on the floor in some positions such as squatting, kneeling, Thai traditional sitting, and Indian sitting. Some patients reported that when they go to temple although the temple provides chairs for them but they did not sit on because of they do not want to differ from other persons. Patients in this group accepted that when they want to stand up, they need someone to help them. Besides, the majority of the groups are agriculture. Planting is job involving a lot of bending. They had difficulty to avoid, therefore, the highest self-care burden score was reported in this item.

Quality of Life

The Quality of life scale consists of 2 subscales: satisfaction scale and happiness scale. The possible range of Quality of life is 0 to 20. Total Quality of Life score of the sample was high (M = 16.96) (Table 5). This means that the subjects had high senses of happiness and satisfaction in overall of life. This finding was consistent with the study in elderly patients with osteoarthritis of the knee by Khanokporn Sucamvang (B.E. 2540). The result may be the consequences of several factors. First,

severity of disease, although this study did not take assessment for the severity of disease, most of subjects in this study were able to perform activities daily living by themselves. It may be indicated that the subjects of this study were not severe symptom. The result agree with previous studies in patients with osteoarthritis of the knee which found that the quality of life score in mild and moderate group were higher than severe group (Pranee Karnjanovorawong, B.E. 2539, Ngamsutikul, 2000). Second, income, most of subject perceived they had sufficient income and had received supporting for payment of treatment by universal coverage (45.6%) and government officer welfare (50%).

Part 3: Relationship between Self-Care Burden, and Quality of Life of the subjects

The result revealed that self-care burden had significantly negative correlation with Quality of life ($r = -.253$, $P< 0.01$). Indicating that, patients who had low self-care burden had high quality of life, on the other hand, patients who had high self-care burden had low quality of life. This result support the hypothesis and congruent with the finding in this study that the subjects perceived self-care burden as moderate and high quality of life. However the correlation coefficient was low level thus the result were not as indicated. The result consistent with previous studies (Nongnut Boonyoung, B.E. 2536; Tipawan, Wangpe-tra, B.E. 2541; Prissana attaphon, B.E. 2543) in kidney transplant patients, waiting kidney transplant patients and cardiac valvular replacement patients, respectively.

Nurses should detect ease burden through individual assessment, especially in self-care tasks, which reported as most difficult and burdensome. In order to give specific instruction and nurses should have time for them to consult and advice a simple and possible way to perform self-care action. Appropriate nursing care might help patients to set more reasonable activity goals. Expectation for positive outcome of self-care action may reduce perceived of self-care burden and contributes substantially to quality of life.

CHAPTER VI
CONCLUSION

Conclusion

This descriptive study aimed to determine the Self-Care Burden and Quality of Life, and the relationship between Self-Care Burden and Quality of Life among patients with osteoarthritis of the knee. Orem's Theory of Self-Care and Oberst 's concept of self- care burden were used as the Conceptual Framework.

The purposive sampling of this study was 114 patients with osteoarthritis of the knee attending the Orthopaedic clinic of the Out-patient Department of Hatyai Hospital. The data was collected from June to September 2003. The inclusion criteria were: 1) aged 40 years or older; 2) diagnosed with osteoarthritis of the knee by orthopaedists; 3) no history of orthopedic surgery for osteoarthritis of the knee; 4) able to communicate well in Thai; and 5) willing to participate in the study. All patients who met the criteria were asked to participate in this study.

The instruments for this study included: 1) the demographic information form for collecting the personal characteristic data of the patients; 2) the self-care burden scale for patients with osteoarthritis of the knee; and 3) the Cantril Self-Anchoring Striving Scale for measuring patient’s quality of life (Cantril, 1965 cited by McKeehan, et al. 1986). The self-care burden scale was modified based Oberst 's concept of self- care burden. These instruments were tested for validity by 2 orthopaedists, 1 clinical nurse specialist in orthopedics and 2 staff nurses working in orthopaedics ward in orthopedics. To ensure applicability and reliability the instrumetns were trial on 20 patients with osteoarthritis of the knee. The test had an alpha Cronbach’s coeffiency reliability value of 0.72 on the self-care burden scale. The Cantril Self-Anchoring Striving Scale had an alpha value of 0.94. Alpha Cronbach’s coeffiency reliability in 114 samples of the Self-care Burden scale and the Cantril Self-Anchoring Striving Scale were 0.78 and 0.92 respectively.

Data was analyzed with SPSS/FW version 10.0, and the findings were;

1. Patients with osteoarthritis of the knee had a moderate level of Self-care Burden.

2. Patients with osteoarthritis of the knee had a high level of Quality of life.

3. Self-care Burden was negatively correlated with Quality of life ($r = -0.25$, $p = .01$).

Limitations

The subjects of this study were patients with osteoarthritis of the knee who were sampled from a hospital setting. The result of this study can not refer to the patients who did not go to hospital. Because some variables such as functional ability, severity of disease and social support differ from the subjects of this study.

Recommendations

The findings of this study provide considerations for nursing practice, nursing administration, and nursing research.

Recommendations for nursing administrators

This study found that although 88.9 % of the subjects received information about self-care only 17.5 % of the patients received this information from nurses. Nurse administrators need to support the role of advanced practice nurses to assist nurses who work with patients with osteoarthritis of the knee to provide appropriate information and develop the self-care ability of these patients.

Recommendations for nursing practice

1. More than half of these patients did not perform exercise regularly and there were patients who did not exercise at all. Nurses who work with patients with osteoarthritis of the knee can serve in both an educational and a supportive role for these patients and encourage them to establish realistic goals to start an exercise program and perform exercise regularly.

2. Most of these patients took pharmacologic strategies for relieving their pain. Nonsteroidal anti-inflammatory drugs (NSAIDs) may be used if analgesics such as acetaminophen have not worked to relieve knee pain. Pharmacologic strategies aimed at relieving pain are often limited by side effects. Nurses should advise these

patients that to relieve knee pain they should not depend on pharmacologic management alone but can protect their joints, weight loss if appropriate and do regular exercise.

Recommendations for future research

1. Studies on this topic should be done to explore the other factors that influence self-care burden.

2. Conduct intervention studies on the best ways to decrease self-care burden and evaluate the effectiveness of changing life style behaviors of patients with osteoarthritis of the knee.

3. Study on this topic in patients with osteoarthritis of the knee in the community who can not go to hospital, because they may have self-care limitations from variables such as functional ability, severity of disease and social support. For example, they may have no one to transport him or her to hospital, and even if they do have someone who can transport them to hospital, they are unable to get to the car. The self-care burden in these patients may differ from the subjects in this study.

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APPENDIX A

APPENDIX A
Research Consent Form

แบบพิทักษ์สิทธิ์ของกลุ่มตัวอย่าง

สวัสดีค่ะ ดิฉันนางสาวนงลักษณ์ จ่างตระกูล นักศึกษาพยาบาลปริญญาโทคณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มีความสนใจที่จะศึกษาความสัมพันธ์ระหว่างภาระในการดูแลตนเองและคุณภาพชีวิตของผู้ป่วยโรคข้อเข่าเสื่อม เพื่อใช้เป็นแนวทางในการให้การดูแลและให้คำแนะนำแก่ผู้ป่วยด้วยโรคข้อเข่าเสื่อมอย่างเหมาะสมต่อไป ดิฉันจะขออนุญาตคุณ…….....ในการให้ตอบแบบสอบถามโดยจะใช้เวลาในการตอบแบบสอบถามประมาณ 15 นาที คุณมีสิทธิ์ที่จะตอบรับหรือปฏิเสธในการตอบแบบสอบถามครั้งนี้ได้

ในระหว่างการตอบแบบสอบถาม หากคุณไม่ต้องการที่จะตอบแบบสอบถามจนครบ คุณสามารถที่จะยกเลิกการตอบแบบสอบถามได้ โดยไม่มีผลต่อการรักษาหรือบริการที่คุณจะได้รับ คำตอบของคุณดิฉันจะถือว่าเป็นความลับและจะนำมาใช้เฉพาะการวิจัยครั้งนี้เท่านั้น ขอบคุณที่ให้ความร่วมมือค่ะ

นงลักษณ์ จ่างตระกูล
(นางสาวนงลักษณ์ จ่างตระกูล)
นักศึกษาพยาบาลปริญญาโท

☐ ยินดีเข้าร่วมวิจัย

☐ ไม่ยินดีเข้าร่วมการวิจัย

ลงชื่อ.....

(.....)

ลงชื่อ.....….....พยาน

(.....)

...../...../.....

APPENDIX B

APPENDIX B
Questionnaires

คำชี้แจง แบบสอบถามชุดนี้มี 3 ตอนดังนี้

ตอนที่ 1 แบบสอบถามข้อมูลส่วนบุคคลของผู้ป่วยโรคข้อเข่าเสื่อม

ตอนที่ 2 แบบวัดคุณภาพชีวิต

ตอนที่ 3 แบบวัดภาระในการดูแลตนเอง

ตอนที่ 1 แบบสอบถามข้อมูลส่วนบุคคลของมารดาที่สูญเสียทารกในครรภ์

<u>คำชี้แจง</u> กรุณาตอบแบบสอบถามเกี่ยวกับตัวท่านโดยกาเครื่องหมาย ✓ลงในช่อง ☐ หรือเติมข้อความลงใน…….

1. เพศ
   - ☐ ชาย
   - ☐ หญิง
2. อายุ…….ปี
3. น้ำหนัก……..…...กก. ส่วนสูง……..……..ซม.
4. ศาสนา
   - ☐ พุทธ
   - ☐ อิสลาม
   - ☐ อื่นๆ (ระบุ)……..
5. สถานภาพสมรส
   - ☐ โสด
   - ☐ หม้าย
   - ☐ คู่
   - ☐ หย่า แยก
6. ระดับการศึกษา
   - ☐ ไม่ได้เรียนหนังสือ
   - ☐ มัธยมศึกษาตอนปลาย
   - ☐ ประถมศึกษาตอนต้น
   - ☐ ประกาศนียบัตร หรือ อนุปริญญา
   - ☐ ประถมศึกษาตอนปลาย
   - ☐ ปริญญาตรี
   - ☐ มัธยมศึกษาตอนต้น
   - ☐ สูงกว่าปริญญาตรี

7. ความสามารถในการประกอบอาชีพปัจจุบัน

☐ ประกอบอาชีพได้ตามปกติ หลังจากเป็นโรคข้อเข่าเสื่อม

☐ ประกอบอาชีพเดิมได้ลดลง หลังจากเป็นโรคข้อเข่าเสื่อม

☐ เปลี่ยนอาชีพ

อาชีพเดิม……

อาชีพปัจจุบัน……..

8. รายได้ของครอบครัวต่อเดือน

☐ เพียงพอ

☐ ไม่เพียงพอ

9. วิธีการเสียค่ารักษาพยาบาล

☐ จ่ายเอง ☐ บัตรผู้สูงอายุ

☐ เบิกค่ารักษาพยาบาลได้ ☐ ประกันสังคม

☐ ประกันสุขภาพถ้วนหน้า (30 บาท) ☐ อื่นๆ ระบุ……

10. เริ่มเป็นโรคข้อเข่าเสื่อมเมื่ออายุ…….ปี

11. ข้อเข่าที่เป็นโรคข้อเข่าเสื่อม

☐ เป็นทั้ง2 ข้าง

☐ เป็นข้างเดียว ระบุขาข้างที่เป็น……

12. การออกกำลังกายที่ทำในปัจจุบัน

☐ ไม่ได้ทำ

☐ ชนิดการออกกำลังกายที่ทำอยู่ในปัจจุบัน ระบุ……

18. โรคประจำตัวอื่น ๆ ที่เป็นและได้รับการรักษา

☐ ไม่มี

☐ มี

☐ ความดันโลหิตสูง ☐ โรคหัวใจ

☐ ไขมันในเลือดสูง ☐ โรคหอบหืด

☐ โรคเบาหวาน ☐ อื่น ๆ ระบุ……

☐ แผลในกระเพาะอาหาร

ตอนที่ 2 แบบวัดคุณภาพชีวิต (ประกอบด้วยข้อคำถาม 2 ข้อ)

คำชี้แจง 1. กรุณาวงรอบตัวเลขที่ตรงกับระดับความพึงพอใจในชีวิตในปัจจุบันของท่าน

10	**พึงพอใจอย่างเต็มที่**
9	
8	
7	
6	
5	
4	
3	
2	
1	
0	**ไม่พึงพอใจเลย**

คำชี้แจง 2. กรุณาวงรอบตัวเลขที่ตรงกับระดับความสุขในชีวิตปัจจุบันของท่าน

10	**มีความสุขอย่างเต็มที่**
9	
8	
7	
6	
5	
4	
3	
2	
1	
0	**ไม่มีความสุขเลย**

ตอนที่ 3 แบบวัดภาระในการดูแลตนเอง

คำชี้แจง การตอบแบบวัดภาระในการดูแลตนเอง โปรดแสดงความคิดเห็นของท่านในคำถามแต่ละข้อให้ครบทุกข้อ โดย " วงกลม" รอบตัวเลขที่แสดงถึงระดับความมากน้อยของความจำเป็นที่จะต้องทำกิจกรรมการดูแลตนเอง ในช่องความจำเป็นที่ต้องกระทำ และ" วงกลม" รอบตัวเลขที่แสดงถึงระดับความมากน้อยของความยากลำบากในการกระทำกิจกรรมการดูแลตนเองในแต่ละข้อเช่นเดียวกันในช่องความยากลำบากในการกระทำ ให้ตรงกับความคิดเห็นของท่านมากที่สุด คำตอบของท่านเป็นความคิดเห็นเฉพาะส่วนตัวของท่านเท่านั้น จึงไม่มีคำตอบข้อใดผิดหรือถูก

แบบวัดภาระในการดูแลตนเอง มีข้อคำถามทั้งหมด 20 ข้อ แต่ละข้อคำถามให้ท่านแยกตอบใน 2 ประเด็น ดังต่อไปนี้

ความจำเป็นที่ต้องกระทำ

1 คะแนน หมายถึง ท่านไม่มีความจำเป็นที่จะต้องกระทำในกิจกรรมนั้น
2 คะแนน หมายถึง ท่านมีความจำเป็นที่ต้องกระทำในกิจกรรมนั้นน้อย
3 คะแนน หมายถึง ท่านมีความจำเป็นที่ต้องกระทำในกิจกรรมนั้นปานกลาง
4 คะแนน หมายถึง ท่านมีความจำเป็นที่ต้องกระทำในกิจกรรมนั้นมาก
5 คะแนน หมายถึง ท่านมีความจำเป็นที่ต้องกระทำในกิจกรรมนั้นมากที่สุด

ความยากลำบากในการกระทำ

1 คะแนน หมายถึง ท่านไม่มีความยากลำบากในการกระทำในกิจกรรมนั้น
2 คะแนน หมายถึง ท่านมีความยากลำบากในการกระทำในกิจกรรมนั้นน้อย
3 คะแนน หมายถึง ท่านมีความยากลำบากในการกระทำในกิจกรรมนั้นปานกลาง
4 คะแนน หมายถึง ท่านมีความยากลำบากในการกระทำในกิจกรรมนั้นมาก
5 คะแนน หมายถึง ท่านมีความยากลำบากในการกระทำในกิจกรรมนั้นมากที่สุด

ตัวอย่าง

กิจกรรมการดูแลตนเอง	ความจำเป็นที่ต้องกระทำ					ความยากลำบากในการกระทำ				
	ไม่มี	น้อย	ปานกลาง	มาก	มากที่สุด	ไม่มี	น้อย	ปานกลาง	มาก	มากที่สุด
1. ลดน้ำหนักโดยการควบคุมและปรับการรับประทานอาหาร	1	2	3	④	5	1	2	3	4	⑤
2. บริหารกล้ามเนื้อต้นขา	1	2	3	4	⑤	1	2	3	4	⑤

คำอธิบาย

ข้อ1 ผู้ตอบมีความคิดเห็นว่าการลดน้ำหนักโดยการควบคุมและปรับการรับประทานอาหารเป็นสิ่งที่มีความจำเป็นที่ต้องกระทำมาก จึงวงกลมรอบตัวเลข 4 และมีความคิดเห็นว่ามีความยากลำบากมากที่สุดในการลดน้ำหนักโดยการควบคุมและปรับการรับประทานอาหาร จึงวงกลมรอบตัวเลข 5

ข้อ2 ผู้ตอบมีความคิดเห็นว่าบริหารกล้ามเนื้อต้นขาเป็นสิ่งที่มีความจำเป็นที่ต้องกระทำมากที่สุด จึงวงกลมรอบตัวเลข 5 และมีความคิดเห็นว่ามีความยากลำบากปานกลางในการบริหารกล้ามเนื้อต้นขาจึงวงกลมรอบตัวเลข 5

แบบวัดภาระในการดูแลตนเอง

กิจกรรมการดูแลตนเอง	ความจำเป็นที่ต้องกระทำ					ความยากลำบากในการกระทำ				
	ไม่มี	น้อย	ปานกลาง	มาก	มากที่สุด	ไม่มี	น้อย	ปานกลาง	มาก	มากที่สุด
1.พักการใช้ข้อเข่าเมื่อมีอาการปวดเข่า	1	2	3	4	5	1	2	3	4	5
……..	1	2	3	4	5	1	2	3	4	5
20.บริหารกล้ามเนื้อต้นขาโดยสม่ำเสมอ	1	2	3	4	5	1	2	3	4	5

APPENDIX C

APPENDIX C

List of Experts Consulted on Validation of Instruments

The following experts assisted the researcher in developing the instruments used in this study.

1. Mrs. Panida Chusuvan
   Orthopaedic ward, Songkhla Hopital

2. Miss Jintana Hariraksapitak
   Orthopaedic ward, Hatyai Hopital

3. Miss Jarunee Nantavanotayan
   Nursing Department,
   Faculty of Medicine, Ramathibodi Hospital, Mahidol University

4. Pairoj Warachit M.D.
   Orthopaedic Department, Hatyai Hospital

5. Amnat Meesajtham M.D.
   Orthopaedic Department, Hatyai Hospital

BIOGRAPHY

NAME	Miss.Nonglak Jangtrakoon
DATE OF BIRTH	13 December 1971
PLACE OF BIRTH	Songkhla, Thailand
INSTITUTIONS ATTENDED	Songkla College of Nursing, 1997: Certificate of Nursing& Midwifery. (Equivalent to B. Sc. Nursing) Mahidol University, 2003: Master of Nursing Science. (Adult Nursing)
POSITION AND OFFICE	Hatyai Hospital, Songkhla, Thailand Position : Registered Nurse 5 Tel. 0-7427-3156