

Care Requirements of Patients Undergoing Surgery Intervention due to the Femur Fracture according to Functional Health Patterns Model

Abstract

Aim: This study was carried out as a descriptive in order to determine biopsychosocial and spiritual care requirements of patients who underwent surgery for femoral fracture using Functional Health Patterns and to establish anxiety and depression levels.

Methods: The study was conducted in the orthopedics clinic in Sivas Cumhuriyet University Health Services Application and Research Hospital with 52 patients. In the data analyses, frequencies, percentages, and the Chi-Square Test were used.

Results: It was determined that all patients had impaired physical movement, 98.1% had self-care deficit, 94.1% had constipation, 86.5% had imbalanced nutrition less than body requirements, 84.6% experienced pain with a severity 5.29 ± 2.12 , 82.7% had sleep deprivation, 59.6% had ineffective role performance, and 55.8% had disturbed body image. It was established that 46.2% of the patients experienced anxiety and 34.6% experienced depression. It was determined that the rates of anxiety were higher in individuals with constipation and diarrhea and inability to cope with stress; the rate of depression was higher in individuals with pain and the rates of both anxiety and depression were higher in individuals with impaired body image.

Conclusion: The study found that nearly half of the participants experienced anxiety, individuals with constipation and diarrhea, and inability to cope with stress were risky groups for anxiety, individuals with pain were risky groups for depression, and individuals with impaired body image were risky groups for anxiety and depression. Orthopedic and traumatology nurses' holistic assessment of the care requirements of patients with femoral fractures using models such as Functional Health Patterns, planning appropriate care interventions for these requirements, identifying risky groups in terms of anxiety and depression and taking initiatives to reduce possible risks will contribute to prevent complication, decrease mortality, morbidity, length of hospital stay, care costs and to increase care quality.

Keywords: Anxiety, Care requirements, Depression, Femur fracture, Functional Health Patterns, Nursing

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Gürler H. Care Requirements of Patients Undergoing Surgery Intervention due to the Femur Fracture according to Functional Health Patterns Model. *J Educ Res Nurs*. 2021; 18(4): 415-422

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Introduction

Orthopedic traumas are universal problems causing temporary and permanent disabilities and affecting the quality of life negatively.^{1,2} Patients who experience orthopedic traumas experience various physical and psychosocial problems as a result of the fractures or surgical interventions for treatment.^{3,4} The most common physical problems are loss of independence, lack of self-care, acute pain, sleep disorders, and changes in nutrition and elimination.²⁻⁵ These physical problems that are experienced as a result of traumas also affect the family and work lives of patients causing psychosocial problems such as changes in role performance, social isolation, feelings of anger, grief and helplessness, disturbed body image, and anxiety-depression.⁵⁻⁸ It was reported in previous studies that anxiety and depression are the most common psychological problems in orthopedic patients prolonging hospital stays, delaying rehabilitation, and affecting post-traumatic recovery negatively.^{9,10}

Orthopedic nurses have fundamental roles in the adaptation of patients to physical limitations and coping with the problems they experience.⁹ A holistic and systematic evaluation model must be adopted in the early diagnosis of physiological, psychological, social, cultural, and spiritual problems experienced by orthopedic trauma patients, in determining the factors that affect these problems, and in developing effective interventions for such problems.^{4,5,11} One of the basic models, which can be used to determine the care requirements of orthopedic patients and to provide individual-specific care holistically, is the "Functional Health Patterns" (FHPs) Model, which was developed by Gordon in 1982 and which assess individuals in a comprehensive and biopsychosocial dimension.^{12,13} This model is an important tool providing the organization and evaluation of nursing interventions by explaining the requirements of individuals in 11 functional areas. Although there are studies in the literature investigating care requirements in different patients groups by using the FHPs Model,^{11,12} no studies were detected investigating anxiety and depression levels and evaluating biopsychosocial and spirituals care requirements of patients undergoing surgery due to femur fractures.

Purpose

The present study was conducted to determine the biopsychosocial and spiritual care requirements of patients who underwent surgical intervention because of femur fractures by using the FHPs model and to determine their anxiety and depression levels.

Study Questions

1. What are the biopsychosocial and spiritual care requirements of patients who underwent surgical intervention for femur fractures according to the FHPs Model?
2. What is the anxiety and depression level of patients who underwent surgery for femoral fracture?
3. What are the factors that affect the anxiety and depression levels of patients who underwent surgery for femoral fractures?

Method

Type of Study

The study was conducted as a descriptive and cross-sectional study.

Location and Characteristics of the Study

The study was conducted in the orthopedics clinic of Sivas Cumhuriyet University Health Services Application and Research Hospital. The orthopedics clinic has a 40-bed capacity where a maximum of six people are treated in each room.

Population and Sampling of the Study

The study population consisted of 991 patients who were treated for fractures/surgical interventions in the orthopedics clinic of Sivas Cumhuriyet University Health Services Application and Research Hospital between January 1, 2018, and January 1, 2019, and the sampling consisted of 71 patients who underwent surgical interventions for femur fractures between January 14, 2019, and July 13, 2019. A total of 52 patients, who were over the age of 18, without visual, hearing, or cognitive impairments, who could speak Turkish, and who agreed to participate in the study, were included in the study; and 7 patients with hearing problems and 12 patients with cognitive dysfunctions such as Alzheimer's Disease and Dementia were excluded from the study.

Data Collection

The study data were collected in the patient's room. The patients who received treatment were evaluated in terms of compliance with the sampling criteria, and verbal and written consents were obtained from all individuals that would be included in the study. The questionnaire forms were administered to the individuals participating in the study one day before their discharge, on the third postoperative day, because the patients were discharged on the fourth day on average, in the patient's room 30 minutes before their treatment times at 10:00 a.m. (before the administration of the analgesics). The administration of the questionnaires took approximately 20–25 minutes. Each question in the questionnaire form was filled by the researcher by asking the patient one-by-one, and the patients and their relatives were informed about the management of the identified problems.

The Descriptive Characteristics Form, Identification of Care Requirements Form According to the FHPs Model, Visual Analogue Scale (VAS) for Pain Assessment, and Hospital Anxiety Depression (HAD) scale were used to determine the anxiety and depression levels to collect the study data. The forms were applied to the individuals only on the third postoperative day and only once.

Data Collection Tools

Descriptive Characteristics Form

The form that was developed by the researcher in line with the literature data consisted of 8 questions on the age, gender, education level, marital and employment status of the individuals, the reason for applying to hospital, length of hospitalization, and presence of any chronic disease.^{2,3,8}

The Care Requirements according to the FHP Model Form

In the present study, a form that was prepared by using the 11 FHP Model, which was developed by Gordon in 1982, was used to determine the post-operative care requirements of individuals systematically.^{11,12} The form included a total of 19 questions that were answered as Yes/No to determine the requirements related to the patterns of perception of health (experiencing changes in thoughts about health after hospitalization, type of change), nutrition (experiencing anorexia, nausea, and vomiting), elimination (experiencing constipation, diarrhea, stool incontinence), activity-exercise (activity-exercise levels, experiencing difficulty in eating-drinking, going to toilet, bathing, dressing and moving), sleep-rest (experiencing sleeping problems, e.g. sleeping less than normal, sleeping more than normal, difficulty falling asleep, waking up in midnight, not waking up rested in the morning), cognition and perception (experiencing pain and its severity), self-perception (experiencing changes in the perception of the person and body because of the disease), roles and relations (experiencing difficulty in fulfilling roles and responsibilities and experiencing difficulty in maintaining social relations because of the disease), sexuality (changes in sexual life because of the disease), coping and stress tolerance (effective and ineffective practices to reduce stressful situations after hospitalization) and values and beliefs (experiencing changes in values and beliefs such as losing the meaning and purpose of life, having difficulty in fulfilling religious practices).^{2,3,8,12–14} In case of the patient answers "Yes" to the questions asked, the patients' requirements for care, which defines the symptoms and is suitable for the pattern, was determined by considering that the patients had a requirement for that pattern.

The HAD Scale

The HAD Scale was used to determine the anxiety and depression levels of the patients. The scale was developed by Zigmond and Snaith¹⁵ in 1983 to assess mood disorders in a population with medical diseases. The correlation coefficients of the original scale were found to be between 0.76 and 0.41 for the anxiety sub-items, and between 0.60 and 0.40 for depression sub-items. The Turkish validity and reliability of the scale were conducted by Aydemir¹⁶ in 1997, and the Cronbach's Alpha Coefficient was determined to be 0.85 for the anxiety subscale, and 0.77 for the depression subscale. The lowest score that patients receive from the anxiety and depression subgroups of the scale is 0, and the highest score is 21. The cut-off points of the Turkish version of the HAD Scale were found to be 10 for the Anxiety Subscale (HAD-A), and 7 for the Depression Subscale (HAD-D), and in this respect, individuals who had a depression score above 7 were decided to experience depression, and those who had an anxiety score above 10 were decided to experience anxiety.¹⁶ The Cronbach's Alpha value of the scale was found to be 0.78 for the anxiety subscale and 0.86 for the depression subscale in this study.

Visual Analog Scale (VAS)

Visual Analog Scale (VAS) was developed by Price et al.¹⁷ in 1983 as a reliable and easily applicable scale used to measure the severity of pain in patients and has been accepted in the world literature. It is a scale with beginning – 0 – "no pain", and the ending – 10 – "very severe pain", and each cm is given a numerical value at 1 centimeter (cm) intervals.^{17,18} The scale was applied to the patients on the third postoperative day only once. The patients were asked to mark the most appropriate range for their current pain intensity on an evaluation bar (one end was expressed as – 0 – "no pain", and the other end – 10 – "very severe pain"). Then, the pain intensity was determined by measuring the marked area with the help of a ruler.

Ethical Aspect of the Study

The approval was obtained from the Sivas Cumhuriyet University Clinical Research Ethics Committee (02.01.2019, no: 2019-01/27) and written and verbal consents were obtained from all individuals who agreed to participate in the study.

Data Analysis

The data obtained from the study were evaluated with the SPSS (Statistical Package for the Social Sciences software) statistics 22.00 package program (IBM SPSS Corp.; Armonk, NY, USA). Frequencies and percentages were used for the categorical variables in the evaluation of the data, and the Chi-Square Test was used for pairwise group comparisons. The error level was taken to be $P < .05$.

Results

The mean age of the individuals who were included in the study was 58.00 ± 2.18 , 46.2% were over 65 years old, 51.9% were male, 69.2% were married, 32.7% were primary school graduates, 30.8% were illiterate/literate, and 73.1% did not work. A total of 69.2% of the individuals had femoral fractures because of falling, 55.8% had femoral neck fractures, 21.2% had femoral intertrochanteric fractures, 13.5% had femoral shaft fractures, all of them had total hip prostheses because of femur fractures, 67.3% were hospitalized before, and 50% had a chronic disease (Table 1).

When the care requirements of the individuals were evaluated according to the FHPs Model, it was found that all of them had impaired physical activity, 98.1% had self-care deficit, 94.1% had constipation, 86.5% had imbalanced nutrition: less than body requirements, 84.6% had pain and pain severity was 5.29 ± 2.12 , and 82.7% had sleep deprivation. It was also determined that 55.8% of them had disturbed body image, 59.6% had ineffective role performance, 25% had spiritual distress, 19.2% had inadequacy in individual coping, 17.3% had social isolation, 17.3% had sexual dysfunction, 15.4% had impaired skin integrity, and 13.5% had inability to maintain health (Table 2). Although not listed in a table, it was also determined that there was no statistically significant difference between the sociodemographic characteristics of individuals and their care requirements according to the FHP Model.

It was determined according to the scores obtained from the scale that 46.2% of individuals experienced anxiety, and 34.6% of them experienced depression. No statistically significant differences were detected in the incidence of anxiety and depression according to age, gender, marital status, presence of chronic disease, and length of hospitalization; the rates of anxiety and depression were higher in individuals with illiterate/literate education level, and the rate of depression was higher in unemployed individuals (Table 3).

When the state of experiencing anxiety and depression according to care requirements of individuals was compared, anxiety levels were higher in individuals with constipation and diarrhea and in individuals with inability to cope with stress; depression level was higher in individuals with pain; and the rates of both anxiety and depression were higher in individuals with impaired body image (Table 4).

Discussion

The affected joint is stabilized to prevent the development of complications in orthopedic patients, as well as to ensure patient comfort, reduce the pain, and facilitate fracture reduction, which causes individuals to be dependent in their daily living activities.^{3,14,19-22} In a study

Table 1. Descriptive and Clinical Characteristics of Individuals (N = 52)

Descriptive Characteristics	Mean \pm SD	
Mean age	58.00 \pm 2.18	
Length of hospitalization/day	10.01 \pm 8.17	
Age groups	n	%
18-37	13	25.0
38-64	15	28.8
\geq 65	24	46.2
Gender		
Female	25	48.1
Male	27	51.9
Education level		
Illiterate/literate	16	30.8
Primary school	17	32.7
High school	14	26.9
University	5	9.6
Marital status		
Married	36	69.2
Single	16	30.8
Employment status		
Employed	14	26.9
Unemployed	38	73.1
Chronic disease		
Yes	26	50.0
No	26	50.0
Clinical Characteristics		
The cause of femur fracture		
Falling	36	69.2
Traffic accident	16	30.8
Type of femur fracture		
Neck fracture	29	55.8
Intertrochanteric fracture	11	21.2
Shaft fracture	7	13.5
Supracondylar fracture	3	5.8
Subtrochanteric fracture	2	3.8

that was conducted by Souza et al.²³ to evaluate the quality of life in patients with femoral fractures, it was found that individuals had moderate and severe mobility problems, difficulties in activities of daily living, and self-care deficit. It was reported in a study that was conducted by Yüksel and Ülker¹⁹ with 160 patients who had hip fractures that 56.1% of patients had a self-care deficit. It was observed in this study that all individuals experienced a self-care deficit because of impaired physical activity and the majority of them were bedridden, which is similar to the literature. It can be considered that impaired

Table 2. Care Requirements of Individuals according to FHPs (N = 52)

FHPs	n	%
Health Perception-Health Management		
Inability to maintain health	7	13.5
Nutritional-Metabolic		
Imbalanced nutrition: Less than body requirements	45	86.5
Nausea	10	19.2
Vomiting	3	5.8
Impaired skin integrity	8	15.4
Elimination		
Constipation	32	94.1
Diarrhea	2	5.9
Activity-Exercise		
Impaired physical movement	52	100.0
Self-care deficit	51	98.1
Sleep-Rest		
Sleep deprivation	43	82.7
Cognitive-Perceptual		
Pain (Mean ± SD: 5.29 ± 2.12)	44	84.6
Self-Perception-Self-Concept		
Disturbed body image	29	55.8
Role-Relationships		
Ineffective role performance	31	59.6
Social isolation	9	17.3
Sexuality-Reproductive		
Sexual dysfunction	9	17.3
Coping Stress-Tolerance		
Inadequacy in individual coping	10	19.2
Value-Beliefs		
Spiritual distress	13	25.0

physical activity and self-care deficit in this patient group may affect the healing process negatively by causing undesirable complications and a decrease in the quality of life after the surgery. For this reason, it is important to plan nursing interventions that will support the independence of patients and help them perform daily life activities.

Orthopedics and trauma patients are in the high-risk patient group in terms of the development of constipation because of reasons such as using opioids, which have side effects reducing peristaltic movements for alleviating pain, limited mobility, and low fluid and fiber food intake.²³⁻²⁵ Previous studies reported that the incidence of constipation in patients who undergo surgical intervention because of femur fractures was 27-69.1%.¹⁹⁻²¹ In this study, the rate of individuals who experienced constipation was found as 94.1%, and it was seen that this was higher than the rates reported in the literature. The findings obtained from the study show the necessity of orthopedic nurses to

determine the causes of constipation in patients and to apply preventive and therapeutic up-to-date interventions.

It was determined in the study that 86.5% of the individuals were fed less than their body requirements. In previous studies that were conducted with orthopedic patients, it was reported that energy and protein intake were insufficient in patients.^{26,27} and 46-88.1% of them had nutritional problems because of anorexia, hospital meals, and nausea-vomiting.¹⁹ Nutritional deficiencies have negative impacts, e.g. loss of muscle mass and functions, impaired immune functions, and delayed union and nonunion in fractured bone tissues.^{26,27} For this reason, it is considered that routine evaluation of individuals who have femur fractures for nutritional deficiency with screening tools and reducing possible risk factors, e.g. nausea/vomiting will accelerate their recovery.

Previous studies emphasized that 25-92% of orthopedic patients experienced moderate-to-severe pain that was associated with traumas, surgeries, repositioning, and physical therapy, and this pain must be monitored closely.^{22,28} It was reported that moderate-to-severe pain experienced in orthopedic clinics impaired mobility in patients, prevented participation in physical therapy and returning to work, caused delirium, depression, sleep and appetite loss, and increased the cost of care by prolonging the length of hospitalization.^{4,29,30} In a study that was conducted by Yılmaz et al.²² in which the relations between pain, anger level, and sleep quality were evaluated in orthopedic patients, it was reported that 53.6% of the patients experienced pain at a severity of 4.8 ± 2.2. In another study that was conducted by Szöts et al.,²⁹ it was found that 81.4% of the patients experienced pain at a severity of 5.56. In the present study, similar to the literature, it was found that 84.6% of the patients experienced acute pain at a severity of 5.29 ± 2.12 on the third postoperative day. The findings of the study show that pain is common in this patient group, and orthopedic nurses should evaluate pain severity routinely, and implement nursing interventions to provide optimal pain management.

One of the most common problems faced in orthopedic patients is sleep problems.^{28,31} It was reported in previous studies that 40-83% of orthopedic patients have sleep problems because of reasons such as not being able to take a comfortable position to sleep, disruptions/changes in daily and family routines, and pain.^{2,19,22,29,31-33} In the study conducted by Yüksel and Ülker,¹⁹ it was reported that 62.1% of the patients had insomnia problems, and the main causes of it were pain and anxiety. In the study of Jensen et al.,³¹ in which they investigated sleep quality in orthopedic patients, it was found that the sleep quality of the patients decreased because of difficulty in falling asleep, waking up at night, and pain. In this study, similar to the literature, 82.7% of the patients had sleep deprivation. When the effects of sleep on the recovery process of patients are considered, it is important to determine possible situations causing sleep problems and implement nursing interventions to increase sleep quality.

It was reported that previous studies evaluating the problems experienced by orthopedic patients that patients experienced difficulties in working life, fulfilling responsibilities, and maintaining social interactions with family members and friends because of limitations in physical movements and lack of self-confidence.^{1,5,14,31} In Van Horn's³² study in which he evaluated the recovery in patients with traumatic injuries, it was found that patients experienced role changes and social isolation as a result of loss of physical function, not being able to take care of their children, not being able to attend fun activities, family meetings, and holidays. In this study, it was determined that individuals experienced ineffective role performance and social isolation because of loss of independence. The literature and the findings of this study show the necessity of determining and supporting the social support sources of

Table 3. Comparison of Anxiety and Depression Experiences of Individuals according to Descriptive and Clinical Characteristics				
Descriptive and Clinical Characteristics	HADS > 10		HADS > 7	
	n	%	n	%
Age				
18-37	6	46.2	3	23.1
38-64	6	40.1	3	20.1
≥65	12	50.0	12	50.0
Test, <i>P</i>	$X^2 = 0.371, P = .831$		$X^2 = 4.690, P = .096$	
Gender				
Female	13	52.0	10	40.0
Male	11	40.7	8	29.6
Test, <i>P</i>	$X^2 = 0.662, P = .578$		$X^2 = 0.617, P = .562$	
Education level				
Illiterate/literate	10	62.5	10	62.5
Primary school	6	35.3	4	23.5
High school	8	57.1	4	28.6
University	-	-	-	-
Test, <i>P</i>	$X^2 = 7.493, P = .02$		$X^2 = 9.293, P = .01$	
Marital status				
Married	17	47.2	11	30.6
Single	7	43.8	7	43.8
Test, <i>P</i>	$X^2 = 0.054, P = .529$		$X^2 = 0.852, P = .367$	
Employment status				
Employed	4	28.6	1	7.1
Unemployed	20	52.6	17	44.7
Test, <i>P</i>	$X^2 = 2.383, P = .209$		$X^2 = 6.389, P = .02$	
Chronic disease				
Yes	15	57.7	12	46.2
No	9	34.6	6	23.1
Test, <i>P</i>	$X^2 = 2.786, P = .164$		$X^2 = 3.059, P = .144$	
Length of hospitalization				
1-5 day	7	43.8	4	25.0
6-10 day	7	31.8	7	31.8
≥11 day	10	71.4	7	50.0
Test, <i>P</i>	$X^2 = 5.455, P = .065$		$X^2 = 2.194, P = .334$	

orthopedic trauma patients and strengthening family relations for developing effective coping strategies for the loss of roles.

It was reported in previous studies that were conducted with orthopedic trauma patients that patients felt ugly because of reasons such as not being able to comb hair, clean their bodies, were ashamed when asking for help from others, experiencing decreased self-esteem, and body image problems because of dependency and loss of power.^{1,2,8,34-36} In the study, it was also found that more than half of the individuals experienced disturbed body image. For this reason, it is considered

that meeting self-care requirements and supporting independence can be effective interventions for reducing body image problems in patients who have orthopedic traumas.

Traumatic injuries are sudden and unexpected events with devastating and unalterable consequences.¹ Physical limitation experienced by traumatized patients adversely affect the feelings of independence, autonomy, achievement, pride, and self-worth of individuals, and result in loss of workforce, life purpose, family process, and proper income.^{1,6} These losses also cause moderate-to-severe anger and

Table 4. Comparison of Anxiety and Depression Experiences of Individuals according to Care Requirements

Care Requirements	HADS > 7		HADS > 10	
	n	%	n	%
Health Perception-Health Management				
Patients experiencing inability to maintain health	3	42.9	5	71.4
Patients without care requirements	21	46.7	29	64.4
Test, <i>P</i>	$X^2 = 0.035, P = .589$		$X^2 = 0.131, P = .539$	
Nutritional-Metabolic				
Patients experiencing imbalanced nutrition: Less than body requirements	22	48.9	17	37.8
Patients without care requirements	2	28.6	1	14.3
Test, <i>P</i>	$X^2 = 1.006, P = .430$		$X^2 = 1.477, P = .399$	
Patients experiencing nausea/vomiting	6	54.5	6	54.5
Patients without care requirements	18	43.9	12	29.3
Test, <i>P</i>	$X^2 = 0.395, P = .735$		$X^2 = 2.448, P = .159$	
Elimination				
Patients experiencing constipation/diarrhea	19	55.9	14	41.2
Patients without care requirements	5	17.8	4	22.2
Test, <i>P</i>	$X^2 = 3.741, P = .04$		$X^2 = 1.868, P = .227$	
Sleep-Rest				
Patients experiencing sleep deprivation	19	44.2	14	32.6
Patients without care requirements	5	55.6	4	44.4
Test, <i>P</i>	$X^2 = 0.386, P = .716$		$X^2 = 0.465, P = .702$	
Cognitive-Perceptual				
Patients experiencing pain	22	50.0	18	40.9
Patients without care requirements	2	25.0	-	-
Test, <i>P</i>	$X^2 = 1.702, P = .262$		$X^2 = 5.005, P = .02$	
Self-Perception-Self-Concept				
Patients experiencing disturbed body image	18	62.1	17	58.6
Patients without care requirements	6	26.1	1	8.0
Test, <i>P</i>	$X^2 = 6.682, P = .01$		$X^2 = 16.693, P = .001$	
Role-Relationships				
Patients experiencing ineffective role performance	16	51.6	12	38.7
Patients without care requirements	8	38.1	6	28.6
Test, <i>P</i>	$X^2 = 0.920, P = .403$		$X^2 = 0.569, P = .558$	
Patients experiencing social isolation	7	77.8	5	55.6
Patients without care requirements	17	39.5	13	30.2
Test, <i>P</i>	$X^2 = 4.380, P = .64$		$X^2 = 2.109, P = .247$	
Sexuality-Reproductive				
Patients experiencing sexual dysfunction	5	55.6	2	22.2
Patients without care requirements	19	44.2	16	37.2
Test, <i>P</i>	$X^2 = 0.387, P = .716$		$X^2 = 0.739, P = .470$	
Coping Stress-Tolerance				
Patients experiencing inadequacy in individual coping	8	80.0	5	50.0

Table 4. Comparison of Anxiety and Depression Experiences of Individuals according to Care Requirements (Continued)

Care Requirements	HADS > 7		HADS > 10	
Patients without care requirements	16	38.1	13	31.0
Test, <i>P</i>	$\chi^2 = 5.707, P = .02$		$\chi^2 = 1.295, P = .287$	
Value-Beliefs				
Patients experiencing spiritual distress	6	46.2	5	38.5
Patients without care requirements	18	46.2	13	33.3
Test, <i>P</i>	$\chi^2 = 0.00, P = 1.00$		$\chi^2 = 0.113, P = .493$	

psychosocial problems in patients.^{6,15,23,31} Previous studies showed that 42–90% of patients who had orthopedic trauma experienced psychological distress, e.g. posttraumatic stress disorder, depression, and anxiety.^{6,7,10,32,37} In a study that was conducted by Lam et al.³⁵ to investigate the levels of psychological distress and social support in patients who had upper leg fractures, it was reported that 62.8% of the patients experienced moderate or high psychological distress levels. In the present study, it was determined that 46.2% of the patients experienced anxiety and 34.6% experienced depression. It is considered that the fact that the patients experienced problems such as impaired physical activity, dependence on others in activities of daily living, moderate pain, and sleep problems may be the main factors in the occurrence of anxiety and depression.

Previous studies that investigated anxiety and depression levels in orthopedic patients reported that female gender,^{38,39} longer length of hospitalization,³⁹ lack of social support,^{10,39} unemployment,⁴⁰ and young age¹⁰ were important determinants in this respect. It was determined in the present study that gender, age, marital status, and length of hospitalization did not affect the incidence of anxiety and depression. It can be argued that these findings occurred because of the inadequacy of studies on healthcare problems of individuals with low education levels, and the financial losses of non-working individuals because of hospitalization.

Previous studies show that there was a relationship between the care requirements of patients and psychological problems,³⁷ and the rates of anxiety and depression were higher in patients who had sleep problems,⁴¹ acute pain,^{10,39,42} nausea,⁴³ defecation problems,⁴³ and disturbed body image.⁴⁴ In the present study, similar to the literature, it was determined that anxiety prevalence was higher in individuals with constipation and diarrhea and in individuals with inability to cope with stress; depression prevalence was higher in individuals with pain, and the prevalence of both anxiety and depression was higher in individuals with disturbed body image. In line with these findings, it is considered that determining the care requirements of patients by orthopedic nurses with valid and reliable measurement tools and applying nursing interventions for these requirements will contribute to reducing the psychological problems such as anxiety and depression experienced by patients and to receive more qualified care with low costs.

Limitations of the Study

Possible care requirements of individuals were not evaluated in the study, and only their current requirements were determined. The results cannot be generalized because the sampling was taken from one single center and the sampling size was limited.

Conclusion

As a conclusion, it was found in the present study that patients who undergo surgical intervention for femur fractures experienced impaired physical movement, self-care deficit, constipation, imbalanced nutrition: Less than body requirements, sleep deprivation, acute pain, disturbed body image, ineffective role performance, spiritual distress, and inability to cope; nearly half of the individuals had anxiety, and individuals with constipation and diarrhea and inability to cope with stress experienced anxiety, individuals with pain experienced depression, and individuals with disturbed body image were the risky group in terms of both anxiety and depression. In the light of the data obtained from the study, it was also concluded that orthopedic nurses, who are in the basic position for providing comfort to trauma patients, should determine the physiological, psychological, and spiritual requirements of the patients by using the systematic assessment such as model of FHPs, plan the appropriate care for these requirements, determine the risky groups in terms of anxiety and depression, and take necessary interventions to reduce these risks.

Ethics Committee Approval: Ethics committee approval was received for this study from the Sivas Cumhuriyet University, Clinical Researches Ethic Committee (date and number: 02.01.2019, 2019-01/27).

Informed Consent: Written and verbal informed consent was obtained from all patients who participated in this study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The author has no conflict of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

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