FACTORS RELATED TO PREOPERATIVE COMFORT OF OLDER ADULTS WITH HIP FRACTURE IN WENZHOU, CHINA

QINGYUN WU

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR MASTER DEGREE OF NURSING SCIENCE
(INTERNATIONAL PROGRAM)
IN ADULT NURSING PATHWAY
FACULTY OF NURSING
BURAPHA UNIVERSITY
2024

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QINGYUN WU

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรพยาบาลศาสตรมหาบัณฑิต (หลักสูตรนานาชาติ)

คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา

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The Thesis of Qingyun Wu has been approved by the examining committee to be partial fulfillment of the requirements for the Master Degree of Nursing Science (International Program) in Adult Nursing Pathway of Burapha University

Advisory Committee

Principal advisor

..... (Associate Professor Dr. Jinjutha Chaisena Dallas)

Co-advisor

..... (Associate Professor Dr. Pornchai Jullamate)

Examining Committee

..... Principal examiner (Associate Professor Dr. Aporn Deenan)

..... Member (Associate Professor Dr. Jinjutha Chaisena Dallas)

..... Member (Associate Professor Dr. Pornchai Jullamate)

..... Member (Professor Dr. Chintana Wacharasin)

..... Dean of the Faculty of Nursing
(Associate Professor Dr. Pornchai Jullamate)
.....

This Thesis has been approved by Graduate School Burapha University to be partial fulfillment of the requirements for the Master Degree of Nursing Science (International Program) in Adult Nursing Pathway of Burapha University

..... Dean of Graduate School
(Associate Professor Dr. Witawat Jangiam)
.....

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There are so many evidences many shreds of evidence that support the negative consequences of older adult elderly patients with hip fractures. This study aimed to investigate the preoperative comfort and its related influencing factors among older adult elderly patients with hip fracture fractures in Wenzhou, China. Simple random sampling was used to recruit the sample of 128 older adults participants who had hip fracture fractures and met the criteria. Data was collected during April and June 2022. The instruments utilized for data collection encompassed a demographic data form and a questionnaire investigation form. The questionnaire survey encompassed included one screening four distinct questionnaire and four for collecting data. There was s, which included inquiries related to knowledge about the hip operation, readiness for the operation, the Kolcaba's comfort questionnaire, and a social support questionnaire. These assessments exhibited reliability scores of .94, .95, .99, and .94 respectively. Descriptive statistics and the Spearman correlation method were employed for data analysis.

The results revealed the mean score for the preoperative comfort of the subjects was in a moderate level (M= 68.50, SD=7.341). Spearman correlation results showed readiness for operation ($r=0.333$, $p<0.001$), knowledge about hip fracture ($r=0.296$, $p<0.001$), and social support ($r=0.226$, $p=0.010$) were significantly positively correlated with preoperative comfort. Therefore, nurses and healthcare providers should promote improve hip older patient's readiness for the operation, knowledge about hip fracture operation, and social support in order to promote encourage preoperative comfort.

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Qingyun Wu

TABLE OF CONTENTS

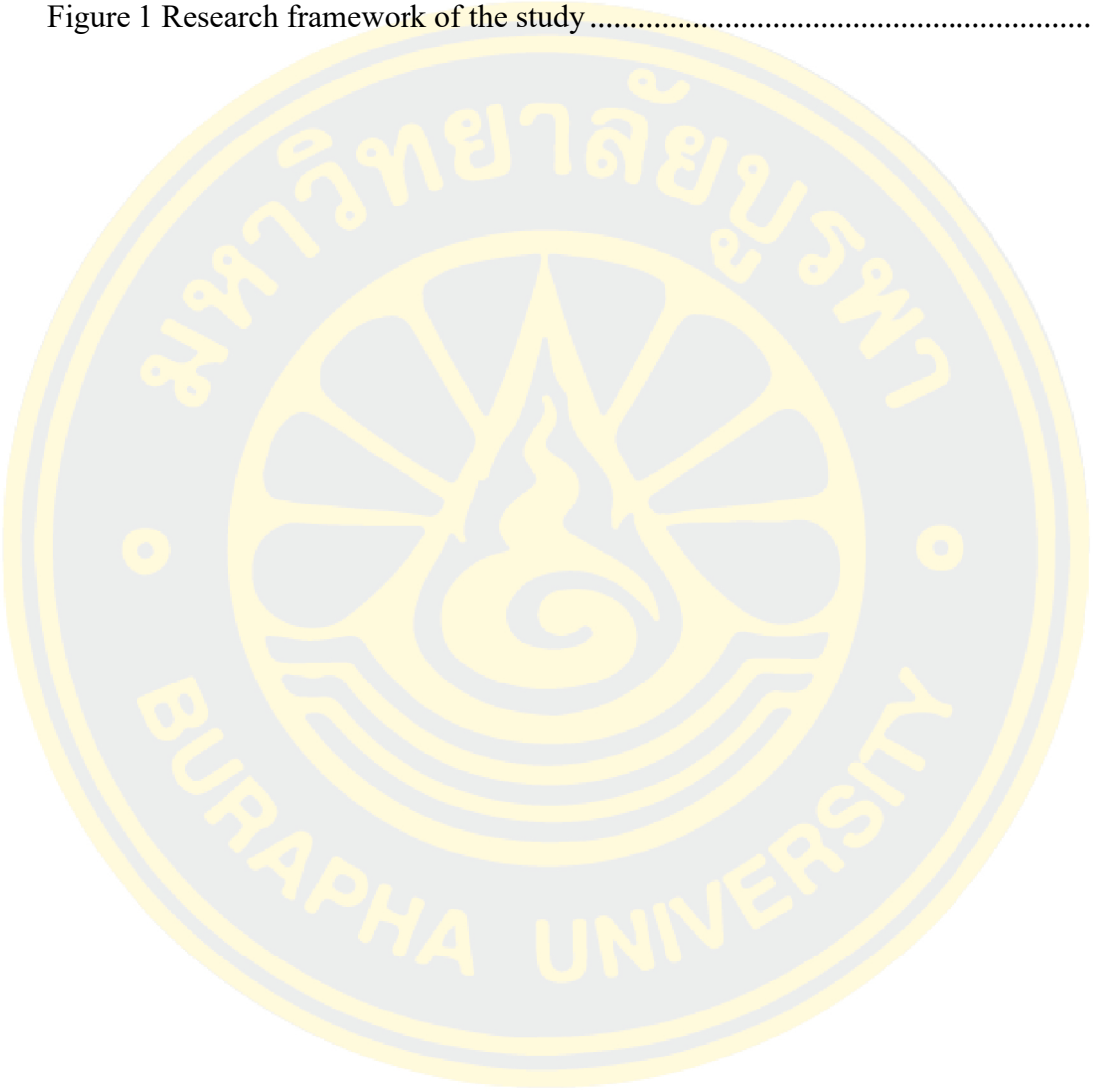
Page

LIST OF TABLES

Page

LIST OF FIGURES

Page



CHAPTER 1
INTRODUCTION

Background and significance of the study

Hip fracture is a common orthopedic problem. Based on preliminary epidemiological data, it is estimated that approximately 4.5 million hip fractures occur globally every year, with China accounting for over 30% of the world's total, which translates to over 1.3 million individuals affected. (Zhang et al., 2020). In Wenzhou, the incidence of hip fracture among women was 177 per 100,000, while among men it was 99 per 100,000. (Li et al., 2022). Due to the loss of flexibility and flexibility of the body in the old people, the elderly are often accompanied by osteoporosis. Hip fractures are more likely to occur after falls or knocks than younger people (Yue，R. et al., 2020; Zhao et al., 2020). Statistical data showing that the number of fractures increases with age, and hip fracture is most common between 60 and 79 years old (Zhu et al., 2009). As a country with a large population in the world, hip fracture will become one of the major medical and social problems faced by China as it enters the aging society (Xia et al., 2012). The number of hip fractures in China is expected to exceed 500,000 by 2040. At age 90, approximately one in four women and one in eight men have experienced a hip fracture. (He et al., 2006). Therefore, the current situation of hip fractures in the elderly population in China deserves our attention.

Hip fracture greatly affects older individuals' quality of life. It leads to decreased mobility, impaired quality of life, increased dependence on family, higher demand for social health services, and financial burden(Haentjens et al., 2007; Oskar et al., 2008; Shyu et al., 2004). Studies show that between 15% and 40% of those who experience a hip fracture die within a year due to complications and 66% of survivors become disabled, unable to recover their previous level of functioning(Ariza-Vega et al., 2015; Ho et al., 2010). Long periods in bed during care make older adults vulnerable to complications like pressure ulcers, urinary tract infections, and lung infections (J. Chen et al., 2019). Inadequate care can lead to negative outcomes and disability rates of up to 50%. Failure to manage hip fractures can result in higher mortality rates and disability rates compared to individuals of the same age(Liao & Lan, 2020).

Older adults with hip fracture face more complications, including life-threatening ones, due to chronic diseases and poor health (Wu, 2011). This injury not only affects their physical health but also their mental well-being (Xiang, 2014). Treatment includes non-surgical and surgical options, with surgery being the main approach (Xu, 2016). Surgery can alleviate pain, reduce hospital stays, lower the risk of complications and death, improve quality of life, and lighten the burden on relatives (Jiang, 2014). Hip fracture surgery can cause complications, even though it aims to relieve patients' pain (Chen, 2014). Surgery is usually routine, but it can cause harm to older adults with multiple medical conditions (Wang & Pang, 2015). Older people have a higher risk of surgery than younger people.

Comfort is a state of well-being that is characterized by a feeling of ease, tranquility, and satisfaction. This can be a physical, emotional, or psychological experience. Preoperative comfort refers to the measures taken to ensure that a patient is relaxed and at ease before undergoing a surgical procedure. This may involve providing emotional support, managing pain and anxiety, and optimizing the patient's physical condition before the operation. The objective of preoperative comfort is to minimize stress and discomfort, which can help the patient feel more serene and composed during the procedure, leading to a smoother recovery. The improvement of preoperative comfort can effectively reduce the negative impact of hip fracture surgery on older adults with hip fracture. Preoperative comfort is associated with the success of health seeking behavior and is an important indicator of preoperative preparation (Kolcaba, 2003; Wilson & Kolcaba, 2004). The Comfort theory suggests that increased comfort can cause patients to consciously or subconsciously engage in behaviors that move them toward a happy state (Schlotfeldt, 1975). When a patient's preoperative comfort is achieved, they can experience physiological and psychological comfort. A patient who feels comfortable both physically and mentally is more likely to cooperate with treatment, improve treatment compliance, and transition from passive cooperation to active cooperation and active nursing. This can ultimately result in a better prognosis for the patient. (Zhang, 2018).

Kalcaba comfort theory (1995) includes three main aspects: nursing needs, comfort interventions, and influencing variables. There are four contexts of holistic human experience: physical, psychospiritual, sociocultural, and environmental that

effect to comfort. Several factors affect preoperative comfort including, preoperative pain, preoperative anxiety, environment, health knowledge of fracture surgery, readiness for the operation, and social support. Based on literature reviews and the Kolcaba comfort theory, to ensure preoperative comfort, this study aims to investigate preoperative comfort factors, such as knowledge about hip fracture surgery, readiness for the operation, and social support. knowledge about hip fracture operation and readiness for the operation are considered to be physical and psychospiritual support, while social support is defined as sociocultural and environmental support.

Improving knowledge about hip fractures can lead to increased comfort for older adults before undergoing surgery. As a result of age-related declines in cognitive function, older adults may have a reduced understanding of their own health and medical conditions. Lack of knowledge will lead to cognitive deviation of postoperative rehabilitation. Active fracture knowledge support can improve the compliance of functional training in convalescent patients (Jiang, 2014). There were some research took 123 older adults with hip fractures as the research participants and conducted preoperative health education for them. The patients and their family members exhibited good psychological tolerance before surgery, and the surgery was performed smoothly (Knight et al., 1979; Oudhoff et al., 2004). Therefore, knowledge about hip fracture operation would be correlated to preoperative comfort in aging persons with hip fractures.

Readiness for operation refers to the patient's physical and emotional preparedness for surgery, characterized by ensuring the patient is in the best possible condition to minimize the risk of complications and promote a smooth recovery. Preoperative comfort is closely associated with readiness for operation, as a patient who feels comfortable and relaxed is more likely to be in a positive state of mind, enabling them to better cope with the stress of surgery. Achieving preoperative comfort can be accomplished through various means, such as providing emotional support, managing pain and anxiety, and optimizing the patient's physical condition before the operation. Preparation for the operation has positive effects on the preoperative comfort of patients with hip fractures and is extremely important in older adults with hip fractures (Wang et al., 2020). -Adequate preoperative preparation plays a very important role in orthopedic surgery for older adults (Feng et al., 2013).

Hence, readiness for the operation would be considered to be related to preoperative comfort in an aging person with a hip fracture.

Social support refers to the emotional, informational, and tangible assistance provided by one's social network, including family, friends, and healthcare professionals. Preoperative comfort is closely related to social support, and patients who receive adequate social support are more likely to feel comfortable and relaxed during the preoperative period. Also, social support is crucial in promoting preoperative comfort among patients with hip fractures, as it encompasses the provision of physical, emotional, and resource-based comfort by family, friends, or other individuals. This support is vital in maintaining a patient's overall well-being. The level of support has a direct impact on patients' physical and mental health and postoperative rehabilitation (Casado et al., 2009). Older patients have an increased need for psychological and rehabilitation support due to physical discomfort and movement limitations following hip fracture surgeries (Li et al., 2013). It has been observed by a few researchers that the recovery of older adults who have suffered from fractures is better if they have adequate social support. (Uriz-Otano et al., 2016).Therefore, this study aims to investigate the relationship between social support and preoperative comfort in elderly.

During the years 1990s, there was a shift towards emphasizing preoperative care in developed countries. Research has demonstrated that preoperative patients often experience negative emotions, which can result in physiological changes in the patient and may impact the success of the operation.(Liang et al., 1994). Currently, more hospitals in China are placing greater emphasis on postoperative nursing, such as preventing postoperative complications and managing postoperative pain. However, due to a lack of nursing experience, staff shortages, and other factors, there is limited attention given to preoperative comfort. As a result, this study aims to investigate the factors related to preoperative comfort in older adults undergoing hip fracture surgery in China, to address the gap in relevant knowledge and improve patient care.

Research objectives

1. To identify preoperative comfort among older adults with hip fractures in Wenzhou, China.

2. To examine relationships among selected variables (knowledge about hip fracture operation, readiness for the operation, and social support) and preoperative comfort of older adults with hip fractures in Wenzhou, China.

Hypotheses

The selected variables (knowledge about hip fracture operation, readiness for the operation, and social support) were related to the preoperative comfort of older adults with hip fractures.

Conceptual framework

This study is guided by the literature reviewed and the Kolcaba comfort model (Kolcaba, 1995). The theory includes three main aspects: nursing needs, comfort interventions, and influencing variables. This study aims to focus on related variables to preoperative comfort on elderly hip patients. The comfort concept defines as “the immediate state of being strengthened by having the needs for relief, ease, and transcendence addressed in the four contexts of holistic human experience: physical, psychospiritual, sociocultural, and environmental”. If the patient's specific comfort needs are met, the patient will experience comfort in terms of relief. Therefore, knowledge about hip fracture operation and readiness for the operation are defined to be physical and psychospiritual support for preoperative comfort. Also, social support is defined as sociocultural, and environmental support.

According to literature reviewed, a study of 98 orthopedic patients showed that preoperative surgical knowledge plays an important role in improving the comfort of patients undergoing orthopedic surgery (Wu, 2013). Confusion caused by lack of knowledge will make patients have no hope for treatment, reduce compliance and delay the best treatment opportunity (Lei, 2011). Also, perfect preoperative preparation is conducive to the handover between the operating room and the ward, ensuring the operation as planned, avoiding the occurrence of adverse medical events, improving medical quality and ensuring medical safety (Yi et al., 2016). Kolcaba

defines comfort as an umbrella term encompassing physical, psychosocial, and environmental factors. It is not necessarily the absence of disease, but a state of relief, tranquility, and even happiness and adaptation to challenges. Thus, knowledge about hip fracture operation and readiness for the operation can be claimed as supportive factors for comfort in term of theoretical and practice but still lack of research evidence in term of correlational or predictive study in elderly hip fracture patients.

According to a literature review, social support is positive related to comfort in patients with non-invasive ventilator support (Niyomrat et al., 2018). The veracity of this association needs to be established in elderly individuals with hip fractures as well. Consequently, this investigation will establish the relationship between knowledge about hip fracture surgery, readiness for the operation, and social support among elderly hip fracture patients in Wenzhou, China. Diagram of the study framework as shown in Figure 1.

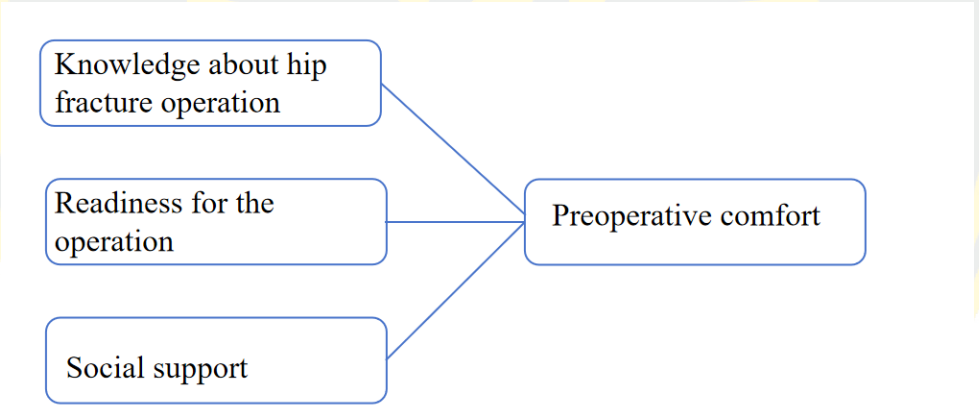


Figure 1 Research framework of the study

Scope of the study

This study investigated related factors (i.e., knowledge about hip fracture, readiness for the operation, and social support) to preoperative comfort among older adults with hip fracture who were waiting for operation in the Orthopedic ward at the second affiliated hospital of Wenzhou Medical University Wenzhou, China. Data was collected during April and July 2023.

Definition of terms

Preoperative comfort refers to the perception of hip fracture aging patients regarding their ability to find relief, ease, or transcendence in healthcare situations that are perceived as stressful. The perceptions are based on four dimensions, including physiological, psychological, spiritual, socio-cultural, and environmental factors. The Kolcaba's Questionnaire (2003) was used to measure these perceptions, and it was translated into Chinese.

Knowledge about hip fracture is defined as hip fracture aging patients 's understanding and awareness of the medical condition known as a hip fracture. Including fracture occurrence, development, treatment, nursing, and prognosis knowledge. It is a process of carrying out preoperative knowledge education for patients from the theoretical level, combining it with the actual situation of patients, correcting their original cognitive mistakes and deficiencies, and then making them actively change their attitude and behavior (Liu et al., 2020). It was measured by a questionnaire based on significant evidence-based information developed by the researcher.

Readiness for operation refers to the perception of hip fracture aging patients about how to get ready for an operation. The readiness includes physical and mental preparation, knowledge about the implementation of preoperative protocols, procedures, and rehabilitation, and environmental preparation. , The questionnaire was developed based on significant evidence-based information and was used to measure the researcher's findings.

Social support refers to the perception of hip fracture aging patients about the material and spiritual help and support from all aspects of society, including family, relatives, friends, colleagues, individuals or organizations. It includes objective support, subjective support, and utilization support. The Social Support was measured using the Social Support Scale (SSRS) that was developed by Xiao Shuiyuan (1986).

CHAPTER 2
LITERATURE REVIEW

This chapter presents a brief overview of hip fracture among patients, concept of preoperative comfort in patients with hip fracture, theory related to comfort, and factors related to preoperative comfort in patients with hip fracture.

1. Overview of hip fracture among older adults
    1.1 Definition of hip fracture
    1.2 Etiology/ Prevalence
    1.3 Diagnosis
    1.4 Symptom and treatment
    1.5 Consequence
    1.6 Hip fracture among older adults
2. Concept of preoperative comfort in older adults with hip fracture
    2.1 Definition and concept of comfort
    2.2 Concept of Preoperative Comfort
    2.4 Preoperative comfort in older adults with hip fracture
3. Kalcaba's theory of comfort
4. Factors related to preoperative comfort
    4.1 Knowledge about hip operation
    4.2 Readiness for the operation
    4.3 Social support

Overview of hip fracture among older adults

A hip fracture is a fracture in the femur, proximal to the hip joint, which is a serious injury that can occur due to a fall, direct blow to the hip, or sudden twisting movement. This type of fracture is most prevalent among older adults and can be life-threatening if not treated promptly. The symptoms of a hip fracture include severe pain in the hip or thigh, difficulty moving the leg or standing, deformity of the hip or leg, bruising or swelling around the hip, and difficulty walking or standing.

Definition of hip fracture

Hip fracture is generally considered to be any fracture of the proximal femur that occurs from the distal end of the femoral head to a few centimeters below the level of the lesser trochanter. This includes intertrochanteric fracture, trochanteric fracture, ischium fracture, etc (Wen et al., 2002).

Etiology/ Prevalence

Osteoporosis: As individuals age, bone volume decreases and bone strength weakens, which significantly affects the structure of the bone in the femur neck. The elderly also have reduced athletic ability and muscle strength, resulting in reduced stress for bone reconstruction and a decrease in bone mass. (Tang & Luo, 1996).

Fall: As people age, their muscle strength decreases, their balance function deteriorates, and they become more prone to falling. Falls can result in fractures, especially in the upper end of the femur, which is more common than other types of fractures. In fact, the risk of falling and experiencing a hip fracture is significantly higher for the elderly. (Joanna, 1993). Fall is an important external cause of hip fracture in the elderly.

Hip fractures are most common in people over 60 years of age. One reason is that older people have osteoporosis, which makes them more likely to broken bones after falls. And because older people have poorer balance, they are more likely to fall (Joanna, 1993).

The incidence of hip fracture in Wenzhou is 177 per 100 000 women and 99 per 100 000 men (Li et al., 2022).

Diagnosis

The gold standard for diagnosis of hip fracture is imaging. Hip fracture can be diagnosed when a trochanteric fracture is seen on X-ray or CT photography of the fracture site.

Symptom and treatment

Symptoms: Pain is one of the most immediate and obvious symptoms of a hip fracture. Hip fractures are often accompanied by severe pain due to the dense distribution of nerves in the hip.

Edema and hematoma: Fracture is a potent irritant that can stimulate the production of tissue fluid and the release of inflammatory mediators, and it is often

accompanied by bleeding due to the abundant blood supply of the hip. In cases of a closed fracture, bleeding can result in hematoma at the fracture site.

Because the hip is the middle area connecting the upper and lower parts of the body, and the rotor directly controls the movement of the thigh. Therefore, patients with hip fractures have significantly reduced physical activity and need to stay in bed for a long time. She can't take care of herself before surgery, and she needs a long time to recover after surgery.

Treatment

Non-operative treatment includes fixation and traction. The patient's affected area was reduced and fixed with steel plate or plaster. At the same time, traction was carried out on the affected lower limb to prevent wound adhesion and promote the recovery of the bone at the fracture. However, nonsurgical treatment, in addition to the risk of malunion and nonunion, may lead to bedridden complications. Some complications can be fatal to the elderly. Therefore, non-surgical treatment is rarely used in practice (Jiang, 2017).

Operative treatment can relieve pain, reduce complication rate and shorten hospital stay. Delaying surgery increases patient mortality. Therefore, surgery should be performed as soon as the patient's physical condition permits. There is growing evidence that surgery for hip fractures in the elderly should be performed as early as possible, with better outcomes within 48 hours of hospital admission (Jiang, 2017).

Different methods are used according to the location of the fracture. Including capsular fixation, hip arthroplasty, screw capsular fixation, and so on.

Complication

In the clinical treatment of hip fracture in the elderly, the use of surgical treatment and better efficacy (Li et al., 2018). Timely surgical treatment of aged patients with hip fractures has significant clinical effects. It can significantly reduce postoperative complications (such as wound infection and venous thrombosis of lower limbs, etc.), effectively improve the hip function of patients, and improve the quality of life of older adults with hip fractures (Ma, 2019).Hip fracture surgery can restore the patient's self-care ability as early as possible, reduce the mortality within 30 days and 1 year after surgery, relieve pain, reduce the risk of bedsores, and shorten the

length of hospital stay to improve patient outcomes (Buse et al., 2014; Collin et al., 2017).

Hip fracture among older adults

According to incomplete statistics of epidemic diseases, 4.5 million hip fractures occur every year in the world, and China accounts for more than 30% of the global incidence, more than 1.3 million (Zhang et al., 2020). In the elderly, 80% of hip fracture patients require walking assistance 1 year after injury. Even after active treatment, disability and mortality rates remain high, with 50% of patients having disability and a fatality rate of 36% (Tang, 2019). Hip fractures in older adults are associated with better physical functioning, better disease perception, and a lower incidence of complications than hip fractures in younger adults. Because about 1/3 patients with hip fracture will be complicated with cardiovascular and cerebrovascular diseases and cognitive dysfunction, misunderstandings are easy to occur in the process of treatment, which is difficult to treat (Ding et al., 2018).

Concept of preoperative comfort in older adults with hip fracture

Definition and concept of comfort

The term “comfort” derives from the Latin “confortare” which means “become strong, comfort or encourage.” In a linguistic dictionary, the term is a synonym of “well-being”, and is defined as aid and solace in moments of affliction. Comfort has always been a central concern and concept in nursing and it is particularly important in the definition of the nature of nursing knowledge, the discipline, and the profession. According to a concept analysis of comfort from Walker & Avant (2005), the attributes could be demonstrated by effective communication, family and significant relationships, maintaining functionality, personal characteristics, relief of physical symptoms, condition and interventions, psychological and spiritual activities, states, sense of security, and satisfaction of needs. When a person fulfils with comfort condition, the consequences are presented by self-control, inner peace, pleasant experience, feeling cared for, relief from symptoms, reduction of imbalances, absence of discomfort, and reduction (Kolcaba, 2003; Wilson & Kolcaba, 2004).

Preoperative comfort refers to the state of being physically, emotionally, and

mentally prepared for surgery. It is crucial to ensure that patients are in the best possible condition before the operation, both physically and mentally, to minimize the risk of complications and promote a smooth recovery (Hançer & Köksel, 2023).

Kalcaba' theory of comfort

Kalcaba's theory of comfort provides a framework for understanding the relationship between comfort and the patient's experience during the preoperative period. According to the theory, comfort is a subjective experience that is influenced by various physical, psychological, and social factors. Kalcaba defines comfort as a state of being characterized by a sense of well-being, relaxation, and feeling comfortable in one's surroundings. Factors that contribute to preoperative comfort include adequate pain management, emotional support, and a sense of control over one's environment. By promoting preoperative comfort, healthcare professionals can help patients feel more relaxed and calmer during the procedure, leading to a smoother recovery. Therefore, it is essential to address the physical, psychological, and social needs of patients during the preoperative period to enhance their comfort and overall well-being.

Concept of preoperative comfort

The concept of Preoperative comfort refers to the ease of patient's physiology, psychology, environment, social support, nursing quality and patient satisfaction (Emel, 2020). The study found that there are several factors that affect the preoperative comfort level of patients, and these factors will cause patients' negative influence on the disease (preoperative anxiety, pain, etc.), daily living ability, etc (Wilson & Kolcaba, 2004). Therefore, it is important to pay attention to patients' preoperative comfort.

Concept of preoperative comfort in patients with hip fracture

As an integral and effective nursing method, comfort nursing can effectively promote the recovery of patients' physical and mental health, and has broad application prospects in clinical practice (Zhjang, 2008). Surgery is another physically and emotionally grueling process for patients (Wang, 2014). The comfort theory posits that elevated levels of comfort can lead patients to either consciously or unconsciously engage in actions that bring them closer to a joyful state. (Wilson & Kolcaba, 2004). Patients with hip fracture have more serious disease symptoms, and

patients have different degrees of fear, tension, and anxiety. Comfort nursing is applied to older adults with hip fracture surgery, which can meet the physiological and psychological needs of patients and relieve their anxiety(Lin et al., 2013). When the patient is in a relaxed mind, happy state of mind to accept surgical treatment. It can improve pain threshold, obtain good sleep, increase comfort during surgical treatment, reduce the incidence of postoperative complications, and improve satisfaction (Lin et al., 2013).

Kolcaba (1995), an American comfort nursing expert, put forward the concept of comfort nursing theory, believing that comfort nursing should be the result of the process and pursuit of holistic nursing. Kolcaba believes that any operation is not trivial for anyone and that perioperative patients can respond comprehensively to the stimulation of surgery. Comfort nursing emphasizes the whole nursing activities to give patients the most comfortable nursing, it is a comprehensive, personalized, creative nursing mode, and its main purpose is to make patients in the treatment of disease at the same time get physical comfort, psychological comfort, social comfort and spiritual comfort (Kolcaba, 1995).

Comfort theory was developed during Katharine Kolcaba's conceptual analysis of comfort. The analysis examined literature from a variety of disciplines, including nursing, medicine, psychology, psychiatry, ergonomics, nursing, and more (Kolcaba & Kolcaba, 1991). After introducing three forms of comfort and four holistic human experience contexts, a classification structure was created to guide the assessment, measurement, and evaluation of patient comfort. According to Kolcaba, comfort is a product of the art of holistic care. Kolcaba describes comfort in three forms: relief, and transcendence. If the patient's specific comfort needs are met, the patient will experience comfort in terms of relief (Kolcaba & Fisher, 1996).

Preoperative comfort is a positive outcome that has been associated with health-seeking behavior success and is an important indicator (Kolcaba, 2003). The prospect of undergoing hip fracture surgery can be daunting, as it may involve worrying about one's health, the outcome of the procedure, or the fear of anesthesia. (Emel, 2020). The fear and anxiety experienced by the patient before surgery resulted in psychological and physical problems that adversely affected the patient's comfort(Aust et al., 2018; Sadati et al., 2013). A hip fracture is a painful disease that

causes significant physical and psychological distress for patients. Patients urgently need double comfort of body and mind (Qian S, 2016). The older people's organs and cell functions are in the degradation, immune function is low, the ability to fight infection is reduced, and the nutritional status is often poor, often coexisting with a variety of diseases (Jiang, 2014). Patients with hip fractures often experience severe symptoms and require a long period of bed rest, which can increase their risk of developing complications such as bedsores, pulmonary embolism, and deep venous thrombosis of the lower limbs. These complications can significantly impact the quality of life for these patients. (Wang et al., 2016). When the patient's quality of life declines, so does the patient's comfort level.

Factors related to preoperative comfort

Knowledge about the hip operation

Knowledge about hip fracture is a process in which preoperative knowledge education is carried out for patients from the theoretical level, and the errors and deficiencies in their original cognition are corrected in combination with the actual situation of patients, to make them actively change their attitudes and behaviors (Xu et al., 2020). Including fracture occurrence, development, treatment, nursing, and prognosis knowledge, hip fractures are in a state of sub-health due to pain, disability, and limb movement disorder (Liu et al., 2021). Preoperative health education plays a key role in the whole treatment period (M. Chen et al., 2019). Research on preoperative knowledge of 86 cases of hip fracture shows that preoperative knowledge education can improve the awareness of patients, improve the comfort level of rehabilitation effect, and reduce the occurrence of complications (Tian & Liu, 2020; Yang et al., 2021). Thus, knowledge about hip operation would be positively related to preoperative comfort in old hip fracture patients.

Readiness for the operation

Readiness for the operation refers to the use of various measures before surgery to ensure that the patient can survive the operation in the best condition (Zhu et al., 2003). Early surgery for hip fracture is currently the preferred treatment for elderly hip fracture, which can reduce the short-term mortality of patients and serve as a positive factor for pain relief and rapid recovery of function during hospitalization

(Carretta et al., 2011; Liu et al., 2021; Simunovic et al., 2010). Preoperative preparation requires active cooperation and interaction between various departments (such as internal medicine and anesthesiologist), which can enable patients to perform surgery as soon as possible (Sheehan et al., 2017). A preoperative comprehensive assessment should be made to improve the overall condition, as far as possible to maintain the stability of respiratory and circulatory systems and improve the endurance of surgery. Perfect preoperative preparation plays an escort role in orthopedic surgery for older adults (Feng et al., 2013). Hence, readiness for the operation would be considered to be a related factor for preoperative comfort in aging hip fracture patients.

Social support

Social support refers to the material and spiritual help and support from all aspects of society, including family, relatives, friends, colleagues, individuals, or organizations. Social support can relieve stress, directly affect patients' physical and mental health, and improve their quality of life(Chai, 2015). The recovery of patients with hip fractures is not only related to the operation itself but also closely related to patients' active participation in recovery and correct nursing after surgery, while patients' active participation is inseparable from social support(Guo & Fu, 2009). And since most functional training is performed at home after hip fracture, social support is even more important (Wang & Dai, 2010).

As hip fracture patients are mostly elderly people, more than 70 percent of the help they need comes from the family, so the family is the main source of care, financial, emotional, etc. Good family relationships can improve the recovery of elderly hip fracture patients (Qiu et al., 2012). Studies have shown that older adults who live with their spouse or children receive more positive encouragement, and their social function and daily living abilities are significantly higher than those who live alone (Lan, 2012). Thus, social support would be positively related to preoperative comfort in old hip fracture patients.

Summary

The frequency of hip fractures in older adults is elevated and can result in substantial injury. Through the review of hip fracture, hip fracture often occurs in the elderly population, and the mortality and disability rate is higher. Improving

preoperative comfort in older patients with hip fractures can enhance surgical outcomes, but many factors affect patient comfort before surgery. These include supportive variables such as knowledge about hip fracture, readiness for the operation, and social support. Therefore, it is necessary to study the factors that influence preoperative comfort to improve surgical outcomes for older adults with hip fractures and to fulfill their quality of life relying on their well-being and comfort.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter presented the research methodology including research design, setting of the study, population and sample, sample size, research instruments and psychometric properties of the instruments, data collection procedures, and data analysis.

Research design

This study used a correlational design. The dependent variable (DV) of this study was preoperative comfort. The independent variable (IV) included knowledge about hip fracture operation, readiness for operation, and social support.

The setting of the study

The study was conducted in the orthopedic ward of the Second Affiliated Hospital of Wenzhou Medical University on the day before the operation for hip fractures in older adults. The data collection was carried out from April and July 2023. The Second Affiliated Hospital of Wenzhou Medical University is a class A, grade III hospital, providing comprehensive medical services, in orthopedics outpatient and inpatient departments.

Population and sample

Population

The Target population in this study was older hip fracture patients who had an operation at the second affiliated hospital of Wenzhou Medical University (WMU) in Wenzhou, China. According to hospital statistics, in 2020, there were a total of 2208 patients with hip fractures in the Second Affiliated Hospital of Wenzhou Medical University. A total of 2016 patients were admitted for surgery, and 168 patients were admitted for surgery every month.

Sample

The samples in this study were older adults with hip fractures from the Second Affiliated Hospital of Wenzhou Medical University.

Inclusion criteria

1. Older adult >60-year-old with hip fracture who will have surgery in a short term; specify the number of days.

2. Diagnosed with hip fracture.

3. Screening cognitive function by 6 CIT (Patient scores ranging from 0 to 7 points are considered to be subjects, while scores exceeding 7 are excluded from consideration). This screening was provided for elderly by admission ward for operation.

4. Can communicate fluently in Chinese.

Sample size

The sample size in this study is calculated by G*Power 3.1 program. Spearman correlation is chosen as a type of statistical test with an alpha of .05, a power of .95, a medium effect size of 0.30. It generates a sample size of 111 subjects. In this study, 15% of the incomplete rate is used 17 subjects. Therefore, 128 participants are needed in total in this study.

Sampling technique

In this study, the random sampling method was used to select participants who met inclusion criteria and passed the screening cognitive function was 6 CIT. The process began with participants being numbered one by one. The researcher created a list of numbers and randomly chose individuals with odd numbers from the list to serve as the study sample. It is important to note that the random sampling method ensures that each participant has an equal chance of being selected as part of the study, which helps to minimize any potential biases in the data. By using this method, the researcher can be confident in the representativeness of the sample and the accuracy of the findings.

Research instruments

This study used one for screening the subjects and four self-reported questionnaires including demographic data form, the Kolcaba questionnaire, and social support questionnaire for collecting data.

Screening measurement

6 CIT

Screening CIT was very important in the questionnaire. CIT stands for "Cognitive Impairment Test" and it is used to assess a patient's cognitive function, particularly in older adults. The test helped identify patients who may have difficulty with post-operative care and rehabilitation and can help healthcare providers make informed decisions about the most appropriate treatment plan. In the context of a hip fracture preoperative questionnaire, screening CIT helped identify patients who may be at risk for complications or delayed healing due to cognitive impairment.

In this questionnaire, there are 6 questions for patients to answer. The total score is 28 points, with deductions for incorrect answers and no deductions for correct ones.

For an incorrect response to the first question

- "What year is it?" - 4 points are deducted; 3 points are deducted for the second question

- "What month is it?" Please recall the following information, including the address details: Zhang Ming, No. 125, Damuqiao Road, Xuhui District, Shanghai, China, for the third question. For the fourth question

- "What time is it?" - 3 points will be deducted for incorrect answers.

- The fifth question involves counting backwards from 20 to 1

- The sixth question requires counting down from the last month to the first month of the year. Both questions deduct 2 points for one incorrect answer and 4 points for more than one wrong answer.

Following these questions, repeating the remembered address details in the third question incurs deductions: 2 points for one wrong answer, 4 points for two, 6 points for three, 8 points for four, and 10 points for all mistakes.

Patient scores ranging from 0 to 7 points are considered, while scores

exceeding 7 are excluded from consideration. 6 CIT. It will be collected directly from the participants or their medical records.

Collecting data measurement

Demographic data form

The patient's demographic record sheet included age, education level, religion, marital status, residence, length of marriage, occupational status, medical payment method, family income, detailed diagnosis of hip fracture, and treatment method.

Knowledge about hip operation questionnaire

A questionnaire that contains 10 questions that are all positive was created based on the patient's knowledge of the matter (1996 Sep;78(5):856). To score the questionnaire, the following rules apply: "Correct" is 1 point; "Incorrect" is 0 point. The full score is 10 points, and the higher the score, the higher the patient's understanding of the health knowledge about hip fracture surgery. This questionnaire is reliable when used in hip fracture patients, with an $\alpha = .94$ reliability score. The content Validity Index (CVI) was = 1.

Readiness for the operation questionnaire

There were 10 questions in the questionnaire, and patients needed to choose the most suitable option according to their actual situation.

The first question is a reverse question, and the scoring rules are as follows: "Strongly disagree" is 5 point; "disagree" is 2 points; "somewhat" is 3 points; "agree" is 2 points; "strongly agree" " is 1 points.

The rest are positive questions, and the scoring rules are as follows: "strongly agree" is 5 points; "agree" is 4 points; "somewhat" is 3 points; "disagree " is 2 points; "strongly disagree" is 1 point.

The full score is 50 points, and the higher the score, the higher the preoperative preparation of the patient. The reliability score of this questionnaire when used in patients with hip fracture was $\alpha = .95$. The Content Validity Index (CVI) was = 1.

The Kolcaba Questionnaire

The Kolcaba Questionnaire was used to measure the preoperative comfort in patients with hip fractures. It was developed by Kolcaba (2003).

The Kolcaba questionnaire will be translated into Chinese and reviewed by the Ethics Committee of the second affiliated hospital of Wenzhou Medical University (WMU) in Wenzhou before being put into clinical use. The scale had four dimensions: physiological, psychological, spiritual, socio-cultural, and environmental. The Kolcaba questionnaire is a 28-item scale rated on a 4-point rating scale 1, 4, 5, 6, 17, 19, 22, 23, 26, 28. In the positive statement, “1” means strongly disagree. “2” indicates generally disagree. “3” represents general agreement; “4” means strongly agree. Answer “1” in the opposite direction means you strongly agree. “2” represents general agreement; “3” indicates generally disagree. “4” means strong agreement. Patients selected the most suitable option based on their current situation, which resulted in a higher score indicating greater comfort.

The level of preoperative comfort was divided into 3 levels by using Best (1981) formula; Maximum score – Minimum score/number of levels

Score 28-56 = Low level of preoperative comfort

Score 57-85 = Moderate level of preoperative comfort

Score 86-114 = High level of preoperative comfort

The reliability score of this questionnaire when used in patients with hip fractures was α = .99.

Social Support Questionnaire [SSRS]

The SSRS social support questionnaire was used to measure the preoperative social support of patients with hip fractures. This scale was developed by Xiao Shuiyuan in 1986. It contains 10 items, which include 3 items in objective support, 4 in subjective support, and 3 in utilization degree of social support. The scale has good reliability and validity and can reflect the individual's social support level well. The patients choose the items most consistent with their actual situation. Choose 1, 2, 3, and 4 to count 1, 2, 3 and 4 points respectively. Question 5 is divided into four items: A, B, C, and D, and each item is rated on a 4-point rating scale and ranges from “nothing” to “full support”. For questions 6 and 7, if you answer, “no source”, score 0. If you answer, “following sources”, score several sources. Objective support score: sum of scores of 2, 6, and 7; Subjective support score: sum of scores 1, 3, 4, and 5;

Support utilization: sum of 8, 9, 10 ratings. The reliability score of this questionnaire when used in hip fracture patients was α = 0.94.

Psychometric properties of the instruments

Validity

The research created the Knowledge about hip operation and the Readiness for the operation questionnaire based on clinical and research evidence. Then, the content and concept verification of hip surgery knowledge and surgical preparation questionnaire were evaluated by two experts from adult nursing, the Faculty of Nursing of Burapha University, and three experts from China, including a clinical nurse of orthopedic department, geriatric field instructor, and a physician. The content Validity Index (CVI) of the two questionnaires was = 1.

Reliability

The reliability of the instrument was tested using Cronbach's alpha coefficients with 30 older adult patients with hip fractures. The reliability coefficient of the Questionnaire of knowledge about hip operation, readiness for the operation, and social support was 0.94, 0.95, and 0.99, respectively. All the instruments yielded acceptable Cronbach's alpha values since they were more than 0.80.

Protection of human rights for subjects

The approval for this study was obtained by the Institutional Review Board (IRB), Burapha University, Thailand. After the proposal was approved, it was submitted to the Research Ethics Committee of the Second Affiliated Hospital of Wenzhou Medical University. The purpose, significance, and possible risks of this study were explained in detail to the participants. The participants were asked to sign the informed consent. The researcher also informed the participants that the participants could withdraw from the study at any time without having any effects on their treatments. To ensure anonymity and confidentiality, code numbers were put in the questionnaires, and the data was destroyed after the publication of the results.

Data collection procedures

The patients were given questionnaires before their discharge and data was collected from those who met the inclusion criteria. The data collection procedures in this study were conducted by the researcher as follows:

1. Thesis proposal was submitted to the Burapha University Ethics Committee on Human Research (BUU EC).

2. After the approval from BUU, the letter from the Faculty of Nursing, BUU will be sent to the director and the Institution Review Board (IRB) of the second affiliated hospital of WMU.

3. After the approval from hospital, the researcher contacted all administrators of the research setting to introduce herself, explain brief details of the study, and ask for their cooperation.

4. At the ward, the researcher followed the registration records to find patients meeting the inclusion criteria. Then, the researcher used a simple random sampling technique to recruit participants.

5. The researcher met the selected patients introduced herself, and informed them about the study, the participants' roles, and their human rights protection. Then, the researcher asked them to participate in the study voluntarily. If they agreed, they would sign the consent forms for signature verification.

6. The researcher collected data by giving participants self-report questionnaires during their waiting time for healthcare services. It took about 30 minutes to complete the questionnaires.

7. Patients need to answer the six questions in the questionnaire one by one, and doctors will score based on the accuracy of the patient's answers. In a given question, if the answer is incorrect, points will be deducted depending on the situation of the question. Depending on the patient's final score, patients who fall between 0 and 7 may be included in the study, while patients who score above 7 are not considered.

8. The researcher checked for data completeness.

Data analysis

Data was analyzed by SPSS version 22.0. The level of significance is set as .05. Data analyses were performed by below statistical methods.

1. Descriptive data of general information was analyzed by descriptive statistics.

2. Descriptive data of selected variables (knowledge about hip fracture, readiness for operation, and social support) and dependent variable (preoperative comfort) were analyzed by descriptive statistics.

3. The relationship among variables (knowledge about hip fracture, readiness for operation, and social support) on preoperative comfort was analyzed by the Spearman correlation method since the results of the SW test show that the data distribution of pre-operative comfort and social support is non-normal ($Ws>0.094$, $ps< 0.002$) and knowledge about hip fracture is not interval or ratio scale as Pearson's assumption.

CHAPTER 4
RESULTS

The main objective of this study was to identify preoperative comfort among old people with hip fractures in Wenzhou, China, and to examine related factors (i.e., knowledge about hip fracture operation, readiness for the operation, and social support) to preoperative comfort among older people with hip fracture in Wenzhou, China. This data was analyzed using descriptive statistics and the Spearman correlation method. The findings of this study are presented as follows:

1. Demographic characteristics of participants,
2. Description of studied variables data,
3. Correlations among studied variables.

Demographic characteristics of participants

The demographic data were analyzed using descriptive statistics as presented in Table 1. Most of the respondents were aged from 76-80 years (n = 128) with a mean age of 74.51 (SD = 7.842). There were more male (65.40 %) than female respondents. Marital status was shown 118 participants were married (92.9%). Many of the education levels was in Elementary school and below (77.20%). 65 participants were living in rural areas (51.20%), 49 in town (38.6%), and 13 in cities (10.2%). 49.6% of participants had been hospitalized 50.4% had not been hospitalized, 91.3% lived with their spouse, and 8.7%with other family members. Most of their occupations were farmers (25.2%), and 19.69% were merchants. 92.1% of them were debt-free deposits. There 52.8% of participants had visited the hospital before, and 47.2% of them had never seen a doctor before. 76.4% of participants had no history of surgery.

Table 1 Demographic characteristics of participants (N=128)

Characteristics	n	%
Gender		
Female	45	34.60
Male	83	65.40
Age		
60-65	18	14.20
66-70	30	23.60
71-75	21	16.50
76-80	33	26.00
81-85	11	8.70
86-90	11	8.70
91-95	3	2.40
M=74.51, *SD*=7.842		
Marital status		
Divorced	1	0.80
Married	118	92.90
Unmarried	1	0.80
Widowed	7	5.50
Education level		
College	1	0.80
High school	4	3.10
Junior high school	24	18.9
Elementary school and below	98	77.20
Place of residence		
City	13	10.20
Countryside	65	51.20
Town	49	38.60
hospitalized before		
no	64	50.40
yes	63	49.60
Family members		
Other (Unmarried, Widowed)	11	8.70
spouse	116	91.30
Occupation		
Civil servant	8	6.30
Merchant	25	19.69
driver	23	18.11
cook	16	12.60
accountant	8	6.30
Actor	4	3.15
Teacher	1	0.78
Worker	10	7.87
farmer	32	25.20

Table 1 (Continued)

Characteristics	n	%
Family financial status		
Have deposit more than debt	10	7.90
Have deposit without debt	117	92.10
Have you ever seen a doctor in this hospital before		
no	60	47.20
yes	67	52.80
history of surgery		
no	97	76.40
yes	30	23.60

Description data of studied variables

The preoperative comfort levels of patients were categorized into three groups: a high level of comfort score with a mean of 77.53 (SD=4.92), a moderate level of comfort score with a mean of 68.27 (SD=2.19), and a low level of comfort score with a mean of 60.95 (SD=4.55). Based on these results, it can be concluded that there is a moderate level of preoperative comfort (M= 68.50, SD=7.341) in older patients with hip fractures, as shown in Table 2.

Table 2 Description of the dependent variable (N=128)

Preoperative comfort level	n	Percentage	M	SD
High	34	26.6	77.53	4.92
Moderate	55	43	68.27	2.19
Low	39	30.5	60.95	4.55
Total Moderate	128	100	68.50	7.341

The knowledge about hip fracture operation, readiness for operation, social support, and preoperative comfort from the study showed as shown in Table 3. The mean score for knowledge about hip fracture operation was 8.18(SD=1.50), readiness

for operation with a mean score of 41.73(SD=3.56), social support with mean score of 39.81(SD=6.20), and preoperative comfort with a mean score 68.50(SD=7.34).

Table 3 Description of independent variables (N=128)

Variable	Possible Range	Actual range	*M*	*SD*
1.Knowledge about hip fracture operation	0-10	4-10	8.18	1.50
2. Readiness for operation	5-50	31-50	41.73	3.56
3. Social support	12-66	20-54	39.81	6.20
4. Preoperative comfort	28-112	41-96	68.50	7.34

Correlation among studied variables

In this study, SPSS 27 was used to conduct the Spearman correlation method instead of Pearson's product moment since the results of the SW test show that the data distribution of preoperative comfort, and social support is non-normal (Ws>0.094, ps< 0.002). Also, knowledge about hip fractures is not ordinal scale . Considering the violation assumption of Pearson's product moment, the Spearman correlation method was used to measure the correlation among variables. The results in Table 4 show that knowledge about hip fracture operation (r=0.296, p<0.001), readiness for operation (r=0.333, p<0.001), and social support (r=0.226, p=0.050) were significantly positively correlated with preoperative comfort.

Table 4 Correlation coefficient between selected factors and preoperative comfort (N=128)

	1	2	3	4
1.Knowledge about hip fracture operation	1			
2. Readiness for operation	0.217*	1		
3. Social support	0.129	-0.029	1	
4. Preoperative comfort	0.296***	0.333***	0.226*	1

*** *p<0.001, ** p<0.01, * p<0.05*

CHAPTER 5
CONCLUSION AND DISCUSSION

This chapter presents the summary and discussion of the study findings. The implication of the findings for nursing, the limitations of the study, and recommendations for future research are addressed.

Summary of the findings

The study was conducted on older adults with hip fractures from the ward of the Second Affiliated Hospital of Wenzhou Medical University in 2020. A total of 128 respondents were aged 76-80 years in this study. Data was collected through a self-report questionnaire. Knowledge about hip operation, readiness for the operation, and social support questionnaire [SSRS] were used to collect data.

The subjects were aged between 76 and 80 years old, with an average age of 74.51. Their educational levels were varied, with the majority having only a primary education. Most of them lived in rural areas, with only a small percentage residing in cities. The majority of them had worked as farmers or businessmen and had unencumbered bank deposits. Nearly half of them were hospitalized before. The mean score for the preoperative comfort of the subjects was 68.50. There are 55 (43%) of subjects with moderate level of preoperative comfort. The rest is low level (30.5%), and high level (26.6%), respectively. Overall, there is a moderate level of preoperative comfort (M= 68.50, SD=7.341) in older adults with hip fractures in this study.

Spearman correlation results showed knowledge about hip fracture operation ($r=0.296$, $p<0.001$), readiness for operation ($r=0.333$, $p<0.001$), and social support ($r=0.226$, $p=0.050$) were significantly positively correlated with preoperative comfort.

Discussion

The results from this study are discussed according to research objectives. The first objective was to identify preoperative comfort among old people with hip fracture in Wenzhou, China. The second one was to examine related factors among selected variables (knowledge about hip fracture operation, readiness for the

operation, and social support) and preoperative comfort of older adult with hip fracture in Wenzhou, China.

Preoperative comfort among old people with hip fracture

The result showed that there was a moderate level of preoperative comfort (M= 68.50, SD=7.341) in older patients with hip fractures from this study. According to Kolcaba (2003), preoperative comfort is "the immediate state of being strengthened by having the needs for relief, ease, and transcendence addressed in the four contexts of holistic human experience: physical, psychospiritual, sociocultural, and environmental". 65.6% of the samples had pretty good preoperative comfort from moderate to high level. It indicated that older patients with hip fractures had some relief from stress, ease and feeling safe with the environment. The result of this stance may be that 92.9% of the subjects are married status, and 91.30% living with their spouse. Moreover, the report demonstrated the stable financial condition as having a deposit and no dept. These reasons reflect the social support dimension which provides psychological safety, companionship, physical assistance, and financial support.

Family is human being's basic physiological and safety needs that fulfil a sense of belonging and encouragement whenever person face difficult times. As China has core traditional cultural values that influence the psyche of the Chinese people which include harmony, kindness, justice, politeness, wisdom, honesty, loyalty, and family concern. Family support plays important role to bring encouragement and inspiration for crossing over obstacles and nourishing the sense of comfort. This reasoning corresponds to the result from the study in cholecystectomy surgery which found that patients with higher scores on the family Cohesion Scale demonstrated better post-surgery recovery (Cardoso-Moreno & Tomás-Aragones, 2017). Importantly, the moderate level of preoperative comfort congruence with the correlational result of this study as well. The study showed that social support correlated with preoperative comfort. Thus, the power of family support would be main factors to support the preoperative comfort from this present study.

Furthermore, 30.5% of samples had low level of preoperative comfort. It might be explained by the occupational report. The most common occupations reported by respondents were farmer (25.2%) and merchant (19.69%), indicating that

a significant proportion of the population may not have access to medical information, advanced medical care, or technology prior to surgery. Additionally, a significant portion of participants lived in rural areas (51.20%), which may impact access to healthcare services and resources, and only a small percentage of participants lived in cities, suggesting that many individuals may not have had exposure to modern medical facilities before undergoing surgery. These factors may contribute to the moderate level of preoperative comfort reported by some participants and support the theory that meeting patients' needs through nursing and medical care can improve their comfort levels.

The correlative factors of preoperative comfort among older elderly with hip fracture

The last objective of this study was to investigate the factors that contribute to preoperative comfort in older adults with hip fractures in Wenzhou, China. spearman correlation method analysis showed that preoperative comfort of older adults with hip fractures in Wenzhou, China was related to all selective factors.

Knowledge about hip fracture operation

The correlation between knowledge about hip fracture operation and preoperative comfort was a positive correlation ($r=0.296$, $p<0.001$) . This could be explained that patients who are well-informed about their medical condition and the available treatment options are more likely to feel comfortable and prepared before undergoing surgery. Individuals who possess more knowledge about the operation, and understand the potential risks and benefits of the procedure, are more likely to feel comfortable and prepared before undergoing the procedure. Having a comprehensive understanding of the surgery can also help alleviate anxiety and fear associated with medical procedures. Thus, having more knowledge creates more comfort. These theoretical reasons are close to the study of 98 orthopedic patients. The research found that surgical knowledge plays an important role in improving anxiety in orthopedic surgical patients (Wu, 2013). Another study (Lei, 2011) found that confusion resulting from a lack of knowledge can cause patients to lose hope for treatment, reduce compliance, and delay optimal treatment opportunities. The results of this present study have confirmed the relationship between the knowledge regarding hip fracture operations and preoperative comfort.

Readiness for the operation

The readiness for the operation scores that were rated by older patients with hip fractures showed a significant positive correlation with preoperative comfort ($r=0.333$, $p<0.001$). Readiness for the operation in patients is focused on how to get ready for hip operation physically and mentally. The hospitalization process can benefit from the positive effects of preparation, including pain relief and faster recovery of function (Carretta et al., 2011; Liu et al., 2021; Simunovic et al., 2010). The Kolcaba's Comfort Theory (2003) hypothesized that physical and psychospiritual support will promote comfort in patients. That can imply that the patients who are ready for the operation will be provided with physical and psychological support to ensure their safety and recovery. All the encouragement will promote preoperative comfort. This is consistent with Yi, Zeng (2016) who argued that adequate preoperative preparation facilitates handover between the operating room and ward, ensures surgery according to plan, avoids adverse medical events, improves medical quality, and ensures medical safety (Yi et al., 2016). This concept can be confirmed by the result from this present study which found that readiness for the operation was related to preoperative comfort positively and significantly. It is also consistent with a study that proposed that surgical preparation has a positive relation to preoperative comfort for patients with hip fractures (Wang et al., 2020).

Social support

The study demonstrated positive correlation between social support and preoperative comfort ($r=0.226$, $p=0.050$). According to Kolcaba's Comfort Theory (2003), social support is claimed as a sociocultural and environmental dimension that could promote comfort in a person. As discussed before, the report from this study showed strong evidence of family support such as marriage status, living with a spouse, and family financial support. If patients feel secure and have companionship, convenience, and hope, they will have a more relaxed mind, which will lead to a sense of comfort before surgery. The result from the present study is consistent with the study in patients with non-invasive ventilator support which found that comfort had positively correlated with social support ($r = 0.89$, $P < .001$) (Niyomrat et al., 2018).

Implications of the study

In nursing practice, nurses and healthcare providers can prepare the patients for surgery by concerning about the condition of pre operative comfort. Providing knowledge and instructions, answering questions, and addressing any concerns or fears regarding to operation. Additionally, the readiness is assessed to understand patients and fulfill the needed issues for them. Furthermore, nurses and healthcare providers can work with patients to identify sources of social support, such as family members, friends, or support groups. This can provide emotional and practical assistance to patients, which can help them feel more comfortable and prepared for surgery.

According to nursing education, nurses should focus on promoting patient comfort, which involves knowledge about hip operation, readiness for operation, and social support to improve preoperative comfort and lead to better outcomes for patients undergoing hip fracture operations. Furthermore, healthcare providers would be provided in-service training about preoperative comfort to fulfill their competency for preoperative care in older adults with hip fractures.

Limitations of the study

The limitation of this study was the omission of other potential factors that might affect comfort level, such as personal character, psychological status, cultural background, etc. The study only focused on three factors: knowledge about the hip operation, readiness for operation, and social support, which might not capture the complexity and diversity of factors that influence comfort level.

Recommendations for future study

Future studies could identify and measure other relevant factors that might affect preoperative comfort covering the four contexts of holistic human experience: physical, psychospiritual, sociocultural, and environmental, and examine how they relate to comfort using correlation or regression analyses. A variety of interventions for preoperative comfort will be revealed after confirmation of effective factors.

Conclusion

This study investigated the preoperative comfort of elderly hip fracture patients in Wenzhou, China, and its related factors, namely knowledge about hip fracture operation, readiness for the operation, and social support. The study hypothesis was that these factors are related to the preoperative comfort of older adults with hip fractures. The correlation analysis shows a positive relationship between preoperative comfort and readiness for the operation, knowledge about hip fracture operation, and social support. This study provides evidence-based guidance for emphasizing those three factors. Nurses and healthcare providers should be concerned with improving preoperative comfort by promoting knowledge about hip fractures, readiness for operation, and social support.

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APPENDICES

APPENDIX A

Questionnaires in English

Part 1:Demographic questionnaire

The patient's demographic record sheet includes age, education level, religion, marital status, residence, length of marriage, occupational status, medical payment method, family income, detailed diagnosis of hip fracture, treatment method, etc.
Instruction: Pleaseselect the options by marking √ in the box matching with your information.

Basic information
1. Your gender: ☐ male ☐female
2. Your age:_____ years old
3. Your marital status: ☐Married ☐Divorced ☐Unmarried ☐Widowed
4. Your education level: ☐Elementary school and below ☐Junior high school ☐High school ☐College ☐University and above
5. Place of residence: ☐ City □ ☐ Town □ ☐Countryside
6. Have you ever been hospitalized before: ☐Yes ☐No
7. Family members (*Can select more than one option): ☐ Husband □ ☐ Your own child (ren) □

☐ Your parents ☐ Parents-in-law ☐ Other (identify)_____
8. Occupation: ☐Worker ☐ Teacher ☐Merchant ☐ Civil servant ☐Unemployed ☐Other (identify)_____ 9. Family financial status: ☐Have deposit without debt ☐Have deposit more than debt ☐Have deposit less than debt ☐Have deposit equal to debt ☐Other (identify)_____
10.Have you ever seen a doctor in this hospital before: ☐Yes ☐No
11.Do you have any history of surgery before: ☐Yes_____ (please fill in the name of the surgery) ☐No

Part 2:Questionnaire on knowledge about hip fracture patients

Dear Hip fracture patients:

This questionnaire is to find out how much you know about hip fracture surgery.There are 10 questions in this questionnaire, all of which are positive questions. The scoring rules are as follows: “Correct” is 1 points; “Incorrect” is 0points.

The full score is 10 points, and the higher the score, the higher the patient's understanding of the health knowledge of hip fracture surgery.

After reading each question, please tick the option that you think is the most suitable.

	(1) Correct	(0) Incorrect
1. Osteoporosis is the cause of hip fractures.	□	□
2. External forces on the hip can cause hip fractures.	□	□
3. A serious hip fracture can be life-threatening.	□	□
4. Continuous traction before hip fracture can relieve pain.	□	□
5.Pain by hip fracture before surgery can be controlled with medication.	□	□
6. Hip fracture requires rehabilitation exercise before surgery.	□	□
7. Long-term bed rest before hip fracture will cause pressure ulcers.	□	□
8. There is a possibility of venous thrombosis before hip fracture.	□	□
9. You can eat greasy foods after breaking your hip.	□	□
10. Hip fracture surgery can effectively reduce the probability of disability.	□	□

Part 3:Preoperative readiness questionnaire for patients with hip fracture

Dear Hip fracture patients:

This questionnaire measures the degree of perfection of the patient's pre operative preparation. There are 10 questions in this questionnaire and the scoring rules are as follows: "strongly agree" is 5 points; "agree" is 4 points; "somewhat" is 3 points; "disagree " is 2 points; "strongly disagree" is 1 point.

After reading each question, please tick the option that you think is the most suitable.

	Strongly agree (5)	Agree (4)	Somewhat (3)	Disagree (2)	Strongly disagree (1)
1. Do you have any increased psychological burden when the surgery date is approaching?	□	□		□	□ □
2. Have you performed deep breathing exercises before surgery?	□	□		□	□
3. Have you started nutritional management?	□	□		□	□
4. Can you manage your pain properly before the operation?	□	□		□	□
5. Have you completed the preoperative examination?	□	□		□	□
6. Has your chief surgeon (doctor in charge) communicated with you about possible risks ?	□	□		□	□
7. Can the doctor/nurse answer your questions in a timely manner ?	□	□		□	□
8. Have you started preoperative rehabilitation training?	□	□		□	□
9. Are safety devices installed in your home ?	□	□		□	□
10. Do you know preoperative complication prevention for hip fracture?	□	□		□	□

Part 4:Kolcaba Comfort scale

Items	Strongly disagree	Generally disagree	Generally agree	Strongly agree
1. I can count on someone when I need help	1	2	3	4
2.I don't feel like moving	1	2	3	4
3. I'm depressed about my condition	1	2	3	4
4. I feel confident	1	2	3	4
5. I think life is worth living now	1	2	3	4
6. It's encouraging to know that others care	1	2	3	4
7. It's too noisy for me to have a rest	1	2	3	4
8. No one can understand how I feel right now	1	2	3	4
9.The pain was unbearable	1	2	3	4
10. I feel unhappy when I'm alone	1	2	3	4
11.I don't like it here	1	2	3	4
12. I'm constipated	1	2	3	4
13. I don't feel well now	1	2	3	4
14.This room doesn't feel comfortable	1	2	3	4
15.I'm afraid of what will happen	1	2	3	4
16.I feel very tired now	1	2	3	4
17.I feel quite content now	1	2	3	4
18.This bed bothers me	1	2	3	4
19.The atmosphere here is very good	1	2	3	4
20.There is nothing here that I like	1	2	3	4
21.I don't feel like I belong here	1	2	3	4
22.My relatives and friends often call me to care about me	1	2	3	4
23.I need to know more about my illness	1	2	3	4
24. I don't have much choice	1	2	3	4
25.The air in this room is bad	1	2	3	4
26. I'm at peace	1	2	3	4
27. I'm feeling down now	1	2	3	4
28. I find life very meaningful	1	2	3	4

Part 5:Social support scale

Instruction: The following items mainly reflect support you receive from community. Check √ on the option most match with your situation.

1. How many close friends do you have that you can count on for support and help?

(1) None, (2) 1-2, (3) 3-5, (4) 6 or more

2. In the past year, you

(1) Live alone in a room far from family members

(2) Change of residence frequently and live with strangers most of the time

(3) Live with classmate(s), colleague(s), or friend(s)

(4) Live with your family

3. You and your neighbor

(1) We are only nodding friends

(2) May be slightly concerned about difficulties

(3) Some neighbors care about you very much

(4) Most of the neighbors are concerned about you.

4. You and your colleague(s)

(1) We are only nodding friends

(2) May be slightly concerned about difficulties

(3) Some colleague(s) care about you

(4) Most of my colleague(s) care about you

What amount of support and/or care received from each family member (tick √ in an appropriate option)

	None (1)	Few (2)	Fair (3)	Full (4)
5. Husband (lover)				
6. Parent(s)				
7. Son(s) or daughter(s)				
8. Brother(s) and/or sister(s)				
9. Other relative(s) (e.g., sister-in-law)				

10. In the past, you have received financial support or help with practical problems from the following sources:
    (1) Without any source
    (2) From the following sources (can select more than one):
        A. Spouse
        B. Parent(s) (mother, father, mother-in-low, father-in-law)
        C. Friend D. Other relative(s) (e.g., sister, aunt, etc.)
        E. Colleagues F. Work unit
        G. Official or semi-official organizations, such as Party groups or trade unions
        H. Non-official organizations, such as, religious or social organizations
        I. Others, (identify).....
11. In the past, you have received the following sources of comfort and concern in the times of emergency:
    (1) Without any source
    (2) The following sources (can select more than one):
        A. Spouse B. Parent(s) C. Friend
        D. Other relative(s) E. Colleague(s) F. Work unit
        G. Official or semi-official organizations such as Party groups and trade unions
        H. Non-official organizations such as religious and social organizations
        I. Others, (identify) .....
12. Who do you talk about your troubles
    (1) Never talk to anyone (2) Only talk to very intimate friends
    (3) If friend asks you, you will say it
    (4) Take the initiative to express your trouble to people around you
13. How to ask for help when you encounter trouble
    (1) Only rely on oneself, don't accept others' help
    (2) Seldom ask others for help (3) Sometimes ask others for help
    (4) Often ask for help from family members, relatives, friends, and/or organizations when in difficulty
14. For organizing activities by groups (such as, caucuses, religious organizations, trade unions, student unions, etc.), you
    (1) Never attend (2) Occasionally attend
    (3) Attend regularly (4) Never absent

Notes: Two subscales: support amount (item 1-9**),** and support source (item 10-14).

APPENDIX B

Questionnaaires in Chinese

Part 1:人口调查问卷

患者的人口统计记录表包括年龄、教育程度、宗教信仰、婚姻状况、居住地、婚姻年限、职业状况、医疗支付方式、家庭收入、髋部骨折详细诊断、治疗方法等。

说明:请在与您的信息相匹配的方框内打上√。

基本信息
1. 你的性别: ☐男 ☐女
2.你的年龄:_____岁
3. 你的婚姻状况: ☐结婚 ☐离婚 ☐未婚 ☐丧偶
4. 你的教育程度: ☐小学及以下 ☐初中 ☐高中 ☐大学 ☐大学及以上
5.居住地: ☐城市 □ ☐ 小镇 □ ☐农村
6. 您以前住过院吗: ☐住过 ☐没有住过
7. 家庭成员(*可选择多于一项):

☐配偶 □

☐你自己的孩子(ren) □

☐你的父母

☐岳父/母 □

☐其他(识别)_____

8. 职业:

☐ 工人 □

☐ 老师 □

☐个体

☐ 公务员 □

☐ 失业□

☐ 其他 (识别)_____

9. 家庭经济状况:

☐有存款无债务 □

☐有存款多于债务吗

☐有没有存款比债务少

☐存款等于债务吗

☐其他 (识别)_____

10. 你以前在这家医院看过医生吗?

☐有

☐没有

11. 您以前有手术史吗:

☐有_____(请填写手术名称)

☐没有

Part 2:髋部骨折患者知识知晓情况调查问卷

亲爱的髋部骨折患者: 这份问卷是为了了解你对髋部骨折手术的了解程度。本问卷共有 10 个问题，均为积极问题。评分规则如下:“正确”为 1 分;“不正确”是 0 分。 满分为 10 分，分值越高，说明患者对髋部骨折手术健康知识的了解程度越高。 在阅读完每个问题后，请在你认为最合适的选项上打勾。		
	正确	不正确
1.骨质疏松是髋关节骨折的原因	□ □	□ □ □
2.髋部的外力因素会导致髋关节骨折		
3.严重髋部骨折会危及生命		
4.髋部骨折术前持续牵引可以减轻疼痛		
5.髋部骨折术前疼痛可以吃药控制		
6.髋部骨折术前需要康复锻炼		
7.髋部骨折术前长期卧床会引起压疮		
8.髋部骨折术前有引起静脉血栓的可能性		
9.髋部骨折后可以吃油腻食物		
10.髋部骨折手术能够有效降低残疾的概率	□ □	□ □ □

Part 3:髋部骨折患者术前准备度问卷

亲爱的髋部骨折患者:

此问卷测量患者术前准备的完善程度。本问卷共有 10 个问题，评分规则如下:“非常同意”为 5 分;“同意”是 4 分;“有些”是 3 分;“不同意”得 2 分;“非常不同意”得 1 分。

在阅读完每个问题后，请在你认为最合适的选项上打勾。

	强烈同意(5)	同意（4）	有些(3)	不同意(2)	强烈反对(1)
1.手术日期临近，你的心理负担是否加重?					
2.手术前你做过深呼吸练习吗?					
3.你开始营养管理了吗?					
4.手术前你能合理控制你的疼痛吗?					
5.您完成术前检查了吗?					
6.你的骨科主任(主治医生)是否与你沟通过可能的风险?					
7.医生/护士能及时回答你的问题吗?					
8.您开始术前康复训练了吗?					
9.你家里有没有安装安全装置?					
10.你知道髋部骨折术前并发症预防吗?					

Part 4:Kolcaba 舒适量表

条目	非常不同意	一般不同意	同意	非常同意
1. 当我需要帮助的时候，我可以指望别人	1	2	3	4
2. 我不想搬家	1	2	3	4
3. 我对自己的状况感到沮丧	1	2	3	4
4. 我感觉自信	1	2	3	4
5. 我觉得现在的生活是值得的	1	2	3	4
6. 知道别人的关心是令人鼓舞的	1	2	3	4
7. 太吵了，我不能休息	1	2	3	4
8. 没人能理解我现在的感受	1	2	3	4
9.疼痛难以忍受	1	2	3	4
10.当我一个人的时候，我感到不快乐	1	2	3	4
11.我不喜欢这里	1	2	3	4
12.我便秘了	1	2	3	4
13. 我现在感觉不舒服	1	2	3	4
14.这个房间感觉不舒服	1	2	3	4
15.我害怕将要发生的事情	1	2	3	4
16.我现在感觉很累	1	2	3	4
17.我现在感到很满足	1	2	3	4
18.这张床让我心烦	1	2	3	4
19.这里的气氛很好	1	2	3	4
20.这里没有我喜欢的东西	1	2	3	4
21.我觉得我不属于这里	1	2	3	4
22.我的亲戚朋友经常打电话关心我	1	2	3	4
23.我需要更多地了解我的病情	1	2	3	4
24. 我没与太多的选择	1	2	3	4
25.这个房间的空气很差	1	2	3	4
26.我现在很平静	1	2	3	4
27. 我现在感觉很低落	1	2	3	4
28.我觉得生活很有意义	1	2	3	4

Part 5:社会支持评定量表

说明:以下项目主要反映您从社区获得的支持。选择最符合你的情况的选项。

1. 您可以得到多少亲密朋友的支持和帮助?

(1) 没有 (2) 1-2 (3) 3-5 (4) 6 或更多

2. 在过去的一年里，你

(1) 独自居住再远离家人的房间里

(2) 经常搬家，大部分时间和陌生人住在一起

(3) 与同学、同事或朋友住在一起

(4) 和家人住在一起

3. 你和你的邻居

(1) 我们只是点头之交

(2) 可能会稍微担心一下你的困难

(3) 有些邻居非常关心你

(4) 大多数邻居都很关心你.

4. 你和你的同事

(1) 我们只是点头之交

(2) 可能会稍微担心一下你的困难

(3) 有些同事非常关心你

(4) 大多数同事都很关心你

每个家庭成员获得了多少支持和/或关怀（在适当的选项打勾 √）

	None (1)	Few (2)	Fair (3)	Full (4)
5. 丈夫或爱人				
6. 父母				
7. 儿子或女儿				
8. 兄弟或姐妹				
9. 其他亲属（例如弟媳）				

10.在过去，你曾从一下来源获得经济支持或解决实际问题的帮助:

(1) 没有任何来源

(2) 从以下来源 (多选):

A. 配偶

B. 父母 (爸爸、妈妈、公公、婆婆)

C. 朋友

D. 其他亲属(例如姐妹、阿姨等)

E. 同事

F. 工作单位

G. 官方或半官方组织，如党组织或工会

H. 非政府组织，如宗教或社会组织

I.其他.....

11.过去，在紧急情况下，您曾收到以下来源的安慰和关切:

(1) 没有任何来源

(2) 从以下来源 (多选):

A. 配偶

B. 父母 (爸爸、妈妈、公公、婆婆)

C. 朋友

D. 其他亲属(例如姐妹、阿姨等)

E. 同事

F. 工作单位

G. 官方或半官方组织，如党组织或工会

H. 非政府组织，如宗教或社会组织

I.其他.....

12. 你和谁谈论你的烦恼

(1) 从来没和任何人说过

(2) 只和非常亲密的朋友交谈

(3) 如果朋友问你，你会说出来

(4) 主动向身边的人表达你的烦恼

13. 当你遇到困难时如何寻求帮助

(1) 只依靠自己，不接受别人的帮助

(2) 很少向别人求助

(3) 有时向别人求助

(4) 遇到困难时，经常向家人、亲戚、朋友和/或组织寻求帮助

14. 若按团体（如党团会议、宗教组织、工会】学生会等）组织活动，你须

(1) 从不参加

(2) 偶尔出席

(3) 定期出席

(4) 从不缺席

注：两个分量表：支持数量（项目 1-9）和支持来源（项目 10-14）.

APPENDIX C

Participant information sheet and consent form

Participant Information Sheet

Research protocol code:…G-HS092/2565……
Research Title:……**Factors related to preoperative comfort of patients with hip fracture in Wenzhou ,China.**

Dear participants

I am Ms Qingyun Wu, a student in Master of Nursing Science (International Program) Faculty of Nursing, Burapha University Thailand. My study is "Factors related to preoperative comfort of patients with hip fracture in Wenzhou ,China". The objectives are to identify preoperative comfort among old people with hip fracture in Wenzhou, China, and to examine related factors (i.e., knowledge about hip fracture operation, readiness for the operation, and social support) influencing preoperative comfort among old people with hip fracture in Wenzhou, China.

This study will be a survey study. Participating in this study is voluntary. If you agree to participate in this study, you will answer the following questionnaires, which will take approximately 25-30minutes. During the data collection period, the researcher will clarify any questions posed by the participants for clarity regarding the language or content. You will not get any direct benefits by participating in this study. However, the information you provide will be valuable to identify the factors related to preoperative comfort in elderly patients with hip fracture. This study will help nurses to understand the knowledge of preoperative comfort in order to guide their clinical practice. Consequently, it may result in better quality of life for elderly patients with hip fracture. Also, the contribution from this study may providing more body of knowledge about preoperative comfort in elderly patients with hip fracture which can contribute to widen nursing education and research. There will be no identified physical and psychological risk to the person participating in the study and no risk to the society.

During the study, you have the right not to answer questions, and you also have the right to change your minds and refuse to participate in the project at any time, and the refusal would not affect the medical services you received. Any information collected from this study, including your identity, will be kept confidential. A coding number

will be assigned to you and your name will not be used. Findings from the study will be presented as a group of participants and no specific information from any individual participant will be disclosed. All data will be accessible only to the researcher which will be destroyed one year after publishing the findings. You will receive a further explanation of the nature of the study upon its completion, if you wish.

The research will be conducted by Ms. Qingyun Wu under the supervision of my major-advisor, Assistant Professor Dr. Jinjutha Chaisena Dallas. If you have any questions, please contact me at mobile number: + 8613676581377 or by email 2279305294@qq.com and/or my advisor's e-mail address jinjutha@buu.ac.th. Or you may contact Burapha University Institutional Review Board (BUU-IRB) telephone number +66 038 102 620. Your cooperation is greatly appreciated. You will be given a copy of this consent form to keep.

Qingyun Wu

PARTICIPANT'S CONSENT FORM

IRB number: …… ..

Title of the study: Factors related to preoperative comfort of patients with hip fracture in Wenzhou, China

Date of data collection …… ..... …Month … ..... …… . ……Year …… .

Before giving my signature below, I have been informed by researcher, Ms. Qingyun Wu, about the purposes, method, procedures, benefits and possible risks associated with participation in this study thoroughly, and I understood all of the explanations. I consent voluntarily to participate in this study. I understand that I have the right to leave the study any time I want, without fearing that it might affect the medical services I will receive.

The researcher Ms. Qingyun Wu has explained tome that all data and information of the participants will be kept confidential and only be used for this study. I have read and understood the information related to participation in this study clearly and I am signing this consent form.

Signature

……..……..

Participant

(…….)

APPENDIX D

Ethical approval letter and data collection letter

MHESI 8137/611

Graduate School, Burapha University
169 Longhaad Bangsaen Rd.
Saensuk, Muang, Chonburi
Thailand, 20131

April 4th, 2023

To The director of the Second Affiliated Hospital of Wenzhou Medical University,

Enclosure: 1. Certificate ethics document of Burapha University
2. Research Instruments (Try out)

On behalf of the Graduate School, Burapha University, I would like to request permission for Ms. Qingyun Wu to collect data for testing the reliability of the research instruments.

Ms. Qingyun Wu, ID 63910129, a graduate student of the Master of Nursing Science program (International Program) in Adult Nursing Pathway, Faculty of Nursing, Burapha University, Thailand, was approved her thesis proposal entitled: "Factors related to preoperative comfort of patients with hip fracture in Wenzhou, China" under supervision of Assoc. Prof. Dr. Jinjutha Chaisena Dallas as the principle advisor. She proposes to collect data from 30 hospitalized hip fracture patients who met the inclusion criteria before hip surgery in orthopedics department of the Second Affiliated Hospital of Wenzhou Medical University. The data collection will be carried out from May 1 - 30, 2023.
In this regard, you can contact Ms. Qingyun Wu via mobile phone +86-1367-6581-377 or E-mail: 2279305294@qq.com

Please do not hesitate to contact me if you need further relevant queries.

Sincerely yours,

(Assoc. Prof. Dr. Nujjaree Chaimongkol)
Dean of Graduate School, Burapha University

CC **Wenxian Zhang**
Head nurse of orthopedics

Graduate School Office
Tel: +66 3810 2700 ext. 701, 705, 707
E-mail: grd.buu@go.buu.ac.th
http://grd.buu.ac.th

MHESI 8137/612

Graduate School, Burapha University
169 Longhaad Bangsaen Rd.
Saensuk, Muang, Chonburi
Thailand, 20131

April 4th, 2023

To The director of the Second Affiliated Hospital of Wenzhou Medical University,

Enclosure: 1. Certificate ethics document of Burapha University
2. Research Instruments

On behalf of the Graduate School, Burapha University, I would like to request permission for Ms. Qingyun Wu to collect data for conducting research.

Ms. Qingyun Wu, ID 63910129, a graduate student of the Master of Nursing Science program (International Program) in Adult Nursing Pathway, Faculty of Nursing, Burapha University, Thailand, was approved her thesis proposal entitled: "Factors related to preoperative comfort of patients with hip fracture in Wenzhou, China" under supervision of Assoc. Prof. Dr. Jinjutha Chaisena Dallas as the principle advisor. She proposes to collect data from 128 hospitalized hip fracture patients who met the inclusion criteria before hip surgery in orthopedics department of the Second Affiliated Hospital of Wenzhou Medical University. The data collection will be carried out from June 1 - August 30, 2023. In this regard, you can contact Ms. Qingyun Wu via mobile phone +86-1367-6581-377 or E-mail: 2279305294@qq.com

Please do not hesitate to contact me if you need further relevant queries.

Sincerely yours,

(Assoc. Prof. Dr. Nujjaree Chaimongkol)
Dean of Graduate School, Burapha University

CC **Wenxian Zhang**
Head nurse of orthopedics

Graduate School Office
Tel: +66 3810 2700 ext. 701, 705, 707
E-mail: grd.buu@go.buu.ac.th
http://grd.buu.ac.th

สำเนา

ที่ IRB3-019/2566

เอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์
มหาวิทยาลัยบูรพา

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาโครงการวิจัย

รหัสโครงการวิจัย : G-HS092/2565

โครงการวิจัยเรื่อง : Factors related to preoperative comfort of patients with hip fracture in Wenzhou ,China

หัวหน้าโครงการวิจัย : MISSQINGYUN WU

หน่วยงานที่สังกัด : คณะพยาบาลศาสตร์

BUU Ethics Committee for Human Research has considered the following research protocol according to the ethical principles of human research in which the researchers respect human's right and honor, do not violate right and safety, and do no harms to the research participants.

Therefore, the research protocol is approved (See attached)

1. Form of Human Research Protocol Submission Version 2: 14 March 2023
2. Research Protocol Version 1: 16 November 2023
3. Participant Information Sheet Version 2: 17 Fabruary 2023
4. Informed Consent Form Version 1: 19 January 2023
5. Research Instruments Version 1: 19 January 2023
6. Others (if any) Version 1: -

วันที่รับรอง : วันที่ 15 เดือน มีนาคม พ.ศ. 2566

วันที่หมดอายุ : วันที่ 15 เดือน มีนาคม พ.ศ. 2567

ลงนาม *Assistant. Professor Ramorn Yampratoom*

(Assistant. Professor Ramorn Yampratoom)

Chair of The Burapha University Institutional Review Board

Panel 3 (Clinic / Health Science / Science and Technology)

温州医科大学附属第二医院 温州医科大学附属育英儿童医院医学伦理委员会 AF/SW-01-3.0

涉及人的生物医学研究伦理审查批件

Ethics Committee Approval Letter of Biomedical Research Involving Humans

批件号 Approval NO.：伦审（2022-K-300-01）

项目名称 Study Title	中国温州地区髋部骨折患者术前舒适度的相关因素		
项目来源 Source	自选课题		
受理号 Acceptance Number	2022-K-300-01		
主要研究者 Principal Investigator	郑文娴	承担科室 Responsible Department	创伤骨科
审查类别 Category of Review	初始审查	审查方式 Type of Review	快速审查
审查日期 Date of Review	2022 年 12 月 2 日	审查地点 Location of Review	/
审查文件清单 Items Reviewed	1. 初始审查申请表 2. 研究者履历 3. 试验方案（版本号：V2.0；版本日期：2022.11.10） 4. 知情同意书（版本号：V2.0；版本日期：2022.11.10） 5. 调查问卷（版本号：V2.0；版本日期：2022.11.10）		
审评意见 Evaluation	批准		
审查决定 Decision	委员会对该项目的审查决定为： ☑批准 (Approval)		
主任委员签字 Chair Signature			
签发日期 Date of issue	2022 年 12 月 2 日		
医学伦理委员会 Stamp of EC	医学伦理委员会盖章		
批件有效期 Period of Validity	自本医学伦理委员会初始审查批准之日起一年内，本临床研究应在本院启动。逾期未启动的，本批件自行废止。		
年度/定期跟踪审查 Continue Review	审查频率为该研究批准之日起每 12 月一次，首次请于 2023 年 12 月 1 日前 1 个月递交研究进展报告。 医学伦理委员会有根据实际进展情况改变跟踪审查频率的权利。		
声明 Statement	本医学伦理委员会的职责、人员组成、操作程序及记录遵循《涉及人的生物医学研究伦理审查办法》、《涉及人的健康相关研究国际伦理准则》、《赫尔辛基宣言》、GCP 和 ICH-GCP 等国际伦理指南和国内相关法律法规。		

地址：浙江省温州市龙湾区温州大道东段 1111 号　电话：0577-85676879　邮编：325000

注意事项：

1. 请遵循我国相关法律、法规和规章中的伦理原则。
2. 请遵循经本医学伦理委员会批准的临床研究方案、知情同意书、招募材料等开展本研究，保护受试者的健康与权利。对研究方案、知情同意书和招募材料等的任何修改，均须得到本医学伦理委员会审查同意后方可实施。
3. 在本院发生的 SAE/SUSAR 以及研发期间安全性更新报告须按照 NMPA/GCP 最新要求及时递交本医学伦理委员会，国内外其它中心发生的 SAE/SUSAR 需定期汇总、评估后递交本医学伦理委员会。
4. 根据报告情况，本医学伦理委员会有权对其评估做出新的决定。
5. 自今日起，无论研究开始与否，请在跟踪审查日到期前 1 个月提交研究进展报告。
6. 申办方应当向组长单位医学伦理委员会提交中心研究进展报告汇总；当出现任何可能显著影响研究进行或增加受试者危险的情况时，请申请人及时向本医学伦理委员会提交书面报告。
7. 研究纳入了不符合纳入标准或符合排除标准的受试者，符合中止研究规定而未让受试者退出研究，给予错误治疗或剂量，给予方案禁止的合并用药等没有遵从方案开展研究的情况；或可能对受试者的权益或健康以及研究的科学性造成不良影响等违背 GCP 原则的情况，请申办方、监查员或研究者提交违背方案报告。
8. 申请人暂停或提前终止临床研究，请及时提交暂停或终止研究报告。
9. 完成临床研究，请申请人提交结题报告。
10. 凡涉及中国人类遗传资源采集标本、收集数据等研究项目，必须获得中国人类遗传资源管理办公室批准后方可在本中心开展研究。
11. 凡经本医学伦理委员会批准的研究项目在实施前，申请人应按相关规定在国家卫健委、药审中心等的临床研究登记备案信息系统平台登记研究项目相关信息。

BIOGRAPHY

NAME	Qingyun Wu
DATE OF BIRTH	8th Aug, 1991
PLACE OF BIRTH	Hefei, Anhui Province, China
PRESENT ADDRESS	Wenzhou, Zhejiang Province, China
POSITION HELD	Students
EDUCATION	Undergraduate course
AWARDS OR GRANTS	none