

# Nursing Care Satisfaction of Surgery Patients

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## Abstract

**Objectives:** To provide guidance on improving the quality of care by evaluating the patient satisfaction in surgery clinics.

**Methods:** The descriptive study was conducted on 402 surgical patients. Data were collected by means of the survey (based literature) and the Newcastle Nursing Care Satisfaction Scale, which was found to be valid and reliable in its Turkish version by Akin and Erdogan in 2007.

**Results:** In this study, the nursing care satisfaction of females was higher than that of males and that of employed persons was higher than that among unemployed persons. Nursing care satisfaction scores were low patients for who underwent a major surgical intervention, had pain and limited motion, were hospitalized for more than one week, shared a room with another patient, and had oral nutrition problems. Although most of the patients with minor surgical intervention did not want to be discharged early, they specified this as the reason for dissatisfaction at the same time. The patients indicated that the lack of a physical conditions in the surgery clinics were the factors that influenced their satisfaction with care.

**Conclusion:** In failing to ensure satisfaction with nursing care, the inability to adequately meet the requirements of care regarding disease conditions (pain, feeding problems, activity/ mobility problems etc.) was a larger factor than the sociodemographic characteristics of the patients.

**Keywords:** Nursing care; Patient satisfaction; Surgical procedures

## Introduction

Because patient satisfaction has an important role in evaluating, improving, sustaining and preparing for the future of healthcare, it is one of the most important indicators of the effectiveness and quality of healthcare services [1-3]. Healthcare must meet patients' expectations for the highest patient satisfaction [4,5].

In the surgical interventions that hold a large place in healthcare services [6], patients' satisfaction with their care is an important matter [6-8]. It is difficult to ensure patient satisfaction in invasive surgery interventions; their various concerns and fears (such as becoming disabled, fear of death) before, during and after the surgery may negatively affect the care process

[7]. In addition, modern surgery in recent years (i.e., robotic surgery approaches, daily surgery, selecting and admitting patients, pre-operative night preparation and training at home, early discharge) requires organizing the nursing services with an eye to patient satisfaction. Patient satisfaction in healthcare organizations is accepted as important in recognizing gaps in healthcare [9,10].

The studies for quality assurance in respect with the healthcare suggest that there is a need for studies which will be guide for healthcare in pre-operative patient selection and preparation, in the intra-operative and post-operative periods, discharge and home care [11-14]. The objective of this study in light of this information is to determine the status of surgery patients' satisfaction with their nursing care and identify the causes of their satisfaction or displeasure.

## Methods

### Study design

The study was designed as a descriptive study, and it used using random sampling. Layer weight of each clinic was calculated over the annual number of patients (excluding outpatient surgery patients) of clinics where the study was performed. According to this, it was determined the number of patients to be taken from each clinic approximately in a year. After then, patients were taken to the research as per the determined sample criteria.

### Research questions

What is the level of satisfaction with nursing care for surgical patients?

What are the conditions that affect the surgical patient's satisfaction with nursing care? (Such as sociodemographic characteristics, surgical procedures, disease/ treatment process, physical environment).

### Setting and sample

The study was conducted from November 2013 to January 2014 at the General Surgery, Orthopedics, Cardiovascular Surgery, Urology, and Otorhinolaryngology Surgery clinics of a private foundation university in Istanbul, Turkey. The numbers of beds of these clinics were 39, 30, 20, 18 and 15. The bed occupancy

rate varied between 60 and 85%. Within the study period, some patients in the Neurosurgery, Ophthalmology and Obstetrics clinics were transferred to other clinics due to renovations, and thus, these clinics were not included in the study. The numbers of nurses employed in the clinics where the study was conducted were 5 in the general surgery, 5 in the cardiovascular surgery, 4 in orthopedics, 4 in urology, and 3 in otorhinolaryngology. The majority of them are high school graduates. Because of the amount of nurses being so low, relatives were forced to stay with their family members and help with the patients' care.

The participants eligible for recruitment were: aged 18 years or older, spent one night or more in the ward, able to read and understand Turkish.

The participants exclusion criteria for recruitment were: less than 18 years old, not able to read and understand Turkish not volunteer, not too confused or ill (such as mental disease) to complete the questionnaires, health care worker or discharged from the hospital after a surgical intervention without staying a night.

To determine the sample size that was appropriate for the number of variables and the study data, a power analysis was performed and an estimated sample size was determined. Based on the number of sample items in the principal component analysis, it was found that the number of individuals in the sample could be 10:1 or 2:1 – 30:1 [15]. Considering these ratios, the sample size was determined to be between 190 and 570.

Total 652 patients were accessed in the period of study (excluding outpatient surgery patients). In this study, 149 (22.8%) of patients did not take place although they covered the sample criteria. The large majority of these patients were respectively general surgery, orthopedics and cardiovascular surgery patients. These patients were non-accessible by researchers because of working in other institutions. As a result, 503 patients took place in the study, 67 of them unfilled in survey form completely, 34 of them desisted from giving the form even if they filled in (did not want to attend). Thus, the study was completed with 402 patients at a 99% confidence interval based on the sample size, confidence level and acceptable error [16].

### Ethical Considerations

The study was approved by the hospital administration. Patients were invited to participate in the study and were informed before verbal and written consent was obtained. The purpose of the study and the time it takes to complete the questionnaire were stated to respondents. The researchers guaranteed patients that their identities and answers would be kept confidential. However, some of the patients weren't happy to have to give a signed patient consent form. "will you be keeping our names secret?" "why do you need it.... I don't need it for me..." "I don't want to sign the patient consent form but I would like to join your study". It was decided that just a verbal approval would be enough by these patients.

Ethics committee approval for the study was obtained from the Clinical Research Ethics Committee (IRB approval numbers:

26/9/2012/337) of the university where the survey was to be conducted.

### Measurements/Instruments

The study data were collected using a questionnaire that was prepared by researchers as a result of the literature review [12,13,17,18], and using the Newcastle Satisfaction with Nursing Scale (NSNS), which was found to be valid and reliable in Turkish by Akin, et al. [19]. The NSNS were developed by Thomas, et al [20]. By measuring patients' experiences of and satisfaction with nursing, based on a their perspective. A structured, self completion questionnaire was developed by asking patients, through individual and focus group interviews, what they perceived was good or bad quality nursing [20]. The content validity of the scale was confirmed and tested on 200 patients (medical and surgical patient, with a range from 18 to 81). Internal consistency of the NSNS assessed by Cronbach's alpha is 0.96 [19].

The questionnaire consisted of a total of 24 questions (22 closed-ended and 2 open-ended) on the patients' sociodemographic characteristics, disease conditions and situations that negatively affected their satisfaction with their care. One of the open-ended questions was "Please specify the situations with which you are not satisfied or that you think should have been better regarding your nursing care". The other was "Please specify other situations that affect your satisfaction with nursing care". The purpose of this question was to determine, even partially, what the patients were expecting from their care.

The NSNS is used to measure the satisfaction with nursing care of patients who have been hospitalized for at least one night in a clinic, hospital, or other facility. The questionnaire aims to evaluate the efficacy of nursing interventions and to improve the standards for patient care. The NSNS consists of 19 positive items. Some items are related to nurses' behaviors (such as "helpfulness of nurses", "attitudes nurses demonstrate when doing their jobs", "nurses' style of explaining things"), and some items are related to care practices (such as "to inform you by nurses about your condition and your treatment", "Listening to your sorrows and concerns by nurses"). All items of the NSNS are scored on a five-point Likert scale (1 = not at all satisfied, 2 = barely satisfied, 3 = quite satisfied, 4 = very satisfied and 5 = completely satisfied). Total score was summed and transformed to yield an overall 'satisfaction score' of 0 – 100, where 100 denotes complete satisfaction/ highest level of satisfaction with all aspects of nursing care [19-21].

### Data Collection/Procedure

After the study purpose was explained to the patients, they were given the questionnaires and asked to complete them. The NSNS was given to the patients on the day they were discharged before they left the facility, and they were given sufficient time to complete it. The nurses who distributed the scale and explained the study had not had any direct prior role in the patients' care. Where possible, it was ensured that the scale was completed only by the patients, with no help. However, if the patient had a vision or reading impairment, those same nurses read the scale items aloud and recorded the patients' answers on the forms. In

the study, 35 patients (8.7%) could not read the questionnaire themselves.

### Data Analysis

SPSS (version 16.0) was used to analyze the data. Statistical significance was considered to be  $P < 0.05$ . The descriptive data obtained from the study were categorized and compared among the group variables; to compare the variables, non-parametric tests were employed. According to the Kolmogorov-Smirnov test, the data did not follow normal distribution and the group variances were not equal. To assess the data, frequency, median, mean ( $\bar{X}$ ) and Standard Deviation (SD), the Mann-Whitney U, and the Kruskal-Wallis test were used.

### Results

In this section, the descriptive information of the participants and their nursing care satisfaction scores are included. The participants' age, gender, educational level, marital status, etc sociodemographic characteristics are presented in Table 1. The average age of the participants was  $45.94 \pm 14.59$ ; 51.5% were male, 17.2% had no education (55.1% were female), 46% were primary school graduates (53.5% were female), 11.7% were university graduates (23.4% were female), 82.6% were married; 34.6% were unemployed, 52.5% had moderate incomes, and 93.3% had health coverage.

Some of the participants' disease condition characteristics are given in Table 2. Over half, 61.5%, of the participants specified that they had been hospitalized once previously, 48% had experienced surgery, and 42% had a chronic disease history. Nearly half (48.8%) of the study participants were hospitalized in the General Surgery clinic, 30.3% of whom had had postponed operations. Another 45.5% had undergone minor surgical interventions, and all of them had required postoperative care that included an instrument of some sort (vascular access, urinary catheter, wound drain, nasogastric catheter, etc).

Over half (55.2%) of the participants in the study specified that they had experienced disturbing postoperative pain, 71.6% specified that they had needed assistance while moving, and 76.6% of them specified that they had had problems that left them hungry for certain periods of time. For 60% of the patients, the length of hospitalization was 1 to 3 nights, and 28.4% of them had been hospitalized in single rooms. In addition, it was observed that nearly all of the patients (96%) had been accompanied by a relative.

In Table 3, the participants' Satisfaction with Nursing Care Scores (SNCS) is shown based on their sociodemographic characteristics. Sociodemographic characteristics of attendants were not effective positively or negatively on SNCS. There were no statistically significant differences between the satisfaction scores and their ages, education levels, marital status or income ( $P > 0.05$ ). However, the SNCS of the female patients ( $50.25 \pm 18.58$ ) were statistically higher than those from the male patients ( $45.75 \pm 18.22$ ), and this difference was statistically significant ( $P = 0.017$ ). The SNCS of the employed participants ( $47.03 \pm 19.59$ ) were lower than the scores from those who did not have a job

**Table 1:** Sociodemographic characteristics of patients

Descriptive Characteristics	n (%)
<b>Age<sup>†</sup></b>	
18-27	36 (9.0)
28-37	103 (25.6)
38-47	92 (22.9)
48-57	73 (18.2)
58-67	58 (14.4)
68 and above	40 (10.0)
<b>Gender</b>	
Male	207 (51.5)
Female	195 (48.5)
<b>Education level</b>	
Illiterate <sup>‡</sup>	69 (17.2)
Primary school <sup>§</sup>	185 (46.0)
High school	101 (25.1)
University <sup>#</sup>	47 (11.7)
<b>Marital status</b>	
Married	332 (82.6)
Not married	70 (17.4)
<b>Employment status</b>	
Employed	263 (65.4)
Not employed	139 (34.6)
<b>Income</b>	
Poor	36 (9.0)
Moderate	211 (52.5)
Good-Very good	155 (38.5)
<b>Health coverage</b>	
Yes	375 (93.3)
No	27 (6.7)
*The average age $45.94 \pm 14.59$	
‡55.1% females	
§53.5% females	
#23.4% females	

( $49.65 \pm 16.19$ ) in a close ratio that was statistically significant ( $P = 0.045$ ).

Table 4 shows the patients SNCS based on the characteristics of their disease conditions. It was observed that their reported scores decreased as their lengths of hospital stay increased. However, this difference was not statistically significant ( $P = 0.325$ ). Although the scores for patients who had had surgery previously ( $47.76 \pm 19.18$ ) were lower than those for patients who had not experienced surgery ( $48.09 \pm 17.90$ ), the difference was not significantly different ( $P = 0.399$ ). The scores from patients who had chronic diseases ( $46.47 \pm 17.59$ ) were lower than those from patients who did not have a chronic disease ( $48.99 \pm 19.11$ ), but this difference was not statistically significant ( $P = 0.107$ ). The participants' SNCS were reviewed based on the magnitude

Descriptive Characteristics	n (%)
<b>Experience with hospitalization</b>	
Never	155 (38.6)
Once	137 (34.1)
Twice or more	110 (27.4)
<b>Experience with surgery</b>	
Yes	193 (48.0)
No	209 (52.0)
<b>History of chronic disease</b>	
Yes	169 (42.0)
No	233 (58.0)
<b>Clinic where the patient was hospitalized</b>	
General surgery	196 (48.8)
Orthopedics	85 (21.1)
Urology	55 (13.7)
CVS	37 (9.2)
Otorhinolaryngology	29 (7.2)
<b>Status of surgery postponement</b>	
Yes	122 (30.3)
No	280 (69.7)
<b>Magnitude of surgical intervention</b>	
Minor surgery	183 (45.5)
Moderate surgery	119 (29.6)
Major surgery	100 (24.9)
<b>Invasive medical instrument*</b>	
Intravenous catheter	402 (100.0)
Nasogastric catheter-urinary catheter	366 (91.0)
Drain	290 (72.1)
Other (i.e., central vein catheters, stoma bag)	71 (17.9)
<b>Experience with disturbing pain (lasting for several days)</b>	
No	222 (55.2)
Yes	180 (44.8)
<b>Need for assistance with moving</b>	
Yes (especially for the first 24 hours)	288 (71.6)
No	93 (23.1)
Partial	21 (5.2)
<b>Oral nutrition intake difficulties<sup>#</sup></b>	
Yes	308 (76.6)
No	94 (23.4)
<b>Length of hospitalization</b>	
1-3 nights <sup>‡</sup>	241 (60.0)
4-7 nights	89 (22.1)
8 nights and more	72 (17.9)
<b>Number of patients in the room</b>	
One patient	114 (28.4)
Two or more patients <sup>‡</sup>	288 (71.6)
<b>Attendant</b>	
Yes	386 (96.0)
No	16 (4.0)

\*The patients have more than one medical instrument  
<sup>#</sup>Including lack of knowledge about how to begin with nutrition and remaining hungry  
<sup>‡</sup>Number of patients hospitalized in one night is 163  
<sup>‡</sup>32 patients were bedded in a patient room that was intended for three people  
 CVS: Cardiovascular Surgery

Descriptive Characteristics	Nursing Care Satisfaction Score		
	Mean (X ± SD)	Median (Min - Max)	Test / P-value
<b>Age<sup>#</sup></b>			
18-27	47.52 ± 15.50	52.00 (19 - 76)	1.40/ 0.923
28-37	48.48 ± 19.52	42.00 (19 - 95)	
38-47	48.66 ± 18.73	49.50 (19 - 95)	
48-57	49.06 ± 21.01	44.00 (19 - 95)	
58-67	45.82 ± 17.03	40.00 (19 - 90)	
68 and above	46.22 ± 15.40	46.00 (19 - 85)	
<b>Gender<sup>‡</sup></b>			
Male	45.75 ± 18.22	42.00 (19 - 95)	-2.39/ 0.017
Female	50.25 ± 18.58	50.00 (19 - 95)	
<b>Education level<sup>#</sup></b>			
Illiterate	45.40 ± 16.53	43.00 (19 - 84)	1.86/ 0.600
Primary school	49.56 ± 19.28	46.00 (19 - 95)	
High school	48.09 ± 19.75	46.00 (19 - 95)	
University	44.89 ± 14.73	46.00 (19 - 78)	
<b>Marital status<sup>‡</sup></b>			
Married	47.38 ± 18.81	42.50 (19 - 95)	-1.79/ 0.073
Not married	50.57 ± 16.87	52.00 (19 - 95)	
<b>Employment status<sup>‡</sup></b>			
Not employed	49.65 ± 16.19	51.00 (19 - 95)	-2.01/ 0.045
Employed	47.03 ± 19.59	42.00 (19 - 95)	
<b>Income<sup>#</sup></b>			
Poor	46.58 ± 18.04	44.50 (19 - 94)	2.06/ 0.356
Moderate	47.37 ± 19.48	43.00 (19 - 95)	
Good-very good	49.01 ± 17.27	49.00 (19 - 95)	
Total satisfaction score	47.93 ± 18.51		

<sup>#</sup>: Kruskal-Wallis Test, <sup>‡</sup>: Mann-Whitney U Test

of the surgical intervention: 51.30 ± 17.77 for minor surgical interventions, 46.03 ± 20.99 for moderate interventions, and 44.04 ± 15.51 for major interventions. There were a statistically significant differences between these scores ( $P = 0.001$ ).

When examining clinical characteristics of patients, SNCS was lower of especially the patients who had difficulties from pain, difficulty in moving, nutrition problem, longer hospitalization period, a large surgical intervention. These patients were not satisfied with nursing care. The average SNCS for patients who reported pain following the surgery (40.51 ± 15.07) were lower than the scores for patients who reported no pain (53.95 ± 18.87), and this difference was statistically significant ( $P = 0.001$ ). The SNCS for patients who were unable to move (46.53 ± 18.67) were lower than were the scores from those who could move (52.04 ± 17.78), and this difference was statistically significant ( $P = 0.008$ ). The SNCS were significantly lower for patients who had had limited oral nutrition intake for a period (46.73 ± 18.46) than they were for participants who had not had any oral nutrition intake limitations (51.87 ± 18.21) ( $P = 0.013$ ).

The SNCS were 49.65 ± 18.18 from patients who had been hospitalized for 1 to 3 nights, 50.10 ± 20.39 for those who were

**Table 4:** Nursing care satisfaction scores by patients' clinical characteristics (N = 402)

Descriptive Characteristics	Nursing Care Satisfaction Score		Test / P-value
	Mean (X ± SD)	Median (Min - Max)	
<b>Experience with hospitalization<sup>#</sup></b>			
Never	48.63 ± 18.83	48.00 (19 - 95)	2.24/ 0.325
Once	48.55 ± 17.05	47.00 (19 - 95)	
Twice and above	46.18 ± 19.80	40.50 (19 - 95)	
<b>Experience with surgery<sup>#</sup></b>			
Yes	47.76 ± 19.18	42.00 (19 - 95)	-0.84/ 0.399
No	48.09 ± 17.90	49.00 (19 - 95)	
<b>Chronic disease<sup>#</sup></b>			
Yes	46.47 ± 17.59	41.00 (19 - 95)	-1.61/ 0.107
No	48.99 ± 19.11	50.00 (19 - 95)	
<b>Surgery clinic<sup>#</sup></b>			
Orthopedics	51.23 ± 18.78	52.00 (19 - 95)	7.47/ 0.113
Urology	46.09 ± 15.32	48.00 (19 - 76)	
General surgery	48.32 ± 19.32	42.00 (19 - 95)	
CVS	41.29 ± 16.32	40.00 (19 - 79)	
Otorhinolaryngology	47.62 ± 18.79	48.00 (19 - 95)	
<b>Magnitude of surgical intervention<sup>#</sup></b>			
Minor surgery <sup>‡</sup>	51.30 ± 17.77	52.00 (19 - 95)	15.83/ 0.001
Moderate surgery <sup>‡</sup>	46.03 ± 20.99	41.00 (19 - 95)	
Major surgery <sup>‡</sup>	44.04 ± 15.51	40.00 (19 - 95)	
<b>Status of surgery postponement<sup>#</sup></b>			
Yes	47.54 ± 18.00	42.00 (19 - 95)	-0.45/ 0.651
No	48.10 ± 18.75	47.50 (19 - 95)	
<b>Experience with disturbing pain (lasting for several days)<sup>#</sup></b>			
No	53.95 ± 18.87	53.00 (19 - 95)	-7.10/0.001
Yes	40.51 ± 15.07	38.00 (19 - 95)	
<b>Need for assistance with moving<sup>#</sup></b>			
Yes	46.53 ± 18.67	41.00 (19 - 95)	9.61/0.008
No	52.04 ± 17.78	43.00 (19 - 95)	
Partial	49.04 ± 17.42	48.00 (19 - 84)	
<b>Oral nutrition intake difficulties<sup>#</sup></b>			
Yes	46.73 ± 18.46	42.00 (19 - 95)	-2.48/ 0.013
No	51.87 ± 18.21	51.50 (19 - 91)	
<b>Length of hospitalization<sup>#</sup></b>			
1-3 nights <sup>‡</sup>	49.65 ± 18.18	51.00 (19 - 95)	23.80 /0.001
4-7 nights	50.10 ± 20.39	50.00 (19 - 95)	
8 nights and more	39.51 ± 14.61	37.00 (19 - 95)	
<b>Number of patients in the room<sup>#</sup></b>			
One patient	51.90 ± 18.15	51.50 (19 - 95)	-0.77/ 0.005
Two or more patients	46.36 ± 18.44	42.50 (19 - 95)	

#: Kruskal-Wallis Test, ‡: Mann-Whitney U Test <sup>‡</sup>Classification is based on the risk from the surgical intervention  
<sup>‡</sup>Mean of the satisfaction score of patients hospitalized one day night 50.34 ± 17.80 (median 52.00)  
CVS: Cardiovascular Surgery

hospitalized for 4 to 7 nights, and 39.51 ± 14.61 for those who hospitalized for 8 nights or more. When the SNCS were compared based on the length of hospitalization, the difference in-between was statistically significant ( $P = 0.001$ ). These differences were different from the scores for patients who had been hospitalized for 8 nights or more. The SNCS of the participants who had been hospitalized in single rooms (51.90 ± 18.15) were higher than the scores for those who had been hospitalized in rooms with multiple people (46.36 ± 18.44) at a significant difference ( $P = 0.005$ ).

Table 5 shows other conditions which surgery patients were not satisfied. Attendants reported the matters related to comfort of patient and their relatives as a part of the satisfaction. Three-quarters (75.6%) of the participants reported that there were no sufficient rest areas for the persons who had accompanied them, 70.1% were unhappy about having to share a room, 68.6% complained about night lighting, 52% complained about unopened windows in the room and about the noise, and 66.9% specified that they were not satisfied with their early discharge. Close to half, 43.3%, of the patients said that the nurses usually directed them to the physicians for information.

According to the total satisfaction score, the participants' overall was low (47.93 ± 18.51)(see Table 3).

## Discussion

Many factors influence a patient's satisfaction with the treatment and care he or she receives, including sociodemographic characteristics. Different results were also found with age and education in relation to the level of satisfaction with care. Some studies indicate that education in particular is the prominent factor [17,22]. In the Akin and Erdogan, performed on Turkish patients, a significant relationship was found between age and satisfaction, however no statistical relationship was found between satisfaction with nursing care and education level. In this study, other sociodemographic variables (age, education, marital status, income level) had no effect on the satisfaction score other than gender and employment status. However, although the satisfaction scores did not show differences based on education level, the reason for the difference observed for gender might have been the participants' education levels; most of the females who reported high satisfaction scores were those with low education levels at the same time, and this circumstance could have played a role in lowering the women's healthcare expectations compared with their male counterparts. It is indicated in the literature that expectations for healthcare services usually increase with increasing education levels and/or being in the position of providing a service [1,5,17,23].

In this study, the patients' chronic disease history, hospital experience, surgery experience, and postponement of surgery had no effect on their SNCS. In addition, the satisfaction score decreased as number of hospital experiences increased. However, the related literature indicates that patient' expectations of their healthcare increase along with their expectations regarding their diseases and hospital service [24]. These informations show that satisfaction varies according to the characteristics of patients,

**Table 5:** Other conditions which surgery patients was not satisfied (N = 402)

Physical Equipment of Hospital*	n (%)
Non-available bed and food for patients' relatives in the patient's room	304 (75.6)
Lack of the single patient rooms	202 (70.1)
Non-available bedside lamp and corridor lights that were permanently on	276 (68.6)
Being discharged early (fear of homecare)	109 (66.9)
Insufficient ventilation (unopened windows), noise	209 (52.0)
Cleaning (non-replaced bedding, smelly toilets)	198 (49.2)
Nurses who just said "Ask the doctor"	174(43.3)
Tasteless meals, delayed elevator	75 (18.6)
Night treatments and patient visits	55 (13.7)
Others conditions (wall color, other staff' behaviors etc.)	28(6.9)
Team members shouting at each other or at patients	6(1.4)
*More than one answer could be given	

age, expectations, personal, illness factors and education level. In this study, the satisfaction of the orthopedics patients was higher, although there was no significant difference between the clinics. The reason for this could have been that the patients in these clinics are hospitalized for longer periods than are patients in some of the other clinics. These longer hospital stays could have ensured longer or more communication between the patients and the care team, facilitating the patients' adaptation to the clinic and positively influencing their satisfaction. When the data are reviewed, it is observed that the participants reported high satisfaction when they were hospitalized for 4 to 7 nights. In other studies, attention is drawn to length of hospitalization among the variables that influence patient satisfaction with care. These studies report that there are no significant changes in satisfaction scores particularly for short-length hospitalizations. It is suggested that patients report greater satisfaction as they adapt to their clinical environments within the first week but that they begin to experience significant dissatisfaction when they are hospitalized for longer than a week. One of the most important reasons for this dissatisfaction is cited as the disruption of daily life activities as a result of prolonged disease processes [12,17,23,24].

Another circumstance that influenced the patient satisfaction in this study was the magnitude of the surgical intervention; the satisfaction scores of the patients who underwent major interventions were low. The reason for this could have been the patients' experience with oral nutrition intake difficulties and moving difficulties associated with the incision wound and pain. However, although the scores from the patients who underwent minor interventions were higher than those from patients who had other interventions, these scores were not objectively high. The majority of these patients had been discharged one night after their operations. When looking at the circumstances the patients were not satisfied with, it was observed that most of them did

not want to be discharged early, perhaps suggesting that they did not have adequate homecare and thus were not prepared to be discharged. In fact, what was expected was that patients would want to go home as soon as possible. In similar studies, attention is drawn to the notion that unfulfilled physiological requirements are important for patients' satisfaction with their care [6,25]. It is reported that particularly, ensuring pain control and supporting independence both affect patient satisfaction. It is shown that ensuring care increases satisfaction because care providers assess surgery patients' pain and movement conditions during the preoperative period [8,26]. Therefore, for nurses to determine the appropriate care, they need to measure these variables in their settings and monitor the patients' satisfaction.

In the studies, it is reported that the conditions related to comfort such as lighting, cleanliness, heating, noise, order of the waiting rooms, options presented to the persons who accompany the patients in the hospital and number of these individuals can all affect patient satisfaction [2-4,27,28]. In this study, the patients reported that they had similar service expectations. Particularly, the low satisfaction scores from patients who had to share a room indicate that these patients had certain expectations about their arrangements. However, it is suggested that these characteristics do not have much effect on patients' satisfaction with their care by nurse [4].

Because the NSNS has no subscales for specific dimensions of nursing care satisfaction, this study did not assess specific dimensions. However, the review of the scores shows that the patients gave the lowest scores for the nurses' educational roles; given that the patients have the most contact with nurses, the nurses should be the ones to give them the necessary explanations. In fact, the significant number of patients who reported "I am directed to the physician when I ask something" (Table 5) suggests that nurses do not adequately fulfill their mission of educating patients. The reason of this may be that the number of nurses in the clinics where the study was conducted is insufficient. In the studies conducted in Turkey, it is reported that nurses' attitudes and behaviors and their knowledge and skills related to their jobs affect satisfaction. Individualized patient care is found to be important for satisfaction with nursing care. In these studies, it is reported that nurses usually disrupt their educational roles because of their workloads and that this affects patient satisfaction [4,27,29,30]. In a study of Suhonen, et al [31], the authors showed that there is a powerful positive relationship between individualized patient care and patient satisfaction. Thus, an adequate number of nurses are important for individualized patient care.

In this study, SNCS shows that the patients aren't satisfied enough with the service the nurses give to them. Finally, in order to increase the satisfaction with surgical clinic and nursing care, nurses should focus on improving the least satisfied areas.

## Limitations

All of the adult patient clinics could not be included in this study due to renovations at some of the clinics.

## Conclusion

The findings of this study demonstrate that surgery patients' satisfaction with their care is fairly low. Consideration of the circumstances that influenced these findings shows that the low scores are based on the patients' unfulfilled requirements and expectations. It is considered that these patients are not receiving adequate nursing care with regard to their pain and limited movement, particularly following the major surgical interventions that tend to more often result in these complications and conditions. The fact that a majority of the patients who had had minor surgical interventions did not want to be discharged early shows that the patients were not prepared for the discharge process following standard daily surgical interventions. One reason that patients were negatively impressed by their care was the physical conditions at the various facilities such as bedding, cleanliness, food, lighting and noise. It is considered that the insufficient number of nurses is significant in affecting all of these circumstances and conditions.

The results emphasize the importance of giving patients information concerning their medical condition, supporting patients' relatives and focusing more closely on surgical patients' needs.

## Relevance to Clinical Practice

This study will provide opportunity to consider the reasons negatively affecting the nursing care satisfactions of surgical patients: such as pain, nutrition, activity management, discharge education. Especially, it will attract the attention to the satisfaction of care for the major surgical interventions. Furthermore, it will provide the request of comfort in hospital for patients and their relatives to be considered in cases requiring a long-term hospitalization.

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## Conflicts of Interest

The authors declare that they have no competing interests.

## Authors Contribution

Y.S., H.O.C. and T.A. contributed to the conception and design of this study; Y.S., H.O.C. and T.A. contributed to the data collection and performed the statistical analysis; Y.S., T.A. and H.O.C. drafted the manuscript. All authors read and approved the final manuscript.

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