Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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The World Health Organization (WHO) proclaimed the new Coronavirus disease (COVID-19) a pandemic on March 11, 2020, after its emergence in China at the end of 2019. Many countries, including Turkey, have been impacted by the pandemic. Turkey reported 12,237,610 confirmed cases and 88,734 deaths as of February 7, 2022.1

The pandemic measures applied to reduce the spread rate and manage the process during the COVID-19 pandemic have greatly affected individuals socially, economically, and psychologically.2 Health care services have also been affected by the pandemic. The COVID-19 pandemic has had a significant impact on patient safety, particularly in health care-associated illnesses, that is, nosocomial infections.3 COVID-19-related anxiety could influence patients’ treatment decisions.4 Surgical interventions other than emergency surgeries have been postponed.5 The surgery and the pandemic process have become a source of uncertainty and anxiety for patients, their relatives, and health care professionals.5,6 During the COVID-19 pandemic, 30.3% of neurosurgery patients undergoing non-urgent surgery felt state anxiety.7 During the COVID-19 pandemic, the number of surgical patients decreased significantly due to patients’ aversion to going to the hospital for fear of infection.8

Patients have experienced anxiety and fear secondary to surgery and the pandemic due to long waiting times, fear of infection, and surgical procedure. This study aimed to determine the fear of surgery and Coronavirus in patients who underwent a surgical intervention.

Materials and Methods

Study Design and Sample

This descriptive and cross-sectional study was carried out with 103 patients who were hospitalized in the thoracic and cardiovascular surgery departments of a university hospital between July and December 2021 and underwent elective cardiac/thoracic surgery for various indications. The Patient Information Form, Surgical Fear Questionnaire, and Coronavirus (COVID-19) Fear Scale were used to collect data. One hundred three patients were reached within the scope of the study. Data were analyzed with the Mann Whitney U and Kruskal Wallis tests and Spearman’s correlation analysis in IBM SPSS (V.22.0) program.

Findings: The mean age of the participants was 57.8 ± 14.0 years (19-82), 68.0% (n = 70) were male, and 78.7% (n = 81) underwent thoracic surgery. The total mean score of the patients on the Surgical Fear Scale was 26.9 ± 20.5 while the total mean score on the Coronavirus Fear Scale was 18.2 ± 7.5. A weak positive correlation was identified between the patients’ total score averages on the Surgical Fear Scale and the Coronavirus Fear Scale (COVID-19) (P < .001).

Conclusions: Patients undergoing cardiothoracic surgery had a low fear of surgery and a close to moderate fear of Coronavirus. Patients’ fears of surgery and Coronavirus should be determined before surgery, and psychological support should be provided to patients with high levels of fear.

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December 2021 and underwent elective cardiac/thoracic surgery for various indications. A convenience sampling method was employed in data collection, which was performed on a voluntary basis. Using the G*Power 3.1.9.4 software, the minimum number of people to be sampled was found to be 89, predicting effect size = 0.353 at a 95% confidence level and a 95% power ratio. One hundred three patients were reached within the scope of the study.

The study population consisted of patients who were to undergo cardiac/thoracic surgery for various indications in thoracic surgery and cardiovascular surgery departments. Adult patients who were to undergo cardiac/thoracic surgery in thoracic surgery or cardiovascular surgery departments, had no neuropsychiatric diagnosis, were at least primary school graduates, had a negative preoperative COVID-19 test, and volunteered to participate in the study were enrolled in the study.

Data Collection Tools

The Patient Information Form, the Surgical Fear Questionnaire, and the Fear of Coronavirus (COVID-19) Scale were used to collect data.

Patient Information Form

The form included 10 questions prepared by the researchers in line with the literature on the subject. The questions were aimed at identifying the patients’ sociodemographic characteristics (age, sex, education level, smoking status, comorbidity), their experience with surgery (surgery to be performed, pain), their experience with COVID-19 (sources of information about COVID-19, COVID-19 infection status, and COVID-19 vaccination status).

Surgical Fear Questionnaire

The scale, which evaluates the fear levels of patients who will undergo a surgical intervention, was developed by Theunissen and others in 2014, and Bagdigen and Özül conducted its validity and reliability study for the Turkish population in 2018. The scale consists of eight items with a numerical scale of zero to 10. Items one to four on this scale, which consists of two subscales, measure the fear of the short-term consequences of surgery, while items five to eight measure the fear of the long-term consequences of surgery. These questions address fears of surgery, anesthesia, pain, side effects, worsening of health due to surgical intervention, unsuccessful surgical intervention, incomplete recovery after surgical intervention, and prolonged recovery. The lowest score that can be obtained from the scale is 0, and the highest score is 80. High scores on the Surgical Fear Questionnaire indicate high levels of fear. Cronbach’s alpha coefficient of the scale was determined as 0.76 to 0.92 for the original scale and 0.93 in the study by Bagdigen and Özül. In this study, Cronbach’s α value was calculated as 0.90.

Fear of Coronavirus (COVID-19) Scale

The scale consists of one dimension and seven items. It is a 5-point Likert-type scale, including (1) Strongly disagree, (2) Disagree, (3) Undecided, (4) Agree, and (5) Strongly agree. There is no reverse item on the scale. The total score obtained from all scale items reflects an individual’s level of fear of Coronavirus (COVID-19). The scores that can be obtained from the scale vary between seven and 35. A high score on the scale means a high level of fear of Coronavirus.

The scale was developed by Ahorsu et al in 2020, and Bakioglu et al performed the validity and reliability study of the Turkish version in 2020. Cronbach’s α value of the scale was found to be 0.88. In this study, Cronbach’s α value was determined as 0.87.

Data Collection

The Patient Information Form, Surgical Fear Questionnaire, and Fear of Coronavirus (COVID-19) Scale were used to collect data. The researcher informed the patients who met the inclusion criteria in the surgical units about the study’s objective. Data collection forms were given to the patients who volunteered to participate in the study, and they were asked to answer all the questions in the data collection forms. After the data collection process, which took about 15 minutes, the forms were received by the researcher. During the data collection process, mask, distance, and hygiene rules were followed.

Ethical Considerations

Ethics committee approval and institutional permission required for the study were obtained with the decision dated June 14, 2021, protocol no. TUMF-SREC 2021/290 (decision no. 13/28). The patients participating in the study were informed about the study, and their written consent for participation was obtained. It was explained to the patients that their answers would be kept confidential and the information provided would only be used within the scope of the study. They were told that participation in the study was voluntary and they could leave the study whenever they wanted. Throughout the process, the ethical principles of protecting patient rights, patient confidentiality, privacy, and informed consent were respected.

Data Analysis

Data were analyzed using the IBM SPSS Statistics version 22.0 (IBM, Armonk, NY, USA) packaged software. The descriptive data of the study were evaluated by number, percentage, mean and standard deviation calculations. The Kolmogorov-Smirnov test was used to investigate the compatibility of the data with the normal distribution, and the Mann-Whitney U and Kruskal-Wallis tests were used to evaluate the data that did not show normal distribution. Spearman’s correlation test examined the relationship between the total scale score and age. A statistical significance value was accepted as P < .05.

Findings

The participants’ mean age was 57.8 ± 14.0 years (19-82), 68.0% (n = 70) were male, 79.0% (n = 73) were primary school graduates, 50.5% (n = 52) did not have a chronic disease, and 78.7% (n = 81) underwent thoracic surgery. It was revealed that 7.8% (n = 8) of the patients had had COVID-19 infection and 89.3% (n = 92) had been vaccinated against COVID-19 (Table 1). The total mean score of the patients on the Surgical Fear Questionnaire was 26.9 ± 20.5, and the mean score on the Fear of Coronavirus (COVID-19) Scale was 18.2 ± 7.5. The total mean score of the Surgical Fear Questionnaire varied according to the presence of chronic disease (P = .043), while the total mean score of the Fear of Coronavirus (COVID-19) Scale varied according to educational status (P = .021) (Table 1). A weak positive correlation was identified between the total mean scores of the patients on the Surgical Fear Questionnaire and the Fear of Coronavirus (COVID-19) Scale (P < .001) (Table 2).

Discussion

Overall, patients had a low level of surgical fear. Lai et al. reported that patients who underwent urogynecological surgery during the pandemic period had a low level of surgical fear, and Colak and Vural reported that patients who underwent outpatient surgery had a low level of surgical fear. The study conducted by
The patients’ fear of Coronavirus was close to moderate. Likewise, Keskin et al.22 reported that neurosurgery patients experienced moderate fear of COVID-19. Another study by Kurtgöz and Ayvci23 reported that fear of COVID-19 in patients admitted to the emergency department was at a moderate level. Montalto et al.24 revealed that 55% of patients who underwent elective surgery during the pandemic were afraid of being infected with SARS-CoV-2. Dogan et al.25 found that liver transplant patients had a high level of fear of Coronavirus. Another study revealed that fear of infection with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) affected 65% of solid organ transplant recipients.26 In their study conducted in the first 6 months of the pandemic, Guven et al.17 found that 90% of oncology patients experienced moderate or severe fear of being infected with COVID-19 and the disruption of their treatment due to the COVID-19 pandemic. The study by Raslan et al.28 which examined COVID-19 cases were treated in another public hospital in the same city, and not a pandemic hospital, that suspected and confirmed COVID-19 were higher than those without an oncologic disease.31 Al Rahimi et al.32 found that during the pandemic, fear and health anxiety were more common in patients taking immunosuppressants or those with chronic diseases (Crohn’s disease, cardiovascular

### Table 1

Comparison of the Mean Scores of the Surgical Fear Questionnaire and the Coronavirus Fear (COVID-19) Scale According to the Individual Variables of the Patients (N = 103)

| Variables                      | n (%) | Surgical Fear Questionnaire (Mean ± SD) | Statistical Value | Fear of Coronavirus (COVID-19) Scale (Mean ± SD) | Statistical Value |
|--------------------------------|-------|----------------------------------------|-------------------|------------------------------------------------|-------------------|
| **Sex**                        |       |                                        |                   |                                                |                   |
| Female                         | 33 (32.0) | 28.8 ± 19.8                      | P = .314          | 19.6 ± 7.5                                     | P = .189          |
| Male                           | 70 (68.0) | 25.6 ± 20.8                      | U = 980.500       | 17.6 ± 7.5                                     | U = 969.500       |
| **Education level**            |       |                                        |                   |                                                |                   |
| Primary school                 | 73 (70.9) | 26.5 ± 21.0                      | P = .774          | 19.3 ± 7.7                                     | P = .048          |
| High school                    | 16 (15.5) | 27.8 ± 20.1                      | KW = 0.083        | 14.6 ± 6.0                                     | KW = 0.090        |
| University                     | 14 (13.6) | 28.1 ± 19.4                      |                   | 16.5 ± 7.0                                     | P23 = 0.021       |
| **Comorbidity**                |       |                                        |                   |                                                |                   |
| Yes                            | 51 (49.5) | 30.8 ± 20.6                      | P = .043          | 19.4 ± 7.3                                     | P = .097          |
| No                             | 52 (50.5) | 23.2 ± 19.8                      | U = 998.000       | 17.0 ± 7.6                                     | U = 1075.000      |
| **Smoking status**             |       |                                        |                   |                                                |                   |
| Yes                            | 18 (17.5) | 34.7 ± 23.3                      | P = .106          | 18.5 ± 8.9                                     | P = .865          |
| No                             | 85 (82.5) | 25.2 ± 19.6                      | U = 572.000       | 18.1 ± 7.3                                     | U = 745.000       |
| **Surgery to be performed**    |       |                                        |                   |                                                |                   |
| Thoracic                       | 81 (78.7) | 27.0 ± 20.5                      | P = .980          | 17.9 ± 7.5                                     | P = .451          |
| Cardiovascular                 | 22 (21.3) | 26.6 ± 20.8                      | U = 877.000       | 19.3 ± 7.7                                     | U = 797.500       |
| **Pain**                       |       |                                        |                   |                                                |                   |
| Yes                            | 61 (61.2) | 19.6 ± 7.5                       | P = .852          | 19.6 ± 7.5                                     | P = .691          |
| No                             | 40 (38.8) | 17.6 ± 7.5                       | U = 1201.500      | 17.6 ± 7.5                                     | U = 1201.500      |
| **Sources of information about COVID-19** |   |                                        |                   |                                                |                   |
| Mass media                     | 86 (83.5) | 29.6 ± 20.2                      | P = .523          | 19.1 ± 7.6                                     | P = .775          |
| Others                         | 17 (16.5) | 27.5 ± 22.1                      | U = 293.500       | 18.5 ± 7.6                                     | U = 323.000       |
| COVID-19 infection status      |       |                                        |                   |                                                |                   |
| Yes                            | 8 (7.8)   | 20.6 ± 13.1                      | P = .485          | 21.0 ± 8.0                                     | P = .246          |
| No                             | 95 (92.2) | 27.5 ± 20.9                      | U = 320.000       | 18.0 ± 7.5                                     | U = 286.000       |
| **COVID-19 Vaccination status**|       |                                        |                   |                                                |                   |
| Yes                            | 92 (89.3) | 27.3 ± 20.6                      | P = .571          | 18.4 ± 7.7                                     | P = .401          |
| No                             | 11 (10.7) | 23.9 ± 20.0                      | U = 448.000       | 16.4 ± 5.2                                     | U = 427.500       |
| **Age (in years)**             |       |                                        |                   |                                                |                   |
| 57.8 ± 14.0 (19-82)            | 7.5 U = 797.500 | 19.6 ± 7.5                             | P = .778          | 18.4 ± 7.7                                     | P = .401          |

U, Mann Whitney U test; KW, Kruskal Wallis H test; r, Spearman correlation analysis

### Table 2

Relationship Between Surgical Fear Questionnaire and Fear of Coronavirus (COVID-19) Scale (N = 103)

| Scale                        | Fear of Coronavirus (COVID-19) Scale |
|------------------------------|--------------------------------------|
| Surgical Fear Questionnaire  | P = .000                             |
|                             | r = 0.102                            |

r, Spearman correlation analysis

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Conclusion

The pandemic continues to make its effects felt in the health system, as in many areas. At least one third (33%) of patients are very afraid of COVID-19. Perioperative nurses should identify patients’ fears of surgery and Coronavirus and support them. Particularly, patients with low education levels and chronic diseases should be carefully evaluated.

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