Evaluation of Nursing Care Satisfaction of Patients Who Underwent Open Heart Surgery

Kıymet Öztepe1, Nevin Kanan2

1Department of Nursing, Hakkari University Faculty of Health Sciences, Hakkari, Turkey
2Department of Nursing, Haliç University, Faculty of Health Science, İstanbul, Turkey

ORCID iDs of the authors: K.Ö. 0000-0003-4106-8864, N.K. 0000-0002-2852-2316

Cite this article as: Öztepe, K., & Kanan, N. (2021). Evaluation of nursing care satisfaction of patients who underwent open heart surgery. Florence Nightingale Journal of Nursing, 29(3), 285-293.

Abstract

AIM: This study aimed to determine the nursing services satisfaction level of patients who underwent open heart surgery.

METHOD: One hundred forty patients who were hospitalized for at least 2 days between the dates 20 November 2013 and 20 January 2014 in the cardiovascular clinics of three different public hospitals were included in this descriptive research. To collect data, a survey of 13 questions about individuals’ sociodemographic and informative features and the Newcastle Satisfaction with Nursing Scale that consists of 19 clauses was used. The data were analyzed using the statistical tests of number, percentage, average, standard deviation, minimum, maximum, Mann–Whitney U-test for two groups, Kruskal–Wallis for more than two groups, chi-square and chi-square trend for comparison of categorical variables.

RESULTS: The nursing care satisfaction level of patients who underwent an open heart surgery was determined to be high at the rate of 77.77 ± 15.93. Satisfaction status of the patients included in the study was comparatively analyzed with age, sex, marital status, level of income, health insurance, level of education, employment status, number of hospitalization, and length of hospitalization. Results indicate that variables did not have any effect on satisfaction scores.

CONCLUSION: The nursing services satisfaction level of patients who underwent open heart surgery was determined to be high.

Keywords: Nursing care, open heart surgery, patient, satisfaction

Introduction

Patient satisfaction, which is a subjective and complex concept that includes lifestyle, past experiences, future expectations, values that are important for the individual and society, and which is accepted as an indicator of health care but has a different meaning for each individual, is defined as meeting the expectations and wishes of the patients (Aldemir et al., 2018; Karadağ, 2007; Köşgeroğlu et al., 2005; Kuzu & Ulus, 2014; Mulugeta et al., 2019; Özer et al., 2009; Yılmaz, 2001).

It is stated that patient satisfaction includes the provision of the service, the communication features, competencies of the patient and the service providers, and the existence and continuity of the services. It is expressed that the perception of satisfaction mostly stems from the service provided by physicians and nurses, as patients generally encounter physicians and nurses in the provision of health services (Cerit, 2016; Karaca & Durna, 2018; Karadağ, 2007; Kuzu & Ulus, 2014). Therefore, nurses have great responsibilities in increasing patient’s satisfaction from their admission to the service until their discharge (Mulugeta et al., 2019; Öztürk et al., 2013). Nurses’ personal characteristics such as courtesy, affection, interest and understanding professional attitudes, and the way they present their knowledge and skills affect patient satisfaction (Akyolcu, 2007; Peterson et al., 2005; Topçu, 2011).

By evaluating patient satisfaction with nursing care practices, determining the priority order of variables for the care of patients, learning how they find the quality of care they receive, and making arrangements for their expectations help to increase the quality of nursing care. Therefore, it is stated that nursing care is an important factor in increasing
patient satisfaction (Karaca & Durna, 2018; Kuzu & Ulus, 2014; Öztürk et al., 2013; Topçu, 2011).

As a result of the literature review, there are a few studies examining the nursing care satisfaction levels of patients who underwent open heart surgery in our country (Özer et al., 2009). Based on this information, it is thought that measuring the satisfaction of patients who underwent open heart surgery will contribute to the development of nursing care services in the clinics where patients receive care.

This study was planned to determine the satisfaction levels of patients who had undergone open heart surgery in cardiovascular surgery units. For this purpose, the following research questions were set out:

**Research Questions**
1. What is the satisfaction level of patients treated in cardiovascular surgery clinics with nursing care services?
2. Do the individual characteristics of the patients affect the level of satisfaction?

**Method**

**Study Design**

This was a descriptive study.

**Sample**

When the sample size that would represent the universe of this research was put forward, it was determined that 400 patients would be included in the scope of it. However, as the length of permission for the study was designated as 2 months (between the days 20 November 2013 and 20 January 2014) by the hospitals in which the study was conducted, the sample size was determined as 140 patients after sample calculations. In consequence, the sample size was determined as 140 with 95% CI and 80% power. The sample included patients who:

- Gave their consent to the research,
- Can communicate,
- Were 18 years old and above,
- Were hospitalized in the clinic for at least 2 days.

**Data Collection**

After patients gave their consent using “informed voluntary consent form” that was prepared for voluntary participation and written permission of the patients, data for the study were collected with “patient informative characteristics form” that consisted of 13 questions (included sociodemographic and descriptive characteristics) and “Newcastle Satisfaction With Nursing Scale” that consisted of 19 questions.

**The Patient Informative Characteristics Form:** It was prepared by the researchers based on the literature (Aytar & Yeşildal, 2004; Demir et al., 2009, 2011; Topçu, 2011) and contained a total of 13 questions examining patient’s age, gender, level of education, health insurance, employment status, number of hospitalization, length of hospitalization, how patient evaluates the care given in the service, and if the patient was hospitalized before in the same hospital and the difference between nursing care given.

**Newcastle Satisfaction with Nursing Scales:** This scale was developed by Thomas et al. in order to determine patients’ personal experiences and satisfaction with nursing care (McColl et al., 1996; Thomas et al., 1996). In Turkey, the validity and reliability of the scale has been made by Uzun (2003). This scale consists of three sections. In this research, only one of them called “Satisfaction With Nursing Care Scale” was used. That used component is a five-point likert scale consisting of 19 questions. Higher points scored on the scale mean that the satisfaction level is higher. The total score obtained from the scale is calculated by converting the scores of all items into 100 after adding up the scores. A total score of 100 indicates that patients are satisfied with nursing care. The cronbach alpha coefficient of the scale was determined to be 0.96 in the study of Thomas et al. (1996) and 0.94 in the study of Uzun (2003). The data were collected in the patient’s room in the service before the patients were discharged with the questionnaire form by explaining the research subject to the patients.

**Statistical Analysis**

The Statistical Package for the Social Sciences for 21 (IBM SPSS Corp., Armonk, NY, USA) program was used in the data analysis. Descriptive and non-parametric analyses were used for the statistical analysis of the data. Descriptive statistical methods (number, percentage, average, standard deviation, minimum, maximum) were used to evaluate the data related to the informative characteristics of patients. To examine the relationship between informative characteristics of patients and their
satisfaction scores, statistical tests were used as follows: Mann–Whitney U-test between two groups, Kruskal–Wallis test among more than two groups, and chi-square and chi-square trend tests for comparison of categorical variables.

Ethical Considerations
Data collection started after the thesis preliminary project was approved by Istanbul University Health Sciences Institute. Istanbul University, Istanbul Faculty of Medicine Hospital Ethics Committee approved the study protocol (Approval number: 2013/1064/1785). With the official permission of the Republic of Turkey, three hospitals were included for the collection of the research data. Every working staff member of the three hospitals in which the research was conducted was informed about the aim of the study and they were given the “informed voluntary consent form” to read. After patients’ verbal and written consent was obtained, data were collected.

Results
Considering the distribution of the descriptive characteristics of the patients included in the study, it was determined that 72.1% were male patients, 47.1% were 61 years old and above, 91.4% were married, 74.3% were in the middle-income group, 55.7% were primary school graduates, 94.3% had health insurance, 68.7% didn’t work for other reasons, 50.7% were hospitalized for longer than 6 days, 51.4% were hospitalized for the first time (Table 1).

Satisfaction level of patients participated was determined to be high (77.77 ± 15.93).

According to Table 2, 56% of patients \( (n=79) \) responded “very pleased” to the question “the amount of privacy (personal and physical boundaries) nurses gave you” and 4% of patients \( (n=5) \) responded “not satisfied at all” to the questions “the way the nurses made you feel at home,” “how nurses helped to put your relatives’ or friends’ minds at rest?” and “how nurses listened to your worries and concerns?”

As shown in Table 3, Mann–Whitney U-test used for the purpose of evaluating the average of participating patients’ satisfaction scores was applied for gender \( (p=.560 > .05) \), age \( (p=.829 > .05) \), marital status \( (p=.646 > .05) \), level of education \( (p=.249 > .05) \),

| Table 1. Distribution of Descriptive Characteristics of Patients \((N=140)\) |
|-----------------|--------|--------|
| **Gender**      | 101    | 72.1%
| Male            | 39     | 27.9%
| Female          |        |        |
| **Age**         |        |        |
| 18–30           | 7      | 5.1%
| 31–40           | 5      | 3.6%
| 41–50           | 17     | 12.1%
| 51–60           | 45     | 32.1%
| 61 and older    | 66     | 47.1%
| **Marital status** |      |        |
| Married         | 128    | 91.4%
| Single          | 12     | 8.6%
| **Income status** |      |        |
| Bad             | 16     | 11.4%
| Not bad         | 104    | 74.3%
| Good            | 17     | 12.2%
| Very good       | 3      | 2.1%
| **Educational level** |      |        |
| No formal education | 14     | 10%
| Primary         | 16     | 11.4%
| Primary-elementary | 78     | 55.7%
| High school     | 20     | 14.3%
| University      | 12     | 8.6%
| **Health insurance** |      |        |
| Yes             | 132    | 94.3%
| No              | 8      | 5.7%
| **Employment status** |      |        |
| Not working because of this disease | 39 | 27.9%
| Not working | 5 | 3.5%
| Not working because of other reasons | 96 | 68.7%
| **Number of hospitalization days** | | |
| 2 days          | 6      | 4.3%
| 3 days          | 9      | 6.5%
| 4 days          | 15     | 10.7%
| 5 days          | 23     | 16.4%
| 6 days          | 16     | 11.4%
| >6 days         | 71     | 50.7%
| **Length of hospitalization** | | |
| 1 time          | 72     | 51.4%
| 2 times         | 35     | 25%
| 3 times         | 16     | 11.4%
| 4 times         | 6      | 4.3%
| 5 times         | 5      | 3.6%
| >5 times        | 6      | 4.3%

Note: \( n = \) sample size
health insurance ($p = .56 > .05$) variables of the patients participating in the study, but no significant relationship was found between the group averages.

Kruskal–Wallis test was also used for the assessment of satisfaction scores averages, and satisfaction levels were examined according to variables of level of income ($p = .692 > .05$), employment status ($p = .924 > .05$), number of hospitalization ($p = .513 > .05$), length of hospitalization ($p = .778 > .05$). It was determined that there was no significant difference between the average scores of satisfaction (Table 3).

### Discussion

Evaluation of patient satisfaction, which is one of the most important indicators of quality health services, is important for planning and practicing nursing care and for determining the quality of care (Alhusban & Abualrub, 2009; Kayrakci & Özşaker, 2014). Providing individualized nursing care, evaluating the satisfaction of individuals with the care they receive, and making new plans to increase the quality of nursing care have provided important feedbacks (Kayrakci & Özşaker, 2014).

Accordingly, in this study, which was conducted to determine the nursing care satisfaction of patients who underwent open heart surgery, the mean total score the patients got from the Newcastle Nursing Care Satisfaction Scale score was $77.77 \pm 15.93$, and their satisfaction level was found to be high. When similar studies were examined, it was seen that Güneş (2013) stated the level of satisfaction with nursing as $84.219 \pm 13.567$ in her study.

### Table 2.

|                          | Strongly Not Satisfied | Barely Satisfied | Quite Satisfied | Very Satisfied | Strongly Satisfied |
|--------------------------|------------------------|------------------|-----------------|---------------|-------------------|
| The amount of time nurses spent with you | 0 0 17 12 | 22 16 | 43 31 | 58 41 |
| How capable nurses were at their job | 1 1 9 6 | 27 19 | 42 30 | 61 44 |
| There was always a nurse around if you needed one | 4 3 5 4 | 29 21 | 32 23 | 70 50 |
| The amount nurses knew about your care | 1 1 7 5 | 20 14 | 44 31 | 68 49 |
| How quickly nurses came when you called for them | 0 0 12 9 | 26 19 | 44 31 | 58 41 |
| The way nurses made you feel at home | 5 4 12 9 | 23 16 | 39 28 | 61 44 |
| The amount of information nurses gave you about your condition and treatment | 3 2 13 9 | 18 13 | 39 28 | 67 48 |
| How often nurses checked to see if you were okay | 3 2 6 4 | 18 13 | 61 44 | 52 37 |
| Nurses’ helpfulness | 2 1 8 6 | 21 15 | 47 34 | 62 44 |
| The way nurses explained things to you | 1 1 10 7 | 22 16 | 38 27 | 69 49 |
| How nurses helped to put your relatives’ or friends’ minds at rest | 5 4 16 11 | 17 12 | 42 30 | 60 43 |
| Nurses’ manner in going about their work | 2 1 12 9 | 25 18 | 36 26 | 65 46 |
| The type of information nurses gave you about your condition and treatment | 1 1 12 9 | 21 15 | 48 34 | 58 41 |
| Nurses’ treatment of you as an individual | 0 0 11 8 | 25 18 | 42 30 | 62 44 |
| How nurses listened to your worries and concerns | 5 4 14 10 | 26 19 | 51 36 | 44 31 |
| The amount of freedom you were given in the ward | 4 3 8 6 | 16 11 | 45 32 | 67 48 |
| How willing nurses were to respond your requests | 0 0 14 10 | 18 13 | 50 36 | 58 41 |
| The amount of privacy nurses gave you | 0 0 6 4 | 16 11 | 39 28 | 79 56 |
| Nurses’ awareness of your needs | 3 2 11 8 | 18 13 | 45 32 | 63 45 |

Note: $n =$ sample size
Table 3. 
Satisfaction Score Averages According to the Descriptive Characteristics of the Patients (N = 140)

| Characteristic                      | n  | Mean | SD  | Median | Min. | Max. | X²  | z    | p   |
|------------------------------------|----|------|-----|--------|------|------|-----|------|-----|
| Gender                             |    |      |     |        |      |      |     |      |     |
| Male                               | 101| 77.57| 16.94| 82.00  | 36.00| 95.00|     | 0.582| .560 |
| Female                             | 39 | 78.28| 13.12| 78.00  | 33.00| 95.00|     |      |     |
| Age                                |    |      |     |        |      |      |     |      |     |
| 18–30                              | 7  | 83.00| 8.50 | 80.00  | 74.00| 95.00| 1.485| .829 |     |
| 31–40                              | 5  | 80.20| 23.64| 90.00  | 39.00| 95.00|     |      |     |
| 41–50                              | 17 | 75.59| 16.78| 76.00  | 42.00| 95.00|     |      |     |
| 51–60                              | 45 | 7.07 | 17.27| 82.00  | 33.00| 95.00|     |      |     |
| 61 and older                       | 66 | 78.08| 15.00| 80.50  | 39.00| 95.00|     |      |     |
| Marital status                     |    |      |     |        |      |      |     |      |     |
| Married                            | 128| 77.39| 16.38| 81.00  | 33.00| 95.00|     | 0.549| .646 |
| Single                             | 12 | 81.83| 9.28 | 79.50  | 67.00| 95.00|     |      |     |
| Educational level                  |    |      |     |        |      |      |     |      |     |
| No formal education                | 14 | 75.00| 16.12| 79.50  | 36.00| 92.00|     | 5.395| .249 |
| Primary                            | 16 | 76.44| 15.48| 79.50  | 42.00| 95.00|     |      |     |
| Primary-Elementary                 | 78 | 79.55| 15.96| 83.50  | 33.00| 95.00|     |      |     |
| High school                        | 20 | 77.85| 15.59| 78.00  | 39.00| 95.00|     |      |     |
| University                         | 2  | 71.08| 16.89| 76.50  | 41.00| 89.00|     |      |     |
| Health insurance                   |    |      |     |        |      |      |     |      |     |
| Yes                                | 132| 77.87| 15.93| 81.00  | 33.00| 95.00|     | 0.582| .56  |
| No                                 | 8  | 76.13| 16.90| 78.50  | 44.00| 95.00|     |      |     |
| Income status                      |    |      |     |        |      |      |     |      |     |
| Bad                                | 16 | 79.13| 14.15| 84.00  | 44.00| 95.00|     |      |     |
| Not bad                            | 104| 78.36| 15.46| 81.00  | 36.00| 95.00|     | 1.457| .692 |
| Good                               | 17 | 74.76| 19.28| 81.00  | 33.00| 95.00|     |      |     |
| Very good                          | 3  | 67.33| 23.71| 74.00  | 41.00| 87.00|     |      |     |
| Employment status                  |    |      |     |        |      |      |     |      |     |
| Not working because of this disease| 39 | 75.44| 19.24| 82.00  | 33.00| 95.00|     | 0.157| .924 |
| Not working                        | 5  | 81.80| 11.43| 85.00  | 68.00| 95.00|     |      |     |
| Not working because of other reasons| 96 | 78.51| 14.62| 81.00  | 36.00| 95.00|     |      |     |
| Number of hospitalization days     |    |      |     |        |      |      |     |      |     |
| 1 time                             | 72 | 78.72| 16.23| 82.00  | 39.00| 95.00|     | 4.254| .513 |
| 2 times                            | 35 | 77.49| 15.70| 82.00  | 33.00| 95.00|     |      |     |
| 3 times                            | 16 | 75.19| 17.80| 80.50  | 42.00| 95.00|     |      |     |
| 4 times                            | 6  | 84.00| 10.24| 84.50  | 68.00| 95.00|     |      |     |
| 5 times                            | 5  | 77.20| 10.21| 75.00  | 70.00| 95.00|     |      |     |
| >5 times                           | 6  | 69.17| 18.03| 74.50  | 41.00| 91.00|     |      |     |
on 500 patients, and Cerit (2016) stated the average score of satisfaction as 76.61 ± 1.5.04 in her study on 85 patients. While the level of satisfaction was moderate in the 2009 study of Alhusban and Abualrub, it was concluded that patients were satisfied with nursing in other studies evaluating their satisfaction levels with nursing care (Aksakal & Bilgili, 2008; Alhusban & Abualrub, 2009; Demir et al., 2011; Kayrakci & Ozsaker, 2014; Tukel et al., 2004). It can be thought that the care approaches applied by nurses by accelerating the recovery of patients in the postoperative period, by applying interventions to prevent complications, and by evaluating the physiology and psychological responses of patients to surgery may affect their satisfaction level.

When the distribution of the responses given to the Newcastle Nursing Care Satisfaction Scale was examined, it was seen that 56% of the patients answered "very satisfied" to the question "the amount of privacy (personal and physical boundaries) nurses gave you." (Table 2). Similarly, in the study conducted by Kayrakci & Ozsaker (2014), it was seen that the highest satisfaction score was given to "the amount of privacy nurses gave you." However, 4% of the patients (n=5) responded "not satisfied at all" to the questions about "the way the nurses made you feel at home," "how nurses helped to put your relatives' or friends' minds at rest?" and "how nurses listened to your worries and concerns?" (Table 2). In Alhusban and Abualrub's study (2009), the satisfaction scores given by the patients to expression "how nurses helped to put your relatives' or friends' minds at rest?" were also found to be low. According to these data, besides emphasizing the importance of patient education in in-service training, it may be suggested to include these subjects in the content of the training.

It was found that the average satisfaction score of the patients according to their gender was 78.28 ± 13.12 for female patients. Although female patients had a higher level of satisfaction in nursing care than males, the findings of the study were consistent with the literature. But it showed that there was no statistically significant difference in gender-related groups (p=.560 > .05) (Alhusban & Abualrub, 2009; Cerit, 2016; Demir et al., 2011; Guenes, 2013; Kuzu & Ulus, 2014; Ozer et al., 2009; Tukel et al., 2004; Turker et al., 2009). The higher level of satisfaction in female patients compared to men can be explained by the fact that women can meet their own needs by assuming the role of caregiver, and men have higher expectations for nursing care because they are in the caretaker role.

When the satisfaction levels of the patients participating in the study were examined by age group, it was seen that the average satisfaction score of the patients in the 18–30 age group (n=7) was high (83.00 ± 8.50), but the majority of the participants were in the age group 61 and above, and their satisfaction level was 78.08 ± 15.00. There was no significant difference between the age variable of the patients and their satisfaction with nursing care (p=.829 > .05). Although this study is compatible with the literature, it shows that age is a variable that does not affect satisfaction score levels (Alhusban & Abualrub, 2009; Cerit, 2016; Guenes, 2013; Kuzu & Ulus, 2014). In addition, there are studies stating that with the increase of age, satisfaction levels also increase (Demir et al., 2009, 2011; Topcu, 2011;
Türker et al., 2009). The fact that the majority of the participants included in this study were in the age group 61 and above, again in line with the literature, shows that the elderly people have limited expectations, high experiences and tolerance, and their satisfaction levels may be high due to their opinion of ‘not being a burden on anyone else’ (Cerit, 2016).

When the mean scores of satisfaction of the patients were examined based on their marital status, it was found that the average score of single (unmarried) patients was 81.83 ± 9.28, while the average score of satisfaction was found to be 77.39 ± 16.38 in married patients. Although single patients were found to be more satisfied with nursing care, it was found that there was no statistically significant difference between the groups (p= .646 > .05). It is possible to say that the results obtained are compatible with the literature (Alcan et al., 2015; Demir et al., 2011).

When the average point of satisfaction with nursing care was examined according to the educational status of the patients, it was seen that the satisfaction scores of the primary school graduates were 79.55 ± 15.96, the high school graduates patients had 77.85 ± 15.59, and the university graduate patients had 71.08 ± 16.89 satisfaction points. It was concluded that there was no significant difference in the mean scores between the groups (p = .249 > .05). There are studies in the literature that indicate that the education level of patients does not affect their satisfaction level with nursing (Alcan et al. 2015; Alhusban & Abualrub, 2009; Demir et al., 2011; Tuğut & Gölbaşı, 2013). According to the literature, it is known that patients with low expectation and insufficient knowledge have higher levels of satisfaction in terms of nursing, whereas patients with high expectations and more knowledge on health have lower satisfaction levels (Algier et al., 2005; Kayrakçı & Özşaker, 2014; Zarzycka et al., 2019). In this study, the partially high average satisfaction scores of primary school graduates suggest that the expected level of expectation from nurses may increase with the increase in education level.

In this study, which was similar to the literature (Alcan et al., 2015; Tuğut & Gölbaşı, 2013) when the income status of the patients and the mean scores of satisfaction were compared, it was found that the satisfaction level of the patients’ nursing care with poor income was 79.13 ± 14.15. It was concluded that there was no statistically significant difference in the findings (p = .692 > .05). The limited expectations of individuals with poor income from nursing services can be shown as a cause for an increase in satisfaction.

When health insurances and satisfaction levels of nursing care were compared, it was seen that the satisfaction score of the group with health insurance was 77.87 ± 15.93, and the satisfaction score of the group without health insurance was 76.13 ± 16.90. However, it was concluded that the mean scores did not show a statistically significant difference (p = .729 > .05). While the study findings are similar to the literature, it was seen that the patients are not affected by whether they have social security or not while evaluating the service they receive as a result of the findings (Güneş, 2013).

When the satisfaction averages according to the employment status were examined, it was found that the satisfaction average of the unemployed group was 81.80 ± 11.43, the average score of satisfaction of the group who did not work due to this disease was 75.44 ± 19.24, and the average satisfaction score of the group who did not work for other reasons was 78.51 ± 14.62. No significant difference was found as a result of the analysis of the data (p = .924 > .05). The findings were found to be consistent with the literature (Alcan et al., 2015; Tuğut & Gölbaşı, 2013). The fact that the rates in this study are close to 1 shows that whether the patients work or not work does not affect their perception of nursing care in general.

When the number of hospitalizations of the patients was examined, the satisfaction level of the patients who were hospitalized four times was found to be 84.00 ± 10.24. No significant difference was found as a result of the statistical analysis of the data. While the satisfaction rate was 77.20 ± 10.21 in those who were hospitalized for the fifth time, it was 69.17 ± 18.03 in those who had been hospitalized more than five times and the satisfaction rate was seen to decrease (p = .513 > .05). In this study that shows similarity with the data of Mersinlioğlu and Öztürk’s study (2015) about “the number of hospitalizations,” it is thought that the level of satisfaction of the patients who have more hospitalization experience is decreasing depending on the possibility of having more expectations or being tired both physically and psychologically.
When the duration of hospitalization and satisfaction levels of the patients were examined, it was seen that the satisfaction level of the patients who stayed in the hospital was 80.94 ± 15.61 on the sixth day (n=16), but there was no significant difference in the analysis results (p=.778 > .05). The findings were consistent with the literature (Alhusban & Abualrub, 2009; Zarzycka et al., 2019). In Alcan et al.’s study (2015), it was observed that the longer the hospital stay, the higher the level of satisfaction with nursing care whereas in this study, it was observed that as the number of days of hospital stay increased, levels of satisfaction decreased (76.23 ± 16.79). The reason for this can be attributed to the increased expectation levels of patients from nursing care services.

Study Limitations
The fact that the research was implemented only on patients who underwent open heart surgery in cardiovascular clinics of the three hospitals that were allowed, the study period of just 2 months, and the calculated sample could not be reached (400 patients) were accepted as limitations for the study.

Conclusion and Recommendations
This study is important in determining the satisfaction of patients who have undergone open heart surgery in terms of nursing care. As a result of the study, it was found that the satisfaction levels of patients with nursing care were high (77.77 ± 5.93) in the postoperative period.

It was concluded that the individual characteristics of the patients did not affect their satisfaction level, and there was no significant difference as a result of the comparisons.

According to the result of the research, it can be thought that it would be beneficial to organize and apply training programs to patients in the postoperative period, taking into account their individual and disease-related characteristics, in order to increase their level of satisfaction. Considering the data of this study, these training are envisaged to help the patients and their relatives by keeping them in a comfortable environment, relieving their concerns, and listening to their worries. In addition, in the in-service training given to nurses, it is recommended to emphasize the importance of patient education and to repeat the study by taking a larger sample size.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Istanbul University-Cerrahpaşa (Date: December 23, 2013, No: 1064/1785).

Informed Consent: The study was started by using the Informed Volunteer Consent Form, which was prepared for the voluntary participation and written permission of the patients, after the patient’s consent was obtained or by filling in the Informed Voluntary Consent Form by their guardians.

Author Contributions: Concept – K.Ö., N.K.; Design – K.Ö., N.K.; Supervision – K.Ö., N.K.; Resources – K.Ö., N.K.; Materials – K.Ö., N.K.; Data Collection and/or Processing – K.Ö., N.K.; Analysis and/or Interpretation – K.Ö., N.K.; Literature Search – K.Ö., N.K.; Writing Manuscript – K.Ö., N.K.; Critical Review – K.Ö., N.K.

Conflict of Interest: There were no conflicts of interest in this study.

Financial Disclosure: No institutional and financial support was utilized during this research.

References

Aksakal, T., & Bilgili, N. (2008). The evaluation of satisfaction with nursing care: An example of gynaeceology service. Erciyes Medical Journal, 30(4), 242–249.

Akyolcu, N. (2007). Emergency nursing from yesterday to today. Istanbul University Florence Nightingale Journal of Nursing, 15(60), 15–16.

Alcan, A. O., Giersbergen, M. Y., Köze, B. Ş., Tanil, V., & Aksakal, B. I. (2015). The level of satisfaction of patients’ from nursing services. Journal of Ege University Nursing Faculty, 31(3), 81–89.

Aldemir, K., Gürkan, A., Karabey, G., Yilmaz, F. T. (2018). Examination of satisfaction from nursing care of inpatients in the surgical clinics. Journal of Health and Nursing Management, 5(3), 155–163.

Algıer, L., Abbasoğlu, A., Hakverdioğlu, G., Ökdem, Ş., & Gökçer, S. (2005). Patients’ and nurses’ perceptions about the importance of nursing interventions. Cumhuriyet Üniversitesi Hekimlik Yüksekokulu Dergisi, 9(1), 33–40.

Alhusban, M. A., & Abualrub, R. F. (2009). Patient satisfaction with nursing care in Jordan. Journal of Nursing Management, 17(6), 749–758. [CrossRef]

Aytar, G., & Yeşildal, N. (2004). Satisfaction levels of inpatients in a state hospital. Duzahe Medical Journal, 3, 10–14.

Cerit, B. (2016). Level of patients’ satisfaction with nursing care. Journal of Hacettepe University of Nursing, 3(1), 27–36.

Demir, T., Açık, Y., Deveci, S. E., Kaya, M. K., Oğuzönçül, A. F., Ozan, A. T., Pirinççi, E., & Yıldırım, B. (2009). The satisfaction levels of patients receiving outpatient and clinic service from
Department of Ophthalmology of Medical Faculty of Firat University. *Istanbul University Journal of Health Sciences*, 23(3), 119–124.

Demir, Y., Arslan, G. G., Eşer, İ., & Khorsıd, L. (2011). Investigation of satisfaction of patients’ for nursing care in a training hospital. *Istanbul University Florence Nightingale Journal of Nursing*, 19(2), 68–76.

Gunes, A. (2013). Satisfaction with nursing services of patients undergoing gastrointestinal system surgery. *Master’s Thesis*. *Fırat University Journal of Health Sciences*, 23(3), 119–124.

Demir, Y., Arslan, G. G., Eşer, İ., & Khorshıd, L. (2011). Investigation of the relationship between patient satisfaction with quality of nursing work life. *Balıkesir Health Sciences Journal*, 2(3), 167–174.

Peterson, W. E., Charles, C., DiCenso, A., & Sword, W. (2005). The newcastle satisfaction with nursing scales: A valid measure of maternal satisfaction with inpatient postpartum nursing care. *Journal of Advanced Nursing*, 52(6), 672–681.

Thomas, L. H., McColl, E., Priest, J., Bond, S., & Boys, R. J. (1996). Newcastle satisfaction with nursing scales: An instrument for quality assessments of nursing care. *Quality in Health Care*, 5(2), 67–72.

Topçu, E. (2011). Evaluation of emergency surgery department patients’ satisfaction nursing care. *Istanbul University, Institute of Health Science, Surgery Nursing, Postgraduate Thesis*.

Öztürk, R., Güleç, D., Güneri, S. E., Sevil, Ü., & Gürmen, N. (2013). Investigation of the relationship between patient satisfaction with quality of nursing care in a training hospital. *Balıkesir Health Sciences Journal*, 2(3), 167–174.

Peterson, W. E., Charles, C., DiCenso, A., & Sword, W. (2005). The newcastle satisfaction with nursing scales: A valid measure of maternal satisfaction with inpatient postpartum nursing care. *Journal of Advanced Nursing*, 52(6), 672–681.

[CrossRef]