

## Examination of Perception of Nursing Care and Quality of Recovery in Surgical Patients According to Some Variables

### Cerrahi Hastalarının Hemşirelik Bakımı Algısı ve İyileşme Kalitesinin Bazı Değişkenlere Göre İncelenmesi

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#### ABSTRACT

**Objective:** The study aims to determine the relationship between the quality of care perception and healing quality levels of surgical patients and to determine the differences according to their characteristics.

**Materials and Methods:** The descriptive cross-sectional study was carried out on 237 patients treated in the surgical clinics of a university hospital from December 2021 to May 2022. Data were collected using a descriptive information form, the Patient's Perception of Nursing Care Scale, and the Quality of Recovery-40 Scale.

**Results:** The mean total score of the Patient's Perception of Nursing Care Scale was 71.45±9.81, and the mean total score of the Quality of Recovery-40 Scale was 106±15.95. The mean score of the physical independence sub-dimension of the Quality of Recovery-40 Scale was the highest (21.14±5.73), and the mean score of the pain sub-dimension was the lowest (9.32±3.57). There was statistically significant relationship between gender, having a companion, and Patient's Perception of Nursing Care Scale and between having a chronic disease and the Quality of Recovery-40 Scale.

**Conclusions:** It was found that the level of patient's perception of nursing care was high, the level of recovery quality was below average, and there was no relationship between the level of perception of nursing care.

**Keywords:** Nursing care, patient care, patient satisfaction, surgery

#### ÖZ

**Amaç:** Araştırmanın amacı cerrahi hastalarının bakım kalitesi algısı ve iyileşme kalitesi düzeyleri arasındaki ilişkinin belirlenmesi ve kişisel özelliklerine göre farklılıkların belirlenmesidir.

**Materyal ve Metot:** Tanımlayıcı-kesitsel tipte olan araştırma, Aralık 2021-Mayıs 2022 tarihleri arasında bir üniversite hastanesinin cerrahi kliniklerinde tedavi gören 237 hastası ile yürütüldü. Veriler, tanımlayıcı bilgi formu, Hastanın Hemşirelik Bakımını Algılayışı Ölçeği ve İyileşme Kalitesi-40 Ölçeği ile toplandı.

**Bulgular:** Hastaların Hemşirelik Bakımını Algılayışı Ölçeği toplam puan ortalaması 71,45±9,81, İyileşme Kalitesi-40 ölçek toplam puan ortalaması 106±15,95'tir. İyileşme Kalitesi-40 ölçeğinin Fiziksel Bağımsızlık alt boyut puan ortalamasının (21,14±5,73) en yüksek, ağrı alt boyut puan ortalamasının ise en düşük (9,32±3,57) olduğu saptandı. Hastaların cinsiyeti, refakatçi varlığı ile Hastanın Hemşirelik Bakımını Algılayışı Ölçeği arasında, kronik hastalık varlığı ile İyileşme Kalitesi-40 Ölçeği arasında istatistiksel olarak anlamlı ilişki vardır.

**Sonuç:** Hastaların hemşirelik bakımı algı düzeyinin yüksek, iyileşme kalitesi düzeyinin ortalamanın altında olduğu ve hastaların hemşirelik bakımını algılama düzeyleri ile iyileşme kalitesi arasında ilişki olmadığı belirlendi.

**Anahtar Kelimeler:** Cerrahi, hasta bakımı, hasta memnuniyeti, hemşirelik bakımı

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#### Yayın Bilgisi / Article Info:

Gönderi Tarihi/ Received: 26/04/2023  
Kabul Tarihi/ Accepted: 06/11/2023  
Online Yayın Tarihi/ Published: 18/12/2023

## INTRODUCTION

Nursing care is the response of the nurse to the physical, psychological, emotional, social, and spiritual needs of patients to help them return to a healthy and normal life.<sup>1</sup> Patients' perceptions of the quality of care are the feelings and thoughts patients experience about the care nurses provide while hospitalized.<sup>2</sup> Measuring patients' perceptions of quality nursing care is key to identifying nursing care needs, evaluating the quality of nursing care, and providing excellent patient-centred care.<sup>2,3</sup>

One of the key elements in accelerating a patient's recovery is the quality of nursing care.<sup>4,5</sup> The process of recovering control over several functional domains, including physical, psychological, physiological, social, and economic factors, is known as postoperative recovery.<sup>6</sup> The process a patient goes through to regain their preoperative condition is defined from their perspective by the quality of their recovery.<sup>6</sup>

The patient's health state in the early postoperative period can be determined in large part by the patient's quality of recovery.<sup>7</sup> Quality of recovery is a multidimensional, patient-reported outcome.<sup>8</sup> In order to measure the quality of perioperative treatment, it is important to take into account both its economic and prognostic implications.<sup>9</sup> Recovery quality is a complicated concept that is significantly impacted by patient, physician, and institutional biases.<sup>6</sup> Patients' perceptions of the quality of recovery are strongly influenced by individual personality characteristics, level of knowledge about the recovery process, preparedness, coping strategies, and sense of security.<sup>4</sup> Successful recovery from surgery is a complex, multidimensional, and highly individualized process. Many barriers can interfere with this process, such as inadequate pain control, lack of or poor quality patient education, and lack of discharge management.<sup>5</sup> Patients consider effective communication, active patient involvement, and empathy from health professionals to be important determinants of the quality of their recovery.<sup>6</sup> For a thorough evaluation of recovery quality, developing a complex, patient-centered evaluation of the postoperative period is essential.<sup>6</sup> Healthcare workers can better support patients by identifying the elements that have a negative impact on patients' postoperative recovery quality and satisfaction.<sup>10</sup>

Studies about nursing care perception and surgery patients' levels of satisfaction have been published in the literature.<sup>11-13</sup> However, no research has yet looked at the relationship with patients' recovery quality.

In this context, this study aimed to identify the variables influencing surgery patients' perceptions of nursing care and the quality of their recovery.

## MATERIALS AND METHODS

**Ethics Committee Approval:** The ethics committee approval was obtained from the Health Sciences Non-Interventional Ethics Committee of Balıkesir University (Date: 23.11.2021, decision no: 2021/33). The necessary institutional approval was obtained from the institution where the study would be conducted. Patients were informed that the researchers would keep all information written on the forms and that their answers would remain confidential and be used only for scientific purposes. Written and verbal informed consent was obtained from the patients, stating that they volunteered to participate in the study. The research was conducted following the Rules of the Helsinki Declaration.

**Research Design:** It is a descriptive and cross-sectional study.

Research Questions

1. What is the level of satisfaction with nursing care and the quality of recovery of surgical patients?
2. Is there a significant relationship between the patients' descriptive traits, their degree of nursing care satisfaction, and how well they recover?
3. Is there a significant relationship between surgical patients' recovery quality and their degree of nursing care satisfaction?

**Place and Time of the Research:** The study was conducted in the surgical clinics of a University Hospital in the Marmara region between 15.12.2021 -13.05.2022.

**Population and Sample of the Study:** The study population consisted of patients hospitalized in the surgical clinics of a University Hospital (Orthopedics and Traumatology, Urology, Cardiovascular Surgery, Otolaryngology, Neurosurgery, and General Surgery) and patients who underwent surgery. Power analysis was performed to determine the size of the study sample. The power analysis calculation used a power ratio of 90%, a 95% confidence limit, and an effect size of 0.2.<sup>14</sup> As a result of the calculation, the sample size was 216. Conscious volunteers, 18 years of age or older, able to understand verbal stimuli, had a hospital stay of at least two days, did not have a diagnosis of psychiatric disease, and agreed to participate in the study after being informed about the purpose of the study were included in the study. The people who were unconscious patients, who refused to participate in the study, were under 18 years of age, had a diagnosis of psychiatric disease, underwent day surgery or stayed overnight in the hospital, and were unable to understand verbal warnings were not included in the study. The sample group consisted of 237 patients who met the inclusion criteria between the study dates.

**Data Collection Tools:** In the study, "Descriptive

information form," "Patient's Perception of Nursing Care Scale," and "Quality of Recovery-40 Scale," which were created by the researchers in line with the literature, were used.

**Descriptive Information Form:** The form prepared by the researchers consisted of 9 questions related to descriptive characteristics, including the clinic where the patients were hospitalized, age, gender, marital status, educational status, place of residence, presence of chronic disease, presence of previous hospitalization and presence of a companion.<sup>7,9-13</sup>

**Patient's Perception of Nursing Care Scale (PPNCS):** The Turkish validity and reliability study of the Scale developed by Dozier et al. (2001) was conducted by Çoban et al. (2006).<sup>9,15</sup> The Scale is a 5-point Likert-type scale marked as agree=5, somewhat agree=4, undecided=3, disagree=2, and strongly disagree=1. A minimum score of 15 and a maximum score of 75 can be obtained from the Scale of 15 items. As the scale score increases, satisfaction with nursing care increases. The Cronbach  $\alpha$  coefficient of the Scale is 0.92.<sup>9</sup> The Cronbach  $\alpha$  reliability coefficient of this study was 0.99.

**Quality of Recovery-40 Scale (QR-40):** It was developed by Myles et al.,<sup>16</sup> and a Turkish validity and reliability study was conducted by Karaman et al.<sup>17</sup> The Scale comprises five sub-dimensions: Emotion-

al state, physical comfort, patient support, physical independence, and pain. Consisting of 40 items, the Scale is calculated by scoring between 1 and 5. The total score on the Scale varies between 40-200. The higher the score, the better the patients' quality of recovery. The Cronbach  $\alpha$  coefficient of the Scale is 0.93.<sup>17</sup> The Cronbach  $\alpha$  reliability coefficient of this study was 0.87.

**Statistical Analysis:** The collected data were analyzed using the SPSS 25.0 package program. The Kolmogorov-Smirnov test was used to determine whether numerical variables were normally distributed, descriptive analyses (number, percentage, mean) were used to ascertain the descriptive characteristics of the study's participants and the scores from the scales, Pearson correlation analysis was used to examine the relationships between the measurements from the scales, and parametric (t-test, one-way ANOVA), and other comparative analyses were also used. A 95% confidence interval and a significance threshold of  $p < 0.05$  were used in the data analysis.

**RESULTS**

The mean age of the patients who participated in the study was  $57.01 \pm 16.60$  years; the number of men and women was almost the same, and the majority were primary school graduates (Table 1).

**Table 1.** Descriptive characteristics of the patients.

Descriptive characteristics		Data
Age, Mean $\pm$ SD		57.01 $\pm$ 16.60
Gender, n(%)	Female	119(50.2)
	Male	118 (49.8)
Educational Status, n(%)	Illiterate	17(7.2)
	Primary school graduate	130(54.9)
	Middle school	27(11.4)
	High school	45(19)
	University	18(7.6)
Marital status, n(%)	Married	195(82.3)
	Single	42(17.7)
Job, n(%)	Housewife	101(42.6)
	Officer	16(6.8)
	Employee	25(10.5)
	Retired	53(22.4)
	Other	42(17.7)
Previous hospitalization, n(%)	Yes	172(72.6)
	No	65(27.4)
Chronic Disease, n(%)	Exist	110(46.4)
	None	127(53.6)
Place of residence, n(%)	Village	66(27.8)
	District	85(35.9)
	City	86(36.3)
Clinic, n(%)	Cardiac surgery	61(25.7)
	Orthopedics	35(14.8)
	Urology	50(21.1)
	Obstetrics and gynecology	34(14.3)
	Neurosurgery	11(4.6)
	Ophthalmology	8(3.4)
	General surgery	19(8.0)
Companion, n(%)	Exist	219(92.4)
	No	18(7.6)
Companion stay time, n(%)	During certain hours	14(5.9)
	Continuous	205(86.5)

The mean PPNCs item score was 4.76±0.65, and the mean PPNCs score was 71.45±9.81. The mean QR-40 scale score of the patients participating in the study was 106 ± 15.95. When the QR-40 Scale sub-dimension mean scores were analyzed, the highest Physical Independence score (21.14±5.73) and the lowest Pain score (9.32±3.57) were found (Table 2). The correlation analysis found no correlation between the mean scores of the PPNCs and QR-40 Scale (Table 3).

Factors affecting the PPNCs and QR-40 scale were analyzed. It was found that there was a significant correlation between the gender, marital status, and presence of a companion, and the mean PPNCs, and between the presence of chronic disease and the mean QR (p<0.05) (Table 4). There was no significant correlation between the patients' education, occupation, hospitalization clinic, health insurance, place of residence, and presence of previous hospitalization and the mean of PPNCs and QR-40 (p>0.05).

**Table 2.** Mean scores of the scales and sub-dimensions.

Parameters		Mean ± SD	Min-Max
<b>Scale</b>	PPNCs	71.45±9.81	15-75
	QR-40	106±15.95	40-200
<b>QR-40 Scale Sub-dimensions</b>	Physical Independence (5 items)	21.14±5.73	5-25
	Patient Support (7 items)	29.21±5.24	7-35
	Emotional State (9 items)	22.22±4.66	9-45
	Physical Comfort (12 items)	26.19±4.79	12-60
	Pain	9.32±3.57	7-35

PPNCs: Patient's Perception of Nursing Care Scale; QR-40: Quality of Recovery-40 Scale.

**Table 3.** Correlation analysis results of the scales and sub-dimensions.

Scale/Sub-dimension		PPNCs
QR-40 Total Score	r	0.046
	p	0.480
Emotional State sub-dimension	r	0.006
	p	0.929
Physical Comfort sub-dimension	r	0.062
	p	0.868
Patient Support sub-dimension	r	0.071
	p	0.278
Physical Independence sub-dimension	r	0.071
	p	0.344
Pain sub-dimension	r	-0.023
	p	0.721

PPNCs: Patient's Perception of Nursing Care Scale; QR-40: Quality of Recovery-40 Scale.

**Table 4.** Comparison of some variables with the mean scores of the scales.

Parameters	n	Mean ± SD	PPNCs			QR-40		
			Test	p	Mean ± SD	Test	p	
<b>Gender</b>	Female	119	72.8±8.32	t=2.192	0.002*	107.1±17.15	t=0.8064	0.162
	Male	118	70.1±10.9			106.3±14.70		
<b>Education</b>	Illiterate	17	70.5±12.04	F=1.33	0.259	100.3±19.26	F=1.328	0.260
	Primary school	130	71.5±9.79	1		108.0±15.49		
	Middle School	27	67.9±15.13			103.5±13.8		
	High School	45	73.2±5.27			106.4±18.47		
	University	18	72.3±4.52			109.7±10.37		
<b>Marital Status</b>	Married	195	72.1±8.65	t=2.172	0.000**	107.1±15.60	t=0.8064	0.162
	Single	42	68.5±19.75			104.9±17.55		
<b>Chronic Disease</b>	Exist	110	71.7±8.84	t=0.456	0.369	105.7±19.27	t=-0.942	0.002*
	No	127	71.2±10.60			107.6±12.38		
<b>Health Insurance</b>	Exist	223	71.5±9.48	t=0.798	0.121	106.9±16.1	t=0.619	0.920
	No	14	69.4±14.4			104.2±13.0		
<b>Previous hospitalization</b>	Yes	172	71.4±10.18	t=0.136	0.713	106.4±16.8	t=3.818	0.056
	No	65	71.5±8.83			107.6±13.2		
<b>Companion</b>	Exist	219	72.0±8.96	t=3.005	0.000**	106.1±16.29	t=-2.059	0.096
	No	18	64.8±16.07			114.16±1.90		

p<0.05; \*: p<0.01; \*\*: p<0.00; PPNCs: Patient's Perception of Nursing Care Scale; QR-40: Quality of Recovery-40 Scale

## DISCUSSION AND CONCLUSION

Patient satisfaction is a key metric of nursing service quality. Determining the degree of patient satisfaction is a crucial step to enhance the quality of services and deliver services that meet patients' expectations.<sup>18</sup> In the study that looked at the factors influencing how surgical patients recover and how well they perceive their nursing care, patients expressed a high level of satisfaction with it. In the literature, similar to the study results, there are studies in which the perception of nursing care was found to be high,<sup>10,11,18,20</sup> as well as studies in which the satisfaction level was found to be moderate.<sup>3,12,21,22</sup> On the other hand, some studies have concluded that satisfaction with nursing services is very low.<sup>2</sup> The positive perception of nursing care by the patients increases their adaptation to their diseases and their coping power, thus shortening the hospital stay and reducing the cost of care.<sup>1</sup> In this context, the high satisfaction level in terms of nursing care in the research is considered a positive and important result. Measuring the quality of postoperative recovery is an important patient-centered outcome.<sup>23</sup> The study found that patient's perceptions of the quality of recovery were below average. A study showed that the majority of surgical patients (48.5%) had moderate recovery quality levels after 24 hours.<sup>24</sup> Studies in the literature found higher levels of recovery quality than the study results.<sup>7,17,25</sup> In the studies of Xu et al.,<sup>5</sup> although the level of postoperative recovery was low, it was at a higher level compared to our research finding.

It was found that physical independence had the highest mean, and the pain subdimension had the lowest mean among the subdimensions of quality of recovery. In the study of Demirci and Yılmaz Şahin,<sup>25</sup> unlike the results of the research, the pain subdimension was found to be high, and the physical independence sub-dimension was found to be lower. Acute postoperative pain is associated with prolonged nociceptive recovery. Pain is of great importance in the postoperative recovery of surgical patients and remains one of the main concerns of patients. Good pain management has physical, psychological, and economic benefits and influences the quality of recovery by allowing earlier mobilization, fewer complications, and earlier return to daily activities.<sup>4</sup> The results of this study are considered important. They show that patients need support in pain control in the postoperative period.

When examining patients' characteristics that influence their perception of nursing care, female patients were more satisfied with nursing care. Studies have shown that there was no difference according to gender.<sup>2,12,18,21</sup> Hoxha et al.<sup>26</sup> similarly, no difference was found according to gender. In one study, men had higher mean scale scores than women. In the

study, married people had higher levels of satisfaction with care. While there were similar results to the research findings,<sup>1,18</sup> Öztürk et al.<sup>12</sup> found no difference according to marital status. In the study, those with a companion had higher satisfaction with care. This is in line with studies that found that companion support affected perceptions of care.<sup>2</sup> Özsoy et al.<sup>20</sup> found in their study that having a companion did not affect the perception of care. Patients with companions may be more satisfied with their care because they meet some of the patient's needs, thus reducing their expectations of care. Determining patients' characteristics will guide nurses in planning nursing care to provide systematic, individualized, and holistic care. According to the study results, patients' characteristics should be considered when determining the needs of patients. In the study, no difference was found between health insurance and care satisfaction.

Hoxha et al.<sup>26</sup> showed that payment and costs for additional analyzes during hospitalization affect satisfaction. In the study, no difference was found in terms of care satisfaction and quality of recovery compared to previous hospitalizations.

Similar to the research findings, studies are showing that there is no difference between previous hospitalization and the perception of care.<sup>2,21</sup> This result can be interpreted as the past hospital experience of the patients does not affect their current satisfaction.

Quality of recovery is a complex structure affected by many individual and institutional factors.<sup>6</sup> In the study, it was observed that there was no relationship between patient-related personal characteristics and quality of recovery, and only those without chronic disease had higher levels of quality of recovery. In individuals with chronic diseases, delays in wound healing after surgical intervention and increased complications can frequently be observed.<sup>27</sup> Such conditions affect the level of quality of recovery of patients. In the study, the high quality of recovery in those who did not have chronic diseases may be associated with the absence of the effects of comorbid diseases.

In conclusion, the study found no relationship between the patient's degree of satisfaction with nursing care and the effectiveness of their recovery. The study's findings showed that surgery patients' satisfaction with nursing care is high, recovery quality is below average, and there is no correlation between nursing care perception levels and recovery quality. Depending on their features, patients' opinions of nursing care and the quality of their recovery varied. In this direction, patient satisfaction and experience should be evaluated regularly to provide individualized and holistic patient care and to increase the quality of nursing services. In-depth research should be conducted on the factors affecting the healing

quality of patients, and in-service training should be planned for patient care in the surgical process. Procedures and instructions on pain management should be established, especially in surgical units, and nurses should be supported to develop their knowledge and practices on pain management. To ensure patient satisfaction, which is an integral part of quality assessment, it is recommended to increase the awareness of nurses working at all levels on the subject. The research data is limited to the answers of the patients who were treated in the health institution where the research was conducted and accepted to participate in the study. Therefore, the research results cannot be generalized. Research can be performed in larger and larger samples to reflect patients treated in different institutions and different units. It is an important limitation of the study that the reasons for the quality of recovery, which is at a lower level compared to the literature, cannot be revealed in the research. In addition, the discussion section on the relationships between the personal characteristics of the patients and the quality of the recovery scale is limited due to the lack of literature in the relevant field. Conducting qualitative and interventional research with different sample groups, such as risky patient groups, may contribute to the creation of action plans.

**Ethics Committee Approval:** The ethics committee approval was obtained from the Health Sciences Non-Interventional Ethics Committee of Balıkesir University Health Sciences Non-invasive Research Ethics Committee (Date: 23.11.2021, decision no: 2021/33). The necessary institutional approval was obtained from the institution where the study would be conducted. The research was conducted following the Rules of the Helsinki Declaration.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Author Contributions:** Concept- PO, AK; Supervision- PO, AK; Materials- PO, AK Data collection and/or processing- PO, AK; Analysis and/or Interpretation- PO, AK; Writing- PO, AK.

**Peer-review:** Externally peer-reviewed.

**Other Information:** Presented as an oral presentation at the 2nd National Nursing Management Congress on June 8-10, 2022.

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