

Research



The Relationship Between Anxiety and Depression Levels of Orthopedic Traumatology Patients and the Perception of Nursing Care

Ortopedi ve Travmatoloji Hastalarının Anksiyete ve Depresyon Düzeyleri ile Hemşirelik Bakım Algısı Arasındaki İlişki

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ABSTRACT

Objective: This study aims to investigate the relationship between the anxiety and depression levels of orthopedic traumatology patients and the perception of nursing care.

Methods: This study, which had a descriptive and correlational design, included 231 patients hospitalized in the orthopaedics and traumatology clinic between August 2019 and September 2019. Data were collected using the data form, the Hospital Anxiety and Depression Scale (HADS), and the Patient's Perception of Nursing Care Scale. Number Cruncher Statistical System 2007 (Kaysville, Utah, USA) was used to analyze the data.

Results: The average score of the "anxiety" sub-scale of the HADS among the patients participating in the study was 6.80 ± 4.36 ; the "depression" sub-scale mean score was 6.35 ± 4.10 . The mean score of the Patient's Perception of Nursing Care Scale was found to be 69.71 ± 9.44 points. The HADS "anxiety" sub-scale scores of women were found to be higher than those of men. The HADS anxiety and depression sub-scale scores of patients whose income is less than their expenses were found to be higher than those of the other patients ($p < 0.01$).

Conclusion: Patients' perceptions of nursing care were positive. Patients with low levels of anxiety and depression had higher satisfaction with nursing care. It is thought that the results of the study will play an important role in guiding nurses to define anxiety and depression in orthopedic traumatology patients and increasing the quality of patient care in the preoperative and postoperative periods.

Keywords: Perception, anxiety, depression, patient perception of care, nursing care

ÖZ

Amaç: Bu çalışmanın amacı ortopedi ve travmatoloji hastalarının anksiyete ve depresyon düzeyleri ile hemşirelik bakımı algıları arasındaki ilişkiyi incelemektir.

Gereç ve Yöntem: Tanımlayıcı ve ilişki arayıcı tipte tasarlanan bu çalışmaya, Ağustos 2019 ile Eylül 2019 tarihleri arasında ortopedi ve travmatoloji kliniğinde yatan 231 hasta dahil edildi. Veriler; veri formu, Hastane Anksiyete ve Depresyon Ölçeği (HADS) ve Hastanın Hemşirelik Bakımı Algısı Ölçeği kullanılarak toplandı. Verilerin analizinde Number Cruncher Statistical System 2007 (Kaysville, Utah, ABD) programı kullanıldı.

Bulgular: Araştırmaya katılan hastaların HADS "anksiyete" alt boyut puan ortalaması $6,80 \pm 4,36$; "depresyon" alt boyut puan ortalaması $6,35 \pm 4,10$ 'dur. Hastanın Hemşirelik Bakımını Algılama Ölçeği puan ortalaması $69,71 \pm 9,44$ puan olarak belirlendi. Kadınların HADS "anksiyete" alt boyut puanları erkeklere göre daha yüksek bulundu. Geliri giderinden az olan hastaların HADS "anksiyete" ve "depresyon" alt boyut puanları diğer hastalara göre daha yüksek bulundu ($p < 0,01$).

Sonuç: Hastaların hemşirelik bakımına ilişkin algıları olumludur. Anksiyete ve depresyon düzeyi düşük olan hastaların hemşirelik bakımından memnuniyetleri daha yüksektir. Çalışma sonuçlarının ortopedi ve travmatoloji hastalarında anksiyete ve depresyonun tanımlanmasında, ameliyat öncesi ve sonrası dönemde hasta bakım kalitesinin artırılmasında hemşirelere rehberlik etmede önemli rol oynayacağı düşünülmektedir.

Anahtar Kelimeler: Algı, anksiyete, depresyon, hasta bakım algısı, hemşirelik bakımı

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INTRODUCTION

Patients hospitalized for health problems may experience physiological, psychological, and social problems due to the course of the disease, hospital environment, procedures, etc., (1,2). One of the most important problems experienced by orthopedic traumatology patients is restricted movement (3,4). Therefore, patients may become partially or fully dependent on the nurse in their life activities (3). In addition, uncertainty about the day of surgery, postoperative pain, and fear of death are quite common in these patients. This can cause patients and their relatives to experience negative emotions such as anxiety and depression (5). In addition, before the surgical procedure, patients may have negative feelings including fear, helplessness, hopelessness, anxiety, and depression due to issues such as not being able to wake-up, deterioration of body integrity, loss of organs or tissues, and problems with sexual life (6-8). Especially, patients with restricted mobility who undergo surgical procedures, such as those in orthopedic traumatology, need high-quality nursing care, in order to cope with these changes and the negative emotions they experience. In addition, patients should be informed and educated by nurses before and after the procedure in order to reduce these negative feelings and thoughts.

One of the criteria for determining the quality of nursing care is the patient's satisfaction level. Patients' perceptions of nursing care are affected by factors such as the patient's age, educational status, cultural characteristics, and the information and training provided by nurses (9,10). There is a limited number of studies examining the perceptions of orthopedic traumatology patients towards anxiety, depression, and nursing care (8,11).

This study aims to examine the relationship between the anxiety and depression levels of orthopedic traumatology patients and the perception of nursing care. It is thought that the results of the study will play an important role in guiding nurses in defining anxiety and depression in orthopedic traumatology patients and increasing the quality of patient care in the preoperative and postoperative periods. At the same time, the aim is to contribute to the literature by planning and implementing educational programs for patients in the preoperative and postoperative process, within the scope of the nurse's educator role.

METHODS

The study has a descriptive and correlational design. In this study, after the approval of the Clinical Research Ethics Committee of the University of Health Sciences Türkiye,

Bakırköy Dr. Sadi Konuk Training and Research Hospital (approval no: 2019-13-07, date: 08.07.2019), patients who underwent any orthopedic surgery between August 2019 and September 2019 were evaluated. The patients included in the study were those who were hospitalized for at least five days in the orthopedics and traumatology clinic of our hospital. They were able to communicate and did not have a psychiatric history. We conducted this study with 231 patients who were selected using a simple random sampling technique and met the inclusion criteria, and were accepted to participate in the study. The research sought answers to the following questions:

1. What are the anxiety levels of orthopedics and traumatology patients and the affecting factors?
2. What are the depression levels and the affecting factors in orthopedic traumatology patients?
3. Is there a relationship between the anxiety and depression levels of orthopedic traumatology patients and their perceptions of nursing care?

The data form was developed by the researchers. The form contained nine closed-ended and one open-ended questions prepared to gather information about the patient's gender, marital status, education status, occupation, income status, previous hospitalization, chronic disease, and presence of a companion. In addition, the Hospital Anxiety and Depression Scale (HADS) and Patient's Perception of Nursing Care Scale (PPNCS) were used in this study (12-15).

The patients were given the data form, HADS, and PPNCS together, and they were instructed to mark the most appropriate statements against each item in the data collection form and to fill them in completely. The researcher read the questions to the patients who were unable to fill out the data collection forms themselves and filled the forms in line with the patients' answers. To avoid bias in the study, the researchers did not wear a nurse's uniform during data collection. Additionally, the data were collected by a researcher who did not work in the orthopedics and traumatology clinic. Verbal and written informed consent was obtained from the patients who agreed to participate in the study.

Statistical Analysis

The Number Cruncher Statistical System 2007 program (Kaysville, Utah, USA) was used for statistical analysis. Descriptive statistical methods (mean, standard deviation, median, first quartile, third quartile, frequency, percentage, minimum, maximum) were used when evaluating the study data. The suitability of quantitative data for normal

distribution was tested by the Shapiro-Wilk test and graphical examinations. The Mann-Whitney U test was used for comparisons between two groups of non-normally distributed quantitative variables. The Kruskal-Wallis and the Dunn-Bonferroni tests were used for comparisons between groups of more than two non-normally distributed quantitative variables. Spearman correlation analysis was used to evaluate the relationships between quantitative variables. Statistical significance was accepted as $p < 0.05$.

RESULTS

We present in Table 1 the demographic characteristics of the patients, including their hospitalization and chronic disease status, as well as companion information.

We found the average score of the patients participating in the study in the HADS "anxiety" sub-scale to be 6.80 ± 4.36 points (range 0-19). The mean score on the "depression" sub-scale was found to be 6.35 ± 4.10 points (range 0-19). We found the mean total score of the PPNCS to be 69.71 ± 9.44 points (range 21-75) (Table 2).

According to the marital status, educational status, previous hospitalization, and chronic illness, the scores of the patients from the HADS "anxiety" and "depression" sub-scales and the total score of the PPNCS do not show a statistically significant difference ($p > 0.05$) (Table 2).

The scores of the women participating in the study in the HADS "anxiety" sub-scale were found to be statistically significant and higher than those of the men ($p = 0.018$). The scores they got from the "depression" sub-scale of HADS and the scores they got from the total of the PPNCS did not show a statistically significant difference ($p > 0.05$) (Table 3).

A statistically significant difference was found between the scores of the patients participating in the study in the HADS "anxiety" sub-scale according to their income levels ($p = 0.001$). As a result of the pairwise comparisons made to determine the differences in scores, the scores of the patients whose income is less than their expenses were found to be significantly higher than those whose income is either more than or equal to their expenses ($p = 0.004$, $p = 0.005$, $p < 0.01$; respectively). A statistically significant difference was found between the scores of the patients in the HADS "depression" sub-scale according to their income status ($p = 0.001$). As a result of the pairwise comparisons made to determine the difference, the scores of the patients whose income is less than their expenses were found to be significantly higher than those whose income is more than their expenses, and those whose income is equal to their expenses ($p = 0.013$, $p = 0.004$, $p < 0.01$; respectively).

Table 1. The demographic characteristics of the patients

		n (%)
Gender	Female	107 (46.3)
	Male	124 (53.7)
Marital status	Married	151 (65.4)
	Single	44 (19.0)
	Widowed/divorced	36 (15.6)
Education status	Literate	29 (12.6)
	Primary school	112 (48.5)
	High school	56 (24.2)
	University	25 (10.8)
	Illiterate	9 (3.9)
Occupation	Homemaker	75 (32.5)
	Worker	61 (26.4)
	Officer	13 (5.6)
	Farmer	7 (3.0)
	Self-employment	56 (24.2)
	Unemployed	14 (6.1)
	Retired	5 (2.2)
	Income status	Income is less than their expenses
Income is equal to their expenses		134 (58.0)
Income is more than their expenses		21 (9.1)
Previous hospitalization	Yes	159 (68.8)
	No	72 (31.2)
How many days if previous hospitalization	Mean \pm SD	18.16 \pm 30.71
	Median (min-max)	7 (1-200)
Chronic disease	Yes	63 (27.3)
	No	168 (72.7)
	Hypertension	30 (47.6)
	Rheumatism	4 (6.3)
	Heart disease	7 (11.1)
	Goiter	5 (7.9)
	Diabetes	22 (34.9)
	Cancer	2 (3.2)
	Cholesterol	2 (3.2)
	Asthma	5 (7.9)
	Parkinson disease	2 (3.2)
	Other	8 (12.8)
Presence of a companion	With a companion	222 (96.1)
	Without a companion	9 (3.9)
If there is a companion, stay with her/him (n=222)	Stays constantly	178 (80.2)
	Stays at certain hours	44 (19.8)

SD: Standard deviation, Min: Minimum, Max: Maximum

No statistically significant difference was found between the scores of the patients in the total PPNCs when grouped by income status ($p>0.05$) (Table 3).

The scores of the patients with a companion in the HADS "anxiety" sub-scale were found to be statistically significantly higher than those without a companion ($p=0.049$). According to the status of the companion, the scores of the patients from the HADS "depression" sub-scale and their total scores from the PPNCs do not show a statistically significant difference ($p>0.05$) (Table 4).

A statistically significant and weak negative correlation was found between the scores of the patients in the HADS sub-dimensions ["anxiety" ($r=-0.214$; $p=0.001$) and "depression"

($r=-0.168$; $p=0.010$)] and the PPNCs total scores, indicating that as anxiety and depression scores increased, PPNCs total scores decreased ($r=-0.214$; $p=0.001$) (Table 5).

DISCUSSION

Hospitalized patients experience some psychological, social, and physiological changes, which affect patients' expectations and perceptions about nursing care (1,3,16).

In the study by Aletto et al. (17), with orthopedics and traumatology patients, the mean hospital stay was 12.2 ± 5 days in 2018 and 10.8 ± 3.7 days in 2019, and in the study by Koç et al. (18), with orthopedics and traumatology patients,

Table 2. Comparison of HADS and PPNCs scores by gender

		Gender		p-value
		Female (n=107)	Male (n=124)	
HADS-anxiety score	Mean±SD	7.63±4.63	6.08±3.99	0.018 ^a
	Median (min-max)	7 (0-18)	5 (0-19)	
HADS-depression score	Mean±SD	6.65±4.27	6.08±3.95	0.383 ^a
	Median (min-max)	6 (0-19)	5.5 (0-16)	
PPNCs total score	Mean±SD	70.84±7.58	68.73±10.72	0.162 ^a
	Median (min-max)	74 (37-75)	73 (21-75)	

^a: Mann-Whitney U test, *: $p<0.05$, SD: Standard deviation, HADS: Hospital Anxiety and Depression Scale, PPNCs: Patient's Perception of Nursing Care Scale, Min: Minimum, Max: Maximum

Table 3. Comparison of HADS and PPNCs scores by income status

		Income status			p-value
		Income is less than their expenses (n=76)	Income is equal to their expenses (n=134)	Income is more than their expenses (n=21)	
HADS-anxiety score	Mean±SD	8.12±4.05	6.37±4.55	4.76±2.61	0.001 ^{b**}
	Median (min-max)	7.5 (0-19)	6 (0-18)	4 (1-10)	
HADS-depression score	Mean±SD	7.71±4.11	5.81±4.02	4.81±3.31	0.001 ^{b**}
	Median (min-max)	8 (0-19)	5 (0-16)	5 (0-13)	
PPNCs total score	Mean±SD	69.88±8.78	69.63±10.01	69.57±8.3	0.652 ^b
	Median (min-max)	74 (28-75)	74 (21-75)	74 (42-75)	

^b: Kruskal-Wallis test, **: $p<0.001$, SD: Standard deviation, HADS: Hospital Anxiety and Depression Scale, PPNCs: Patient's Perception of Nursing Care Scale, Min: Minimum, Max: Maximum

Table 4. Comparison of HADS and PPNCs scores by presence of a companion

With a companion (n=63)		Presence of a companion		p-value
		Without a companion (n=168)		
HADS-anxiety score	Mean±SD	6.91±4.39	4±2.12	0.049 ^a
	Median (min-max)	7 (0-19)	4 (0-8)	
HADS-depression score	Mean±SD	6.36±4.11	5.89±4.01	0.797 ^a
	Median (min-max)	6 (0-19)	5 (0-11)	
PPNCs total score	Mean±SD	69.59±9.58	72.78±3.73	0.380 ^a
	Median (min-max)	74 (21-75)	75 (64-75)	

^a: Mann-Whitney U test, *: $p<0.05$, SD: Standard deviation, HADS: Hospital Anxiety and Depression Scale, PPNCs: Patient's Perception of Nursing Care Scale, Min: Minimum, Max: Maximum

Table 5. The relationship of HADS anxiety and depression sub-dimensions with PPNCs

		PPNCs total score
HADS-anxiety score	r [†]	-0.214
	p	0.001**
HADS-depression score	r [†]	-0.168
	p	0.010*

†: Spearman's correlation coefficient, *: p<0.05, **: p<0.001, HADS: Hospital Anxiety and Depression Scale, PPNCs: Patient's Perception of Nursing Care Scale

it was 13.18±4.48 days. It was determined that 68.8% of the patients in our study had been hospitalized before, and they were hospitalized for an average of 18.16±3.71 days. Since orthopedics and traumatology patients require long-term nursing care, hospitalization times can be long.

The mean HADS "anxiety" sub-scale score of the patients participating in the study was 6.80±4.36, and the mean score of the "depression" sub-scale was 6.35±4.10. These results show that the patients participating in the study had low levels of anxiety and depression. We estimate that the low levels of anxiety and depression, despite the patients' long hospitalization, can be attributed to 96.1% having a companion. There are studies showing that education reduces anxiety and depression experienced by patients (19,20). Therefore, this result suggests that nurses in the clinic that conducted the study provided education for patients and their relatives and that this education was effective in reducing the anxiety and depression of the patients.

In the study, the mean PPNCs total score of the patients was determined as 69.71±9.44 points. The study shows that the patients are satisfied with the nursing care, as indicated by scores between 15 and 75 on the scale. In addition, it was found that the items that the patients most frequently agreed with were "I felt that I was well taken care of by the nurses" and "Nurses made me feel comfortable during my treatment." The following statements from different studies highlight patient perceptions of care: In the study of Aydın and Kaşıkçı (21), "They immediately took care of my requests"; in the study of Kol et al. (22), "I am sure that the nurses will be there for me when I need it"; and in the study of Zhao and Akkadechanunt (23), "I felt that I was well taken care of thanks to the nurses." They also found that they agreed with the item "Nurses were with me when I needed them" and that patients perceived their nursing care as high quality. This finding suggests that nurses determine and meet the expectations and needs of patients, and that a relationship of trust is established between nurses and patients. At the same time, patients' satisfaction with nursing care also shows that nursing care is of high quality.

The HADS "anxiety" sub-dimension score of women participating in the study was found to be higher than that of men. The HADS "depression" sub-dimension score and the total PPNCs did not differ significantly. Anxiety and depression are more common in women than men (24,25). Also, Hermanns et al. (26) stated that women had higher scores in their study. Similar results were obtained in our study.

In our study, the HADS "anxiety" and "depression" sub-dimension scores of the patients whose income was less than their expenses were found to be higher than the other patients. The fact that income is less than expenditure causes people to experience economic difficulties and increases their stress levels. Being hospitalized and receiving health services bring an economic burden to individuals and can cause working people to experience the risk of job loss (27). Therefore, we believe that findings from the study suggest patients hospitalized in orthopedics and traumatology clinics with a low income experience more anxiety and depression than those with a higher income level, due to factors such as meeting health expenses and not being able to work during hospitalization.

In our study, the scores of the patients with a companion in the HADS "anxiety" sub-scale were found to be higher than those without a companion. Hospitalized patients receive emotional support from their companions. Orthopedic patients especially need psychosocial support to cope with negative emotions such as anxiety caused by hospitalization and illness. Social support has a positive effect on coping with patients' psychosocial problems (11,28,29). On the other hand, we think that this result obtained in the study is because the majority of the patients (96.1%) had a companion.

In our study, it was observed that as the anxiety and depression levels of the patients increased, their satisfaction with nursing decreased. Similar results were obtained in the study conducted by Buldan and Kurban (11). The psychological needs of patients should also be taken into consideration while providing nursing care. Efforts should be made to determine and eliminate the problems that lead to anxiety and depression in these patients. Thus, we think that patients with low levels of anxiety and depression will have higher satisfaction with nursing care.

Study Limitations

The limitations of our study, especially the study being conducted with inpatients in an orthopedics and traumatology clinic of a training and research hospital, limit the generalizability of the findings.

CONCLUSION

In this study, it was determined that the majority of the patients had a companion, and their anxiety and depression levels were low. On the other hand, it was observed that women experienced higher anxiety than men. It has been determined that orthopedics and traumatology patients whose income is less than their expenses have a higher risk of anxiety and depression than patients with a higher income level. In addition, it was observed that patients perceived nursing care positively, and patients with low anxiety and depression levels, had higher satisfaction with nursing. In accordance with this result, nurses are recommended to plan and implement patient education by taking into account the patients' positive perceptions of care and low levels of anxiety and depression while providing care.

This study indicates that, as the anxiety and depression levels of the patients increased, their satisfaction with nursing decreased. The findings obtained in the study may contribute to increasing the quality of orthopedic traumatology patients' care in the preoperative and postoperative periods. At the same time, it may contribute to nurses' planning and implementation of patient education for all orthopaedic traumatology patients in the preoperative and postoperative process.

ETHICS

Ethics Committee Approval: In this study, after the approval of the Clinical Research Ethics Committee of the University of Health Sciences Türkiye, Bakırköy Dr. Sadi Konuk Training and Research Hospital (approval no: 2019-13-07, date: 08.07.2019), patients who underwent any orthopedic surgery between August 2019 and September 2019 were evaluated.

Informed Consent: Verbal and written informed consent was obtained from the patients who agreed to participate in the study.

FOOTNOTES

Authorship Contributions

Surgical and Medical Practices: F.Ç., A.S., Consept: F.Ç., A.S., Design: F.Ç., A.S., Data Collection or Processing: F.Ç., A.S., Analysis or Interpretation: F.Ç., A.S., S.H.B., A.B., Literature Search: F.Ç., S.H.B., A.B., Writing: F.Ç., A.S., S.H.B., A.B.

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