



## Research Article

## Turkish Version of Kolcaba's Immobilization Comfort Questionnaire: A Validity and Reliability Study



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## SUMMARY

**Purpose:** The purpose of this study was to determine the validity and reliability of the Turkish version of the Immobilization Comfort Questionnaire (ICQ).

**Methods:** The sample used in this methodological study consisted of 121 patients undergoing lower extremity arthroscopy in a training and research hospital. The validity study of the questionnaire assessed language validity, structural validity and criterion validity. Structural validity was evaluated via exploratory factor analysis. Criterion validity was evaluated by assessing the correlation between the visual analog scale (VAS) scores (i.e., the comfort and pain VAS scores) and the ICQ scores using Spearman's correlation test. The Kaiser-Meyer-Olkin coefficient and Bartlett's test of sphericity were used to determine the suitability of the data for factor analysis. Internal consistency was evaluated to determine reliability. The data were analyzed with SPSS version 15.00 for Windows. Descriptive statistics were presented as frequencies, percentages, means and standard deviations. A  $p$  value  $\leq .05$  was considered statistically significant.

**Results:** A moderate positive correlation was found between the ICQ scores and the VAS comfort scores; a moderate negative correlation was found between the ICQ and the VAS pain measures in the criterion validity analysis. Cronbach  $\alpha$  values of .75 and .82 were found for the first and second measurements, respectively.

**Conclusions:** The findings of this study reveal that the ICQ is a valid and reliable tool for assessing the comfort of patients in Turkey who are immobilized because of lower extremity orthopedic problems.

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## Introduction

The main goal of nursing as a professional discipline is to provide patient care, and one of the pillars of nursing practice and research is assessing the comfort status of patients and providing comfort interventions [1]. Comfort is an important element of quality of life, and many interventions performed by health care professionals, especially nurses, focus on promoting comfort [2]. Comfort theory guides nurses in this process [3,4].

Comfort theory is based on the concept of comforting [5]. It was developed by Kolcaba, and has the potential to affect the perspectives and practices of other health care providers in health care settings [6,7]. Kolcaba developed the taxonomy of the concept of comfort, which included three types of comfort (relief, ease, and transcendence) and four contexts [8]. In 1994, she published the comfort theory [9,10], which was updated in 2007 [7]. Each of the three types of comfort is a theoretically unique component and has a positive impact on the patient's recovery [6].

## Contexts of comfort

According to Kolcaba, the four contexts of comfort are physical comfort, psychospiritual comfort, environmental comfort and sociocultural comfort [6]. Physical comfort is related to bodily perceptions. It encompasses physiological factors such as rest and

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relaxation, responses to disease, nutrition and homeostasis, and bowel function continuity that affect an individual's physical condition. Pain is one of the main factors that compromise physical comfort [5].

Psychospiritual comfort has mental and spiritual components. It encompasses emotions that are associated with concepts that give the individual's life meaning, such as self-esteem, self-concept and self-awareness. In patients undergoing surgery, the most important factor that reduces psychospiritual comfort is anxiety [6].

Environmental comfort includes external factors and circumstances and their effects on the individual. It encompasses factors related to the individual's external environment, including light, noise, color, temperature, the safety of the environment and the landscape visible through the window [11].

Sociocultural comfort refers to the individual's social and cultural environment. Components of sociocultural care include consulting and sharing knowledge; providing care that is sensitive to the individual's family traditions, habits, and religious beliefs; offering financial support services; ensuring interpersonal communication; planning discharge and offering discharge training; and sustaining care at home [5,6].

Nursing care should be planned holistically and should embrace the four dimensions of comfort. By means of such comprehensively planned care, patients can experience relief, ease and transcendence. To realize this goal, nurses should be guided by and equipped with an instrument that properly assesses the level of patient comfort [12]. Such instruments may have benefits that are manifested by nursing documentation, such as assessing the quality and expected outcomes of patient care [11,13].

#### *Lower extremity arthroscopy, comfort and nursing*

With advances in minimally invasive surgical techniques, arthroscopic surgery has become the most common orthopedic surgical procedure worldwide [13]. In arthroscopic surgery, the surgical field is viewed with a fiber-optic endoscope via a small incision, and the pathological field is resected or debrided with special surgical instruments via another small incision [14,15]. Lower extremity arthroscopy allows the direct visualization, identification and treatment of many lesions in the knee and ankle joints [15]. Knee arthroscopy is the most common surgical procedure performed on the knee. Pain after lower extremity arthroscopy appears to be the most important problem related to surgery [16]. Moreover, casts, dressings, splints or immobilizers used to immobilize the extremities after surgery may cause discomfort in orthopedic patients. Discomfort may also occur as a result of pressure, swelling and skin breakdown and of the reduced independence in daily activities such as self-care requirements, nutrition and elimination that many patients experience as a consequence of immobilization [17,18].

According to the National Association of Orthopedic Nurses, orthopedic nurses view their patients as whole people with physical, psychological, cultural, social, emotional, and spiritual needs. Also, they should aim for the highest standards of nursing practice to provide optimum patient care [19]. The patients' perception of care, which is influenced by their comfort during hospitalization, has been an important consideration in health care delivery; this perception is related to the nurse's ability to meet the patient's immediate physical and clinical needs in a timely manner and to provide a comforting physical presence [20].

Pulmonary, cardiovascular, gastrointestinal, metabolic, neuro-endocrine and psychological changes occur as a physiological response to surgical trauma and stress [21]. Therefore, after arthroscopic surgery, for which the patient is hospitalized for a short time, reducing pain in the first 24 hours [16] and providing

comfortable postoperative care are important. The patient's experiences of great pain will result in decreased comfort and satisfaction [21].

#### *Assessment of comfort in literature*

According to Pearson [2], most of the studies about comfort found in the literature assess comfort using tools that lack reliability and validity. Many researchers have used only pain scales to measure comfort or have developed questionnaires based on the literature to assess the patient's discomfort [22,23]. However, comfort cannot be limited to the absence of pain [2]. Comfort is a multidimensional concept that includes physical, psychospiritual, environmental and sociocultural comfort [6]. Furthermore, many factors, such as positioning, temperature, pressure, health, and the environment, plus physiological and psychological factors, affect comfort [2]. The visual analog scale (VAS), which is used in some studies to measure comfort, does not focus on the dimensions of comfort and only requires selecting a point between two end points [24–26]. Furthermore, the VAS was found to have lower sensitivity than Anatomical Illustration Rating Scale for some body areas and subgroups [26]. However, valid and reliable assessment tools are required to evaluate the effectiveness of patient care interventions [2]. Although comfort is frequently measured in practice, it is a slowly emerging and immature concept in the literature [4].

National studies of comfort and the standards for measuring comfort are limited [9,13,27]. A validity and reliability study of the Turkish version of the General Comfort Questionnaire (GCQ) was conducted by Kuğuoğlu and Karabacak in 2008 [28]. Versions of the GCQ have appeared for specific domains, such as the Postpartum Comfort Questionnaire [9], the Urinary Incontinence and Frequency Comfort Questionnaire [27], the Perianesthesia Comfort Questionnaire [13]. They have also been adapted for use in Turkey. However, there are no studies that focus on the comfort of orthopedic patients confined to bed rest. Assessing the comfort level of these patients and measuring the effects of comfort-augmenting interventions in the care context are crucial to allow nurses and other health care providers to demonstrate evidence-based patient outcomes. Nursing care guided by comfort theory could contribute to an increased quality of care and patient satisfaction by ensuring an optimal level of comfort. The purpose of this study, which is based on comfort theory and takes a holistic approach to individual assessment, was to adapt the Immobilization Comfort Questionnaire (ICQ) to Turkish and to test the validity and reliability of the adapted questionnaire on patients undergoing lower extremity arthroscopy.

## **Methods**

### *Study design*

This study used a methodological study design.

### *Setting and sample*

This study was conducted between December 2012 and March 2013 in the orthopedics and traumatology department of a training and research hospital in Ankara. One hundred twenty-one patients undergoing lower extremity (hip, knee and ankle) arthroscopic surgery were included in the study. All of the participants were literate in Turkish, aged 18 years or older, and hospitalized with postoperative bed rest for 1 day.

The sample size was determined with reference to the number of items and Likert scales. A wide range of recommendations about

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