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Relationship Between Surgical Fear Level and Postoperative Pain and Sleep Quality in Coronary Artery Bypass Graft Patients

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Abstract

Objective. This study aimed to investigate the relationship between surgical fear level and postoperative pain and sleep quality in patients undergoing coronary artery bypass graft (CABG) surgery.

Methods. The study was conducted with 70 patients. The data for the descriptive and cross-sectional study were collected using the Surgical Fear Questionnaire (SFQ), Anxiety Specific to Surgery Questionnaire (ASSQ), Richard-Campbell Sleep Questionnaire (RCSQ), and Visual Analog Scale (VAS).

Results. The average age of participants was 65.23 ± 8.39; 65.7% of them were males. Female patients had significantly higher ASSQ total scores than male patients ($p < 0.05$). A statistically significant positive correlation was found between the surgical fear and anxiety levels of the patients prior to CABG surgery and postoperative pain and sleep quality ($p < 0.05$).

Conclusion. Preoperative fear and anxiety were determined to be effective factors in the severity of pain and sleep quality during the postoperative period. it is considered that the training to be provided to the patients during the preoperative period may be effective in reducing the fear and anxiety of the patients and reducing the possible complications in the postoperative period.

Keywords: coronary artery bypass graft (CABG), surgical fear, preoperative anxiety, postoperative symptoms.

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Introduction

CABG is a standard procedure in cardiac surgery and is among the most commonly performed surgeries in the world [1, 2]. However, much as these surgeries are routine procedures, they create fear and anxiety for patients [3,4]. Anxiety and fear are two terms that are not the same while they are similar. Although fear is a response to a particular threat to protect oneself, anxiety is an unconscious response to a threat, generally unknown or based on internal conflict [5, 6]. Surgical fear and anxiety start when the patient is told that he or she should have surgery and increase gradually with the hospitalization process [7, 8]. The level of fear and anxiety of each patient is based on numerous factors, such as the patient's sensitivity, age, gender, previous experience with the surgery, education level, type and extent of the proposed surgery, current health status, and socioeconomic status [9, 10].

Numerous patients awaiting surgery know the fact that this fear and anxiety prior to surgery is normal [11, 12]. However, if the patient experiences excessive and prolonged fear and anxiety, the body's autonomic nervous system is stimulated leading to an increase in the neuroendocrine stress response [13, 14]. As a result, this situation leads to more anesthetic substance employment throughout the operation, more pain in the postoperative period, and accordingly more analgesic requirement, gastrointestinal (such as nausea, vomiting), cardiac (such as tachycardia) and insomnia issues, life quality are being affected, prolongation of the hospital stay increase in the costs [15-17].

Fear and anxiety felt prior to surgery have some postoperative complications on the patient [18,19]. Pain is one of the common complications observed in patients subsequent to CABG surgery [20]. Due to the stress response developed as a result of the anxiety experienced by the patients prior to surgery, their pain complaints and analgesic needs to increase accordingly [21, 22]. Furthermore, increased pain level also increases anxiety, stress response intensifies, and this situation leads to a vicious cycle [23].

The patient should be allowed to ask questions and express concerns regarding pain in order to reduce anxiety and fear. Numerous postoperative factors are related to the development of sleep disorders. Among these, pain is probably the most important one [24, 25]. Hence, management of pain is also significant in terms of ensuring sleep quality in patients. Studies conducted to reveal the fact that the sleep cycle is also disrupted in individuals who experience fear and anxiety prior to the surgical procedure [25].

It is very significant to reduce the fear and anxiety experienced prior to a surgical procedure such as CABG, which changes the lifestyle and affects the quality of life of the patient. It is important to determine the surgical fear and anxiety levels of the patients, to consider the reaction to this situation in the patients who are planning for surgery, and to prevent issues such as pain and insomnia that may develop after surgery.

When we examine the literature, we find that there are a limited number of studies examining the effects of preoperative anxiety and fear on the symptoms observed in the postoperative period. This study was considered necessary to carry out based on this aspect.

Research questions

- Do the descriptive characteristics of patients who are scheduled for CABG surgery affect their fear and anxiety levels?
- Does the level of fear and anxiety felt by the patients who are scheduled for CABG surgery prior to the surgery negatively affect the postoperative period?
- Do patients fear and anxiety prior to CABG surgery affect the level of pain and sleep quality subsequent to surgery?
- Is there a relationship between pain and sleep quality subsequent to CABG surgery?

Matherials and methods

Design and study participants

The population of the study included 90 patients scheduled for CABG surgery in the cardiovascular surgery service of a university hospital in eastern Turkey. The sample included the patients who accepted to participate in the study, met the inclusion criteria, and whose verbal/written consent was obtained. Due to not meeting the eligibility criteria, 20 patients were excluded from the study. The study was carried out with 70 patients (Fig. 1).

Eligibility criteria

Patients over 18 years of age who were scheduled for CABG surgery without communication problems,

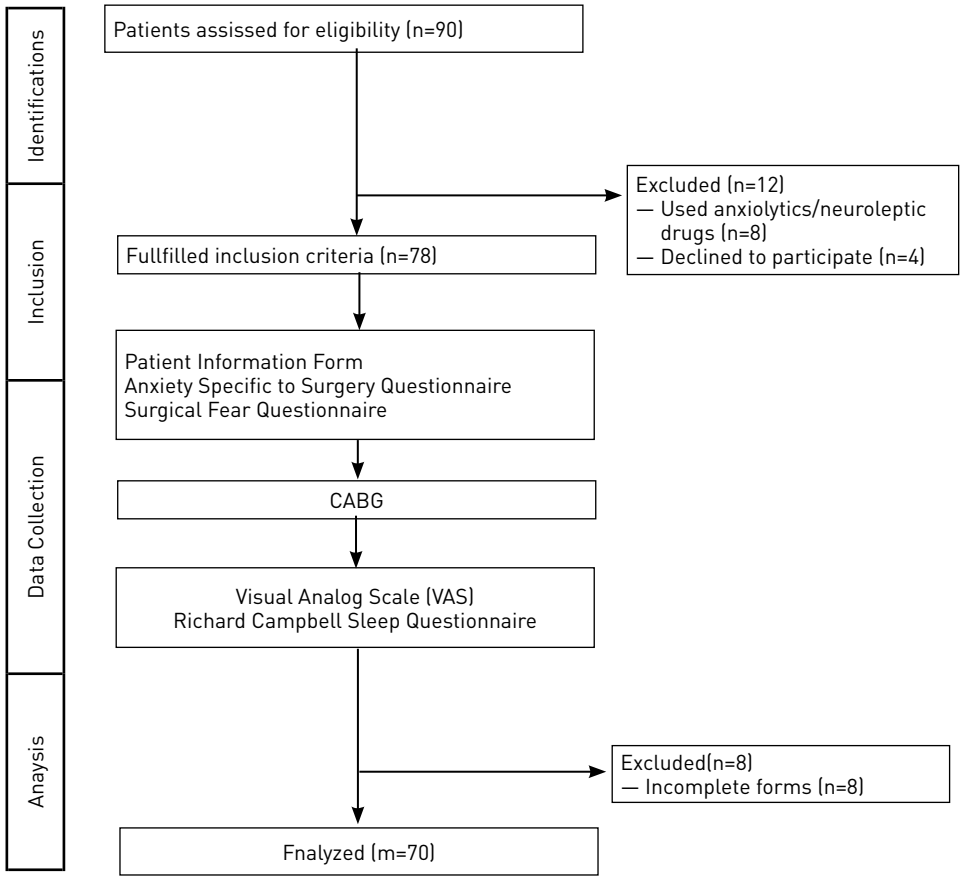

Figure 1. Study flow

psychiatric illness, severe cognitive impairments, and anxiolytic and/or antidepressant use were included in the study.

Data collection

The data of the study were collected through face-to-face interviews with the patients by using the "Patient Information Form," "Surgical Fear Questionnaire (SFQ)", "Anxiety Specific to Surgery Questionnaire (ASSQ)", and "Visual Analog Scale (VAS)". The Patient Information Form was filled in by the patients on the day of admittance to the clinic. SFQ and ASSQ scales were completed before coronary bypass graft surgery. VAS was filled within three days after the patients were post-operatively transferred from the intensive care unit.

Data collection tools

Patient Information Form. It consists of 9 questions aimed at evaluating the socio-demographic characteristics such as age, gender, and education level of the patients, as well as the properties related to the disease and postoperative period used. Data were obtained on the day of the patient's admittance to the clinic.

Surgical Fear Questionnaire (SFQ)

This questionnaire was developed by Theunissen et al in 2014 to determine the level of fear that patients about to undergo elective surgery have because of the short- and long-term outcomes of the surgical procedure. The questionnaire includes eight items, which are scored between 0 and 10, with a score of 0 indicating not afraid at all and a score of 10 indicating very afraid. The scale has two subscales, each containing four items related to the cause of fear. Items 1 through 4 assess anxiety about the short-term consequences of surgery, whereas items 5 through 8 assess anxiety about the long-term consequences of surgery. The minimum and maximum total scores are 0 and 80, respectively. A high score indicates a high level of fear about surgery [26].

Anxiety Specific to Surgery Questionnaire (ASSQ)

The Anxiety Specific to Surgery Questionnaire was first developed by Karancı and Dirik in 2003 to determine the level of anxiety in patients scheduled to have urgent surgery. The scale was on 5-point Likert-type including 10 questions related to the worries/anxiety

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patients were possible to experience about the surgery. For the assessment related to the scale, the total score obtained by summing the responses given to all items (1 point: I totally disagree, 5 points: I totally agree) was used. Only item 8 including the statement "I think I will get rid of all my pain and distress after the surgery" was scored coding reversely. High scores in scoring the scale indicated anxiety about feeling pain, death during surgery, and postoperative complications and restrictions. Dirik & Karancı determined the Cronbach Alpha Coefficient of the scale as 0.79. [27].

Visual Analog Scale (VAS)

It was a scale with a scoring system indicating "no pain" on one side and "worst possible pain" on the other. It was a one-dimensional scale that was frequently used in clinics, and its reliability and sensitivity were high. The values ranged from 0 to 10. "No pain" was defined as "0 points" and "worst possible pain" was defined as "10 points". It could be used horizontally and vertically, but it was stated by the patients that the level of understanding was better when it was vertical [28].

Richard Campbell Sleep Questionnaire (RCSQ)

Sleep quality was assessed using the Richard Campbell Sleep Questionnaire (RCSQ). The questionnaire consists of five items, each of which has a visual scale of 0–100, and the participant reports sleep sensations during this interval. Depth of sleep, ease of falling asleep, frequency of waking, ease of falling back asleep, and subjective sleep quality are the domains. The overall quality of sleep is calculated using an average score of 5 items. A score of zero represents the worst quality of sleep and a score of 100 represents the best quality of sleep.

Statistical analysis

Analysis of the research data was performed by using descriptive statistics with the SPSS version 23.0 (IBMCorp) package program. The values related to the demographic characteristics of the patients, disease, and surgery process were indicated as a number, percentage, average, and standard deviation. The nonparametric Mann–Whitney U and Kruskal–Wallis H tests were used in the comparison of the groups without normal distribution. Spearman correlation analysis was performed to analyze the relationship between two numerical variables.

Ethical principles of the study

This study was carried out in accordance with the principles of the World Medical Association Declaration of Helsinki. The ethical approval required for this study to be carried out was obtained from the University's Clinical Research Ethics Committee. The participants were ensured to have the right to refuse to participate in the study and all information received would be kept confidential.

Results

Distribution of patients by personal and clinical characteristics

The average age of the patients participating in the study was 65.23 ± 8.39 years. Of all patients, 65.7% were male, 97.1% were married, 60% were primary school graduates, and almost all of them had health insurance (Table 1).

Table 1. **Descriptive characteristics of patients**

	N (70)	Percentage %
Age (X ± SD 65.23 ± 8.39)		
Gender		
Female	24	34.3
Male	46	65.7
Marital Status		
Married	68	97.1
Single	2	2.9
Educational Status		
Literate	8	11.4
Primary	42	60
High School	18	25.7
Graduate	2	2.9
Postgraduate	—	—
Health Insurance		
Available	64	91.4
Not available	6	8.6
Income Status		
Income less than expenses	2	2.9
Equal income and expenses	65	92.9
Income more than expenses	3	4.3
Smoking		
Yes	20	28.6
No	50	71.6

When the properties of the patients related to the disease and surgical process were evaluated, it was

Table 2. **Distribution of patients clinical characteristics**

		N	%
Presence of chronic disease	Yes	19	27.1
	No	51	72.9
Chronic diseases *	HT	8	42.1
	DM	5	26.3
	DM + HT	6	31.6
Previous surgery	Yes	4	5.7
	No	66	94.3
Cardiac disease history in the family	Yes	4	5.7
	No	66	94.3
The postoperative day when the patient was evaluated	x ± Ss	3.41 ± 1.62	
Length of stay in the intensive care unit	x ± Ss	2.43 ± 0.65	
Day of postoperative discharge	x ± Ss	7.29 ± 1.20	
Problems observed postoperatively*			
Respiratory distress		6	21.4
Gradual increase at tenderness and pain at the wound site		2	7.14
Fever		2	7.14
Abdominal pain diarrhea/constipation		4	14.2
Clouding of consciousness		–	–
Nausea vomiting		8	28.5
Chest pain		4	14.2
Redness and swelling beyond the wound edges		2	7.14

Note. *More than one answer was given.
Abbreviations: DM: Diabetes Mellitus; HT: Hypertension

determined that 27.1 % (n = 19) had a chronic disease and 42.1 % of the patients with chronic disease had hypertension. 94.3 % (n = 66) had no previous surgery, and 94.3 % (n = 66) were found not to have a family member with cardiac disease. The patients were evaluated on average at 3.41 ± 1.62 after surgery. The patients who stayed in the intensive care unit for an average of 2.43 ± 0.65 days were determined to be discharged from the hospital in the postoperative average of 7.29 ± 1.20 days. The frequently encountered problems for the patients evaluated during the postoperative period during the stay in the intensive care unit and service were nausea-vomiting (28.5 %, n = 8), respiratory distress (21.4 %, n = 6), and abdominal pain (14.2 %, n = 4), respectively (multiple responses were given) (Table 2).

Descriptive statistics related to the scales

It was determined in terms of the preoperative period that the average ASSQ score of the patients was 32.7 ± 10.5, and in the postoperative period, the average pain level was 4.17 ± 2.27, and pain at a moderate level was experienced. The distribution of the total mean scores of the SFQ subscales was as follows: SFQ-S (13.1 ± 10.2); SFQ-L (13.1 ± 10.8). The patients' mean score on the SFQ was 26.2 ± 20.8. After the CABG surgery, the total RCSQ score was 306.5 ± 117.4. The patients' mean scores for sleep depth, sleep latency, awakenings, returning to sleep, sleep quality, and the noise level was 60.1 ± 23.1, 61.8 ± 24.1, 61.2 ± 24.1, 62.7 ± 24.1, 60.5 ± 25.5, 60.3 ± 27.0, respectively (Table 3).

Comparing scale score averages according to the demographic properties of the patients

Whereas there was no statistically significant difference between the gender groups in terms of SFQ and RCSQ score averages ($p > 0.05$), a statistically significant difference was determined in terms of the average scores of ASSQ ($p < 0.05$). Accordingly, the anxiety levels of females were higher rather than males ($p < 0.05$). No statistically significant difference was specified between marital status, smoking, presence of chronic disease, previous surgery, cardiac disease history in the family, and age in terms of SFQ and ASSQ average scores ($p > 0.05$) (Tab. 4). A statistically significant difference was found between the presence of chronic disease in terms of RCSQ scores.

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Table 3. **Descriptive statistics related to the scales**

	X ± SD	min-max.
VAS	4.17 ± 2.27	0–10
ASSQ	32.7 ± 10.5	10–50
SFQ		
Subdimensions of the Scale		
SFQ-S	13.1 ± 10.2	0–40
SFQ-L	13.1 ± 10.8	0–40
Total Score	26.2 ± 20.8	0–80
RCSQ		
Subdimensions of the Scale		
Sleep depth	60.1 ± 23.1	0–100
Falling asleep	61.8 ± 24.1	0–100
Frequency of awakening	61.2 ± 24.1	0–100
Percentage of time awake	62.7 ± 24.1	0–100
Quality of sleep	60.5 ± 25.5	0–100
Noise	60.3 ± 27.0	0–100
Total Score	306.5 ± 117.4	0–500

Note. Abbreviations: VAS: Visual Analog Scale, ASSQ: Anxiety Specific to Surgery Questionnaire SFQ-S: Surgical Fear Questionnaire: — short term; SFQ-L: Surgical Fear Questionnaire: long term; RCSQ: Richard-Campbell Sleep Questionnaire

Accordingly, the sleep quality of patients with chronic disease was significantly lower compared to those without.

As a result of the Spearman correlation analysis performed to determine whether there was a relationship between the scales used in the study, it was determined that there was a statistically significant positive correlation between surgical fear levels of the patients before CABG surgery and the level of postoperative pain ($p < 0.01$), while a negative correlation was found between postoperative RCSQ score ($p < 0.01$) (Tab. 5).

Similarly; it was determined that there was a statistically significant positive correlation between anxiety levels of the patients before CABG surgery and the level of postoperative pain ($p < 0.01$), while a negative correlation was found between postoperative RCSQ scores ($p < 0.01$) (Tab. 6).

Table 4. **Comparing the scale scores with some variables**

		SFQ-S	SFQ-L	SFQ-Total	ASSQ	RCSQ
		X ± SD	X ± SD	X ± SD	X ± SD	X ± SD
Gender	Female Male	37.8 ± 9.95 34.2 ± 10.5 p = 0.48	39.1 ± 10.5 33.5 ± 11.1 p = 0.27	38.7 ± 20.2 33.7 ± 21.1 p = 0.33	42.7 ± 8.01 31.7 ± 11.2 p = 0.03*	340.4 ± 141.8 380.6 ± 144.2 p = 0.20
Marital status	Married Single	35.5 ± 10.1 33.2 ± 19.1 p = 0.87	35.4 ± 10.6 38.2 ± 23.3 p = 0.84	35.5 ± 20.4 34.7 ± 21.5 p = 0.95	35.5 ± 10.3 34 ± 22.6 p = 0.91	366.8 ± 140.2 367.5 ± 328.8 p = 0.93
Smoking	Yes No	41.9 ± 10.3 32.9 ± 10.1 p = 0.09	39.9 ± 10.7 33.7 ± 10.9 p = 0.26	40.7 ± 20.4 33.4 ± 20.7 p = 0.17	33.9 ± 11.5 36.1 ± 10.2 p = 0.68	391.2 ± 127.9 357.1 ± 149.6 p = 0.46
Presence of chronic disease	Yes No	36.4 ± 11.3 35.1 ± 9.92 p = 0.81	36.8 ± 12.2 35.1 ± 10.4 p = 0.74	36.6 ± 23.3 35.1 ± 20.1 p = 0.77	36.4 ± 11.5 35.1 ± 10.3 p = 0.81	348.9 ± 174.5 373.5 ± 131.7 p = 0.04*
Previous surgery	Yes No	39.7 ± 14.5 35.2 ± 10.1 p = 0.66	44.2 ± 16.9 34.9 ± 10.4 p = 0.37	41.5 ± 31.5 35.1 ± 20.2 p = 0.54	31.7 ± 15.9 35.7 ± 10.2 p = 0.71	322.5 ± 207.9 369.5 ± 140.7 p = 0.51
Cardiac disease history in the family	Yes No	40.7 ± 19.1 35.1 ± 9.67 p = 0.59	38.8 ± 17.1 35.3 ± 10.5 p = 0.73	40.0 ± 36.1 35.2 ± 19.9 p = 0.64	32.0 ± 16.2 35.7 ± 10.2 p = 0.72	341.2 ± 213.1 368.4 ± 140.6 p = 0.85
Age	r, p**	r = −.164 p = 0.17	r = −.186 p = 0.12	r = −.170 p = 0.16	r = 0.07 p = 0.54	r = .101 p = 0.41

Note. Mann Whitney U Test; ** Spearman correlation analysis, $p < 0.05$
Abbreviations: SFQ-S: Surgical Fear Questionnaire: — short term; SFQ-L: Surgical Fear Questionnaire: long term; ASSQ: Anxiety Specific to Surgery Questionnaire; RCSQ: Richard-Campbell Sleep Questionnaire

Table 5. **Analysis of correlations between preoperative ASSQ, SFQ and postoperative VAS and RCSQ.**

	SFQ						ASSQ	
	SFQ-S		SFQ-L		SFQ-Total			
	r	p	r	p	r	p	r	p
VAS	.654**	.000	.713**	.000	.686**	.000	.564**	.000
RCSQ-Total	−.455**	.000	−.529**	.000	−.497**	.000	−.427**	0.00

Note. Spearman correlation analysis, *p < 0.05*
Abbreviations: VAS: Visual Analog Scale; SFQ-S: Surgical Fear Questionnaire: — short term; SFQ-L: Surgical Fear Questionnaire: long term; ASSQ: Anxiety Specific to Surgery Questionnaire; RCSQ: Richard-Campbell Sleep Questionnaire

Table 6. **Analysis of correlations between postoperative VAS and RCSQ (N:70)**

	VAS	RCSQ
VAS	1	
RCSQ	–,358*	1

Note. *:*p < 0.01*
Abbreviations: VAS: Visual Analog Scale; RCSQ: Richard-Campbell Sleep Questionnaire; RINVR: Rhodes Index of Nausea, Vomiting and Retching

Discussion

Patients who will have cardiac surgery experience a lot of fear and anxiety prior to the surgery. It is mentioned in the literature, that the process of hospitalization is a source of anxiety on its own, and that patients hospitalized in surgical clinics experience more anxiety due to the addition of anxieties such as bleeding, death, and fear of the unknown [22, 30]. This fear and anxiety they experience affect the course of the surgery, the recovery process subsequent to the surgery, and during discharge [31,32]. It is reported In the studies carried out that 50–90 % of patients experience fear prior to surgery [33]. Furthermore, the patient's existing diseases, the patient's point of view towards the surgery, and the previous surgical experience of the patient can also affect the level of fear [34]. The level of fear of surgery of the patients was close to moderate (26.2 ± 20.8) in the preoperative period In this study was carried out with patients who underwent CABG.

Shahmansouri et al. investigated the prevalence of anxiety and fear in CABG surgery patients (N = 277) and found that patients experienced low, moderate, and severe anxiety with a prevalence of 19.7 %, 69.14 %, and 11.15 %, respectively [35]. Akinsulore et al., found that 51 % of the patients [10], and Nigussie et al., found that 70.3 % of the patients experienced high levels of anxiety prior to surgery [9]. The literature reports that some socio-demographic variables are effective on the level of anxiety [36,37]. In our study, there was no statistically significant difference between the total ASSQ scores of the patients participating in the study according to their marital status, education level, income, and health insurance status ($p > 0.05$), while the scores of the patients from the ASSQ according to the gender factor were found to be statistically significant. ($p < 0.05$).

In this study, the mean ASSQ score of the patients prior to CABG surgery was found to be 32.7 ± 10.5. It was determined that the patients experienced anxiety above moderate levels. The study findings are consistent with the literature.

Postoperative pain is a surgical complication with a high prevalence. It was reported in previous studies that between 30 and 90 % of patients experience pain in the first 24 hours subsequent to surgery [38]. Postoperative pain is a subjective phenomenon and is affected by the type and duration of the surgery, individual characteristics and experiences, type of anesthesia, and emotions such as fear and anxiety; therefore varies from person to person. Pain may persist for days, weeks, or months. Figures may vary based on the methods utilized. Much as anxiety experienced prior to surgery affects postoperative pain, it should not be forgotten that numerous factors may have affected the pain of patients having cardiac surgery [39,40].

It was found that the anxiety level prior to cardiac surgery was positively correlated with postoperative pain in the study conducted in 2011 by Navarro — Garcia et al. [41]. It was found that patients with high preoperative anxiety scores had high postoperative pain scores according to Dualé et al. in a retrospective study including 2397 patients [42]. Sobol — Kwapinska et al., observed that there was a significant relationship between preoperative anxiety and postoperative pain in a meta-analysis of 53 studies. Studies have revealed the fact that psychological factors such as anxiety and fear can affect the individual response to surgical intervention and postoperative pain management [43,44].

Approximately three-quarters of patients having surgery develop acute pain, and 80 % of them have moderate to severe pain [20]. It was determined in this study, that the patients experienced moderate pain in the postoperative period (4.17 ± 2.27) and that the surgical fear and anxiety experienced prior to the operation affected the postoperative pain. In our study, it is thought that the high postoperative pain levels of the patients with high surgical fear and anxiety levels are due to the physiological effects of fear and anxiety increase the perception of pain. The study findings are consistent with the literature.

There are numerous factors that lead to insomnia in patients. Numerous factors such as heat, light, stress, and diseases lead to insomnia. Emotional conditions such as increased fear and anxiety prior to surgery in patients lead to difficulty in falling asleep at night and may lead to deterioration of sleep

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quality [25]. Individuals sleep less compared to what they need in such situations, and their REM sleep is shortened. Feeling fear or anxiety activates the neuroendocrine response, causing a response in both the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis and an increase in stress hormones. The neuroendocrine response created by stress can also lead to disruption of the circadian rhythm and lead to a decrease in sleep quality [45]. Studies have reported that surgical patients have poor sleep quality prior to surgery, varying from 8.8 % to 79.1 % [46], and sleep issues persist for a long time subsequent to surgery [47]. Yılmaz et al., examined the sleep status of patients hospitalized in surgical clinics, and it was observed that the sleep quality of cardiovascular surgery patients was worse compared to that of urology and general surgery patients [48]. In the study of Yang et al., (n = 87), it was determined that 87 % of the patients had poor postoperative sleep quality, and a relation was found between anxiety and sleep quality [49]. In another study on the subject, Liao et al. determined that sleep issues subsequent to cardiovascular surgery are related to environmental factors such as pain, dyspnea, nocturia, noise, and light, and that anxiety and depression affect sleep quality [50].

In our study, it was observed that the sleep quality of patients with chronic diseases such as hypertension and DM was significantly lower compared to those without. During the treatment and care process of both diseases, the patient's sleep is interrupted numerous times during the night, as nurses frequently monitor patients for vital signs and blood sugar. The poor sleep quality of this patient group is an expected result. The results of this study showed that surgical fear and anxiety is a significant factors in reducing the postoperative sleep quality of patients.

Conclusion

As a result, the level of preoperative fear and anxiety about surgery in patients undergoing CABG surgery may affect the early postoperative period, increase the postoperative pain score and impair sleep quality. The results of this study were limited to the views of the patients who agreed to participate in the study at the selected university hospital. Therefore, the results of the study were only possible to be generalized for these patients.

The following recommendations were offered in accordance with the results obtained from this research:

It should be known that anxiety experienced in the preoperative period can cause problems at every stage of the surgery, and patients should be followed up for the effects of anxiety.

In the preoperative period, necessary explanations should be given about the CABG surgery and type of anesthesia in a way that the patient can understand, and the patient should be given the opportunity to talk about their fears and anxieties.

Preoperative psychological preparation of patients should take into account the patient's descriptive characteristics as well as their fear of surgery and anxiety level.

The patient's sleep quality, stress, and anxiety level should be assessed during the preoperative period. For patients with severe anxiety, an individualized multidisciplinary approach that includes a psychologist is recommended.

Carrying out similar multicenter studies with large sample groups is recommended in order to obtain further results in terms of different variables in the preoperative period.

Conflict of interest. None declared.

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