Determination of Anxiety Levels of Patients Before and After Coronary Artery By-Pass Graft Surgery: Descriptive Study

Koroner Arter Baypas Greft Cerrahisi Öncesi ve Sonrası Hastaların Kaygı Düzeylerinin Belirlenmesi: Tanımlayıcı Çalışma

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ABSTRACT Objective: The study was conducted to determine the preoperative and postoperative anxiety levels, and their causes, in patients who underwent coronary artery bypass graft (CABG) surgery. **Material and Methods:** A total of 111 patients who underwent CABG surgery in the cardiovascular surgery department of a state hospital in the Turkish Republic of Northern Cyprus between August 1, 2019 and August 24, 2020 were included. The patient questionnaire prepared by the researcher and State-Trait Anxiety Inventory were used as data collection tools. **Results:** The mean preoperative state anxiety (pretest) score of the patients was 44.39±10.12, and the mean trait anxiety (pretest) score was 38.85±7.47. The mean state anxiety (posttest) score after surgery was 44.12±9.02, and the mean trait anxiety (posttest) score was 40.79±6.81. There were no statistically significant differences between the preoperative and postoperative state anxiety scale scores of the patients (p>0.05), and a significant difference was found between the trait anxiety scale scores (p<0.05), and the postoperative trait anxiety scores were found to be high. **Conclusion:** According to the research results, the patients' postoperative trait anxiety scale scores were found to be high. During the planning of nursing care process, it can be suggested to address the anxiety levels of the patients, and provide planned training to each patient, and make appropriate nursing interventions to reduce their stress.

Keywords: Coronary artery by-pass graft; anxiety; surgery; nursing

ÖZET Amaç: Bu çalışma, koroner arter baypas greft (KABG) ameliyatı uygulanan hastaların ameliyat öncesi ve sonrası kaygı düzeylerini ve nedenlerini belirlemek amacıyla yapıldı. **Gereç ve Yöntemler:** Araştırma kapsamına 1 Ağustos 2019-24 Ağustos 2020 tarihleri arasında Kuzey Kıbrıs Türk Cumhuriyeti'nde bulunan bir devlet hastanesinin kalp damar cerrahi servisinde KABG ameliyatı olan 111 hasta alınmıştır. Veri toplama aracı olarak araştırmacı tarafından hazırlanan hasta soru formu ve Durumluk-Sürekli Kaygı Envanteri kullanılmıştır. **Bulgular:** Hastaların ameliyat öncesi durumluk kaygı (ön-test) puan ortalaması 44,39±10,12 ve sürekli kaygı (ön-test) puan ortalaması 38,85±7,47'dir. Ameliyat sonrası durumluk kaygı (son-test) puan ortalaması 44,12±9,02, sürekli kaygı (son-test) puan ortalaması 40,79±6,81 idi. Hastaların ameliyat öncesi ve ameliyat sonrası durumluk kaygı ölçeği puanları arasında istatistiksel olarak anlamlı düzeyde bir fark bulunmadı (p>0,05), sürekli kaygı ölçeği puanları arasında ise anlamlı bir fark bulundu (p<0,05). Hastaların ameliyat sonrası sürekli kaygı puanları yüksek bulunmuştur. **Sonuç:** Araştırma sonuçlarına göre hastaların ameliyat sonrası sürekli kaygı ölçeği puanları yüksek bulundu. Hemşirelik bakım sürecinin planlanması sırasında hastaların kaygı düzeylerinin ele alınması, her hastaya planlı eğitim verilmesi ve kaygılarını azaltmak için uygun hemşirelik girişimleri önerilebilir.

Anahtar Kelimeler: Koroner arter baypas greft; kaygı; cerrahi; hemşirelik

Despite innovations in health, cardiovascular diseases around the world and in Türkiye are increasing rapidly every year. Mortality rates due to cardiovascular diseases have also increased with a sedentary lifestyle, obesity, stressful working conditions, education changes, smoking and alcohol use, income levels, controlling infectious diseases, and growing elderly population.[1,2] According to the World Health Organization 2018 report, noncommunicable diseases account for 80% of deaths. Most deaths were due to cardiovascular diseases (17.9 million), and 85% of these deaths were due to heart at-

tacks and strokes.[1] According to the 2018 data of the Turkish Statistical Institute, the incidence of circulatory system diseases in Türkiye is 38.45%, and it is the leading cause of death.[2] In the Turkish Republic of Northern Cyprus (TRNC), this rate, resulting from circulatory system diseases, was 26.4% and is the leading cause of death.[3]

Coronary artery by-pass graft (CABG) surgery is one of the important treatment options for the patients with coronary artery diseases, bearing in mind that the technique reduces angina and enhances the quality of life of the patients. CABG surgery is one of the most common surgical interventions used to treat heart diseases.[4,5]

Undergoing cardiac surgery may be a stressful experience for the patients physically and psychologically. The vast majority of individuals undergoing CABG surgery experience anxiety disorders and posttraumatic stress disorder.[6,7] In patients undergoing cardiac surgery, the most common causes of anxiety in the preoperative period are a lack of information, absence from the family, risk of death, pain, deterioration in comfort, intensive care, development of complications, anesthesia anxiety, loss of a job, and disability.[8,9] Moreover, anxiety about losing sexuality, fear of not being able to fulfill their roles and duties, aesthetic concerns, helplessness, hospitalization, and decreased financial income have been reported to be among the causes of anxiety.[7,8] In the postoperative period, patients may experience anxiety due to physical and psychosocial problems, the surgical intervention duration, fear of the intervened organ, feeling pain, insomnia, and stress due to the surgical intervention.[9] Anxiety causes complications in patients and adversely affects the healing process and may lead to a prolonged hospital stay.[8,9]

Nurses caring the patients undergoing CABG surgery in the pre-operative period often notice the overwhelming anxiety, fear, and stress that many of their patients experience. The anxiety levels of the patients can be reduced by determining the factors, increasing the patient's anxiety, by appropriate nursing interventions before and after the operation. This study aimed to determine the anxiety levels of patients before and after CABG surgery.

MATERIAL AND METHODS

This research was a descriptive study conducted between August 1, 2019 and August 24, 2020 in a state hospital's cardiovascular surgery department in the TRNC. Due to the pandemic, no patients were admitted between March 15 and June 15, 2020. The study sample consisted of 111 patients who underwent CABG surgery and met the criteria of the study. An average of 15 CABG surgeries per month and 150 CABG surgeries per year are performed in the cardiovascular surgery service.

The patient questionnaire and State-Trait Anxiety Inventory were used to collect the data.

PATIENT QUESTIONNAIRE

It consists of questions developed by the researcher, including the sociodemographic characteristics and causes of the patients' anxiety.[4-9]

STATE-TRAIT ANXIETY INVENTORY

This inventory was developed by Spielberger et al. in 1970 to "measure people's state and trait anxiety levels". It has 2 subscales consisting of twenty questions. The emotions expressed by the state anxiety inventory items of the scale are evaluated as never (1), somewhat (2), very (3), and fully (4), and the trait anxiety inventory items of the scale are evaluated as almost never (1), sometimes (2), many times (3), and almost always (4). There are inverted expressions in the scales. Direct responses address negative emotions, while reverse responses address positive emotions. Items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20 in the state anxiety inventory and items 21, 26, 27, 30, 33, 36, and 39 in the trait anxiety scale were also reversed. It is a scale that can be applied to individual and collective groups over the age of 14.

The state anxiety scale is used to measure the fear that an individual has in a stressful situation, while the trait anxiety inventory is used to perceive the situation in which the person is in and interpret the stressful factor in his/her way. Validity and reliability, and adaptation to Turkish were conducted by Öner and Le Compte.[10]

State-Trait Anxiety Inventory is used in studies related to anxiety. The application time is approxi-

mately 10 minutes. Scoring is done in 2 ways. Two separate keys are prepared for direct and reversed answers. The total weight score of the inverse expressions is subtracted from the total weight score given directly. A value is determined beforehand and added to this number. This constant value for the state anxiety scale is 50.

These scores range from 20 to 80 on average. A high score indicates a high anxiety level, and a low score indicates a low anxiety level. A high percentage suggests that anxiety is high when looking at the percentage calculation, and a low percentage suggests that anxiety is low.

The reliability coefficients determined using the Cronbach alpha correlations in the Turkish adaptation of the inventory ranged from 0.94 to 0.96 for the state anxiety scale and 0.83 to 0.87 for the trait anxiety scale.[10]

State anxiety is the subjective fear that the individual feels due to the stressful (repressed) situation he/she is involved in. Physiologically, physical changes, such as sweating, yellowing, redness, and trembling, resulting from arousal in the autonomic nervous system are indicators of the feelings of tension and restlessness that an individual has. When stress is intense, an increase in the state anxiety level occurs, and a decrease occurs when stress disappears.

Trait anxiety is the predisposition of an individual to anxiety in life. This can also be called a tendency to perceive situations as stressful or to interpret them as stress. Individuals with high levels of anxiety are easily hurt and become pessimistic. These individuals experience state anxiety more frequently and intensively than others.

IMPLEMENTATION OF DATA COLLECTION TOOLS

The researcher applied data collection tools in the preoperative period, in the evening before the surgery and the day before discharge, in the patient's room and lasted 40-45 min.

EVALUATION OF DATA

IBM SPSS Statistics for Windows 20.0 (IBM Corp., Armonk, NY, USA) was used for statistical analysis of the data. Number, mean, and standard deviation, and t-tests were used to analyze the research data. The analyses were evaluated by 80% power analysis with an effect size of d=0.24.

RESEARCH ETHICS

Ethics committee approval was obtained from the Near East University Scientific Research Evaluation Ethics Committee (date: May 28, 2020, no: 1081). Ethics committee approval, dated May 20, 2020 and numbered YTK.1.01 (Annex 016/20), was obtained from the Dr. Burhan Nalbantoğlu State Hospital Ethics Committee; the informed consent form was read and signed by the patients. In addition, the researcher explained the purpose of the research and obtained patients' consent verbally. This study was conducted in accordance with the principles of the Declaration of Helsinki.

RESULTS

Of the patients participating in the study, 44.14% were between the ages of 51 and 60, and 77.48% were male, 53.15% smoked, and 49.55% used alcohol. Moreover, 83.78% of the patients were diagnosed with chronic disease (78.49% with hypertension, 52.69% with diabetes mellitus, and 11.83% with asthma).

Of the patients included in the study, 67.33% reported that they received information about the surgery from their doctor, while 6.93% received information from the nurse. It was found that 69.31% of the patients thought it was sufficient information and 62.16% of the patients stated that they were not informed about postoperative complications. The person to whom information about the surgery was requested, 84.06% of the participants responded that it was to doctors, and 2.90% responded to nurses.

Of the participants, 80.18% stated that they had fears and concerns about the surgery. Fear of death, pain, needing care, and developing postoperative complications were the main reasons for concern. Moreover, 57.66% of the individuals participating in the study stated that the preoperative training did not reduce their anxiety, and 71.87% did not find the training given to be sufficient (Table 1).

Furthermore, 84.68% of the patients stated that they were worried about post-discharge conditions, comprising 74.47% complications, 31.91% wound dressing, 25.53% communication with the caregiver, 19.15% bath, 13.83% nutrition, and 13.83% movement.

The mean state anxiety (pretest) score of the patients in the study was 44.39±10.12, and the mean trait anxiety (pretest) score was 38.85±7.47 (Table 2).

The mean postoperative state anxiety (posttest) scores of the study patients were 44.12±9.02, and the mean trait anxiety (posttest) scores were 40.79±6.81 (Table 3).

There was no statistically significant difference between the preoperative and postoperative state anxiety scale scores of the patients participating in the study (p>0.05). In contrast, a significant difference

TABLE 1: Patients' fears and concerns about the surgery (n=111).		
	n	%
Do you have any concerns about surgery?		
Yes	89	80.18
No	22	19.82
What are the reasons for your fears and concerns about surgery? (n=89)*		
Fear of death	83	93.25
Postoperative pain	81	91.01
Needing care	69	77.52
Developing postoperative complications	51	57.30
Not getting back to strength	49	55.05
Long term hospitalization	47	52.80
Failure to fulfill his role properly	37	41.57
Be crippled	37	41.57
Not being able to provide financial means	20	22.47
Not having enough information about the surgery	18	20.22
Recurrence of the disease	14	15.73
Unable to wake up from anesthesia	14	15.73
Negligence in care	11	12.35
Losing sexuality	10	11.23
Waking up during surgery	10	11.23
Inability to communicate with the doctor who will perform the surgery	9	10.11
Losing job after surgery	5	5.61
Did pre-operative education reduce your anxiety?		
Yes	47	42.34
No	64	57.66
What is the reason why your anxiety do not decrease after education? (n=64)		
Education was not sufficient	46	71.87
I didn't listen	7	10.93
Education increased my anxiety more	11	17.18

*Multiple responses.

TABLE 2: The mean preoperative State-Trait Anxiety Inventory scores of the patients (n=111).					
	n	$\bar{X}$	s	sub	top
State anxiety (pretest)	111	44.39	10.12	20	71
Trait anxiety (pretest)	111	38.85	7.47	24	60

TABLE 3: The mean postoperative State-Trait Anxiety Scale Inventory of the patients (n=111).					
	n	$\bar{X}$	s	sub	top
State anxiety (posttest)	111	44.12	9.02	23	66
Trait anxiety (posttest)	111	40.79	6.81	26	65

was found between the trait anxiety scale scores (p<0.05), and the postoperative trait anxiety scores were found to be high (Table 4).

From the preoperative state anxiety scale scores given in Table 5, it can be seen that there was a statistically significant difference between the scores with regard to age (the scores of patients aged 71 years and above were lower) and surgical concerns (the scores of patients with surgical problems were higher) (p<0.05).

According to the preoperative trait anxiety scale scores, there was a statistically significant difference between the scores obtained with regard to gender (female patients had higher scores), educational level (university graduate patients had lower scores), occupation (non-working participants had higher scores), place of residence (patients living in the city had lower scores), social security status (patients without social security had higher scores), and alcohol use status (alcohol users had lower scores) (p<0.05).

It was found that there was a statistically significant difference between the state and trait anxiety scale scores with regard to the state of being ready for surgery (patients who felt prepared for surgery had lower scores), when compared to the preoperative training (those who answered yes to the state of education reducing anxiety had lower scores) (p<0.05).

There was no statistically significant difference between the preoperative State and Trait Anxiety In-

ventory scores regarding the other characteristics of the patients (p>0.05).

When the postoperative State-Trait Anxiety Inventory scores were examined in the study, it was determined that there was a statistically significant difference between the postoperative state anxiety scale scores and the trait anxiety scale scores with regard to gender (female patients had higher postoperative trait anxiety scale scores), educational status (patients with primary school education had lower postoperative state anxiety scale scores than the university-educated patients), place of residence (postoperative state anxiety scores of the patients living in the city were higher), status of receiving information about the surgery (postoperative state anxiety scale scores of the patients receiving information about the surgery were low), status of having concerns about the surgery performed (state anxiety scale scores of the patients with anxiety were high), duration of stay in the intensive care unit (ICU) (the scores of the patients staying in the ICU for 2 days after the surgery were lower), procedures performed in the ICU and the status of being informed (the state anxiety scale scores of the informed patients were higher) (p<0.05).

Although not given in Table 6, it was determined that the difference between the postoperative State-Trait Anxiety Inventory scores were not significant when compared to the other characteristics of the patients in the study (p>0.05).

TABLE 4: Comparison of preoperative and postoperative State-Trait Anxiety Inventory scores of the patients (n=111).						
Scale	Pre/posttest	n	$\bar{X}$	s	t value	p value
State anxiety	Pretest	111	44.39	10.12	0.260	0.795
	Posttest	111	44.12	9.02		
Trait anxiety	Pretest	111	38.85	7.47	-4.028	0.000*
	Posttest	111	40.79	6.81		

*p<0,05.

		State anxiety			Trait anxiety		
TABLE 5: Comparison of preoperative State-Trait Anxiety Inventory scores according to some characteristics of patients (n=111).							
	n	X̄	s	p value	X̄	s	p value
Age							
50 age and under	18	49.11	9.84	**0.019***	35.56	7.07	0.081
51-60	49	45.08	9.06		39.22	7.22	
61-70	32	42.81	9.36		38.53	7.63	
71 age and above	12	38.67	13.71		43.08	7.10	
Gender							
Female	25	46.48	13.20	0.135	44.68	7.09	**0.000***
Male	86	43.78	9.04		37.15	6.71	
Education							
Primary school	51	43.47	11.30	0.642	41.69	7.41	**0.000***
High school	38	45.21	9.48		37.89	6.98	
University	22	45.09	8.39		33.91	5.35	
Marital status							
Married	97	44.29	10.37	0.557	38.57	7.11	0.692
Single	14	45.07	8.52		40.79	9.70	
Occupation							
Non-working	20	45.30	12.36	0.375	44.00	7.50	**0.005***
Working	35	45.51	10.23		37.31	7.14	
Retired	56	43.36	9.23		37.96	6.98	
Place of residence							
City	68	45.35	10.31	0.220	37.63	7.26	0.025*
Village/town	43	42.86	9.74		40.77	7.46	
Social security							
There is	99	44.16	9.94	0.318	38.16	6.97	**0.032***
There is not	12	46.25	11.84		44.50	9.23	
Habit of smoke							
Yes	59	45.73	8.01	0.235	38.44	6.95	0.714
No	52	42.87	11.98		39.31	8.06	
Habit of alcohol							
Yes	55	44.35	7.00	0.965	37.47	6.32	**0.031***
No	56	44.43	12.52		40.20	8.28	
Do you have any chronic diseases?							
Yes	93	44.10	9.78	0.620	39.29	7.43	0.264
No	18	45.89	11.91		36.56	7.46	
Have you ever had surgery?							
Yes	50	43.00	9.05	0.133	39.50	7.25	0.320
No	61	45.52	10.86		38.31	7.66	
Does anyone have a by-pass graft in your family?							
Yes	47	44.19	9.40	0.525	37.66	7.56	0.224
No	64	44.53	10.69		39.72	7.33	
Did you get information about the surgery?							
Yes	101	44.10	10.48	0.244	38.91	7.61	0.832
No	10	47.30	4.60		38.20	6.07	
Was the information sufficient? olduğunu düşünme							
Yes	70	44.13	9.69	0.953	37.24	6.53	**0.003***
No	31	44.03	12.25		42.68	8.60	
Do you feel ready for surgery?							
Yes	79	41.95	9.58	**0.000***	37.71	6.71	**0.017***
No	32	50.41	8.94		41.66	8.55	
Do you have any concerns about surgery?							
Yes	89	45.62	9.67	**0.011***	38.93	7.64	0.906
No	22	39.41	10.58		38.50	6.87	
Did pre-operative training reduce your anxiety?							
Yes	47	41.51	8.76	**0.012***	35.77	6.10	**0.000***
No	64	46.50	10.59		41.11	7.61	

*p<0.05 (Z: Mann-Whitney U test, χ²: Kruskal-Wallis H test).

TABLE 6: Comparison of postoperative State-Trait Anxiety Inventory scores according to some characteristics of patients (n=111).

		State anxiety			Trait anxiety		
	n	$\bar{X}$	s	p value	$\bar{X}$	s	p value
Gender							
Female	25	43.44	8.11	0.541	44.72	5.38	**0.000***
Male	86	44.31	9.31		39.65	6.77	
Education							
Primary school	51	41.24	8.84	**0.003***	43.18	6.30	**0.000***
High school	38	45.37	8.33		40.05	6.29	
University	22	48.64	8.59		36.55	6.70	
Place of residence							
City	68	45.59	9.02	**0.018***	39.72	6.61	0.054
Village/town	43	41.79	8.62		42.49	6.84	
Did you get information about the surgery?							
Yes	101	43.55	9.19	**0.035***	40.79	6.92	0.959
No	10	49.80	4.10		40.80	5.81	
Do you have any concerns about surgery?							
Yes	89	44.92	9.21	**0.024***	40.63	7.02	0.439
No	22	40.86	7.54		41.45	5.97	
Did pre-operative training reduce your anxiety							
Yes	47	43.45	8.77	0.521	38.32	6.35	**0.001***
No	64	44.61	9.24		42.61	6.60	
Duration of stay in the intensive care unit?							
2 day	51	40.84	9.11	**0.001***	40.33	6.87	0.631
3 day	60	46.90	8.02		41.18	6.78	
Have you been informed about the procedures performed in the intensive care unit?							
Yes	71	45.54	8.08	**0.048***	40.10	6.30	0.285
No	40	41.60	10.12		42.03	7.54	
Have you ever had concern in intensive care?							
Yes	80	45.64	8.40	**0.011***	40.73	7.22	0.708
No	31	40.19	9.52		40.97	5.71	
Have an explanation been made about the condition and treatment after coming to the ward?							
Yes	80	44.80	8.55	0.176	39.51	6.63	**0.001***
No	31	42.35	10.08		44.10	6.20	
Do you have any concerns after discharge?							
Yes	94	44.89	8.72	**0.037***	41.18	6.60	0.303
No	17	39.82	9.71		38.65	7.71	

*p<0.05 (Z: Mann-Whitney U test, χ^2: Kruskal-Wallis H test).

DISCUSSION

Anxiety significantly affects preoperative preparation and postoperative recovery. Sidar et al. found that patients with high preoperative anxiety levels had high postoperative anxiety levels, which negatively affected the recovery process.[7]

Of the patients included in this study, 44.14% were between the ages of 51 and 60, and most (77.48%) were male. In other studies, the patients' mean age and gender were found to be similar.[6-8] These results suggested that the age of occurrence and operation of heart diseases is early and that society should be aware of this issue and measures should be taken. The body mass index (BMI) values of the patients participating in the study were between 25 and 29.9 kg/m². High BMI and obesity are major risk factors in the formation of coronary artery diseases.[11]

It would be useful for nurses to address this issue in training given to the patient before and after the surgery and refer them to a nutritionist.

The fears and concerns of the patients about the surgery comprised not feeling ready for surgery, fear of surgery, fear of death, pain, needing care, development of complications, hospitalization for a long time, inability to fulfill their roles and responsibilities, and not being sufficiently informed (Table 1). It was found that the patients had similar concerns about discharge. Information about the surgery is essential to reduce the anxiety of the patient. The vast majority of the patients participating in the study stated that they mostly received this information from the physician and received it from the nurse less often. Similar results were found in the studies conducted in the literature.[12,13]

The nurse should inform the patient and the family in detail. This information includes the admission process, surgery, postoperative care, home care, and complications that may develop.[6,7,13] Although doctors, nurses, and other healthcare professionals give the information to the patients, the most significant task belongs to the nurses who are together with the patient through all of the processes. In the study of Demirkıran and Uzun, it was observed that the nurses did not take an active role in discharge training and did not provide sufficient information to the patients.[14] The reason why the patients want to get information from the doctor, as the source of information, is that heart surgeries are extensive and risky, and they want to talk to the doctor about the diagnosis, treatment, and possible complications of the disease. In the literature, it was stated that nurses did not provide sufficient information, and the reason for this was due to an insufficient number of nurses, an excessive number of patients, the low sociocultural level of the patients, the physical and psychological condition of the patient hindering their education, and insufficient time.[15,16]

The mean preoperative state anxiety (pretest) scale score of the patients was 44.39±10.12, and the mean trait anxiety (pretest) scale score was 38.85±7.47 (Table 2). The mean state anxiety (posttest) scale score after the surgery was 44.12±9.02, and the mean trait anxiety (posttest) scale score was 40.79±6.81 (Table 3). There was no statistically significant difference between the preoperative and postoperative state anxiety scale scores of the patients (p>0.05). In contrast, a significant difference was found between the trait anxiety scale scores (p<0.05), and the postoperative trait anxiety scale scores were found to be high (Table 4).

In the studies conducted, the State-Trait Anxiety Inventory score averages of the patients in the preoperative and postoperative period showed similar results to those of the current research.[7,17]

In the present study, the patients' anxiety levels who did not receive preoperative information were high. Still, most of the patients who received information stated that the information did not reduce their anxiety (Table 5). This suggested that adequate and accurate information specific to the patient and his/her family was not provided. Studies have shown that patients' anxiety decreases as a result of sufficient patient information.[16,18,19] Taşdemir et al. showed that the patients' anxiety in the preoperative period due to anesthesia, death, and lack of information decreased with verbal communication. In another study, postoperative state anxiety scale scores were lower in patients receiving planned training.[19]

In the current study, female patients' anxiety levels before and after surgery were found to be higher (Table 5 and Table 6). It can be considered that the reason why the trait anxiety scale scores of the female patients were higher than those of the male patients was that they had more home, work, family, and social responsibilities.

In the current study, it was found that the postoperative state anxiety scale scores of the patients with a university education, living in the city, not receiving information about the surgery, having more than three days of intensive care, and the situation in the ICU not being explained about was higher (Table 6). Prolonged length of stay in the ICU, lack of information, and fear of developing complications indicated that the patients' anxiety levels increased over the long-term. Determining the status and causes of anxiety before and after surgery has a significant place in the disease, surgical procedure, intensive

care process, treatment, hospital care, post-discharge care and complications, postoperative pain, elimination of the lack of information about the new lifestyle, and adaptation to the new life of the patients.[6-8,17,20-22]

The study determined that the patients also had concerns about post-discharge, and their state anxiety scores were high (Table 6). In the study conducted by Cebeci and Çelik, positive results were observed in the patients' anxiety levels receiving discharge training.[22] Also, Sidar et al. found a decrease in the patients' anxiety levels after informing them.[7] The nurse should plan individual discharge training to achieve the self-care power of besidest as soon as possible, prevent post-discharge complications, and eliminate the patient's and their relatives' concerns.[8,21,22]

CONCLUSION

According to the research results, the patients' postoperative trait anxiety scale scores were found to be high. During the planning of nursing care and the data collection process, it can be suggested to address the anxiety levels of the patients, identify individuals with high surgical anxiety, make approaches to receive professional support and provide planned train-

ing to each patient, and make appropriate nursing interventions to reduce their stress.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Berna Gerdan, Ümran Dal Yılmaz; Design: Berna Gerdan, Ümran Dal Yılmaz; Control/Supervision: Ümran Dal Yılmaz; Data Collection and/or Processing: Berna Gerdan; Analysis and/or Interpretation: Berna Gerdan; Literature Review: Berna Gerdan, Ümran Dal Yılmaz; Writing the Article: Berna Gerdan, Ümran Dal Yılmaz; Critical Review: Ümran Dal Yılmaz.

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