

# Determination of Surgical Fear Levels and Affecting Factors in Patients Planned for Day Surgery: A Descriptive and Cross-Sectional Study

## Günübirlik Cerrahi Planlanan Hastaların Cerrahi Korku Düzeyleri ve Etkileyen Faktörlerin Belirlenmesi: Tanımlayıcı ve Kesitsel Bir Çalışma

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**ABSTRACT Objective:** This study was conducted to determine the preoperative fear levels of surgery and the factors affecting patients hospitalized in the day surgery clinic. **Material and Methods:** This research, which is descriptive and cross-sectional, included patients admitted to the day surgery clinic of a university hospital in the Mediterranean Region between December 2022 and May 2023 as the population. The sample of the study consisted of 111 patients who met the inclusion criteria and agreed to participate in the research. The data of the study will be collected using a personal information form and Surgical Fear Scale prepared by the literature. In addition to descriptive statistics, independent samples t-test, Kruskal-Wallis, and Mann-Whitney U tests were used for data analysis. **Results:** The mean total score of the Surgical Fear Scale for the patients was found to be 31.83±13.83. Furthermore, it has been observed that the surgical fear experienced by the patients is influenced by gender, marital status, type of anesthesia, American Society of Anesthesiologists score, and preoperative pain experience (p<0.05). **Conclusion:** It can be said that patients undergoing day surgery experience a moderate level of fear. Additionally, it is observed that the level of surgical fear in patients is influenced by certain variables. In this context, nurses working in day surgery clinics should routinely assess the fear that may affect postoperative recovery during the preoperative period and plan personalized care accordingly.

**ÖZET Amaç:** Bu araştırma, günübirlik cerrahi kliniğinde yatan hastaların, ameliyat öncesi yaşadığı cerrahi korku düzeylerini ve etkileyen faktörleri belirlemek amacıyla yapılmıştır. **Gereç ve Yöntemler:** Tanımlayıcı ve kesitsel tipte olan bu araştırmanın evrenini, Aralık 2022-Mayıs 2023 tarihleri arasında Akdeniz Bölgesi'nde bir üniversite hastanesinin günübirlik cerrahi kliniğinde yatan hastalar oluşturmuştur. Araştırmanın örneklemini ise araştırmaya alınma kriterlerine uyan ve araştırmaya katılmayı kabul eden 111 hasta oluşturmuştur. Araştırmanın verileri literatür doğrultusunda hazırlanan kişisel bilgi formu ve Cerrahi Korku Ölçeği kullanılarak toplanmıştır. Verilerin analizinde tanımlayıcı istatistiklerin yanı sıra bağımsız gruplarda t-testi, Kruskal-Wallis ve Mann-Whitney U testi kullanılmıştır. **Bulgular:** Hastaların Cerrahi Korku Ölçeği toplam puan ortalaması 31,83±13,83 olarak belirlenmiştir. Ayrıca hastaların yaşadıkları cerrahi korkunun cinsiyet, medeni durum, anestezi türü, Amerikan Anestezistler Derneği skoru ve ameliyat öncesi ağrı yaşama durumundan etkilendiği saptanmıştır (p<0,05). **Sonuç:** Günübirlik cerrahi planlanan hastaların orta düzeye yakın korku yaşadıkları söylenebilir. Ayrıca hastaların cerrahi korku düzeylerinin bazı değişkenlerden etkilendiği görülmektedir. Bu kapsamda, günübirlik cerrahi kliniklerinde çalışan hemşireler ameliyat öncesi dönemde ameliyat sonrası iyileşmeyi etkileyebilecek olan korkuyu rutin olarak değerlendirmeli ve kişiye özgü bakım planlanmalıdır.

**Keywords:** Day surgery; surgical nursing; fear

**Anahtar Kelimeler:** Günlük cerrahi; cerrahi hemşireliği; korku

Fear is defined as unpleasant uneasiness, muscle tension, increased heart rate and dissatisfaction created by the thought of a real physical threat or danger that may harm the person's well-being.<sup>1,2</sup> Surgi-

cal fear that starts with the notification of the surgical intervention decision to the patients; it is among the most common psychological complications experienced by patients in the preoperative period.<sup>3</sup> This sit-

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uation, which is seen in most of the patients waiting for surgery, is considered to be normal. Experiencing intense fear in the pre-operative period may affect the comfort and well-being of the patient and negatively affect the expected patient outcomes after the operation.<sup>4,5</sup>

Day surgery allows patients to spend the pre-operative period at home and to be discharged on the same day as the surgical intervention.<sup>6</sup> The advantages of day surgery include shorter hospital stays, shorter waiting times, less risk of infection, earlier mobilization, and lower cost. In addition, less stress due to the prevention of a long stay in the hospital and the shortening of the time to leave the family and home environment are among the advantages.<sup>5</sup> Despite many advantages, the limited time in day surgery causes the interaction of nurses with the patient to be shorter. This may affect the quality of care given to the patient.<sup>7</sup> The quality of care administered by nurses is very important for a successful day surgery. Wongkietkachorn et al. reported that needs-based education given to patients undergoing day surgery increased patient satisfaction, reduced anxiety and shortened the time allocated for education.<sup>8</sup> Nurses should evaluate and provide effective care in a very short time with their own experience and knowledge to the patient who will undergo day surgery.<sup>6-10</sup>

It is essential to reveal the factors affecting the fear and to make care plans in this direction in order to make an appropriate intervention for the fears of the patients in the pre-surgical period.<sup>6,11</sup> In this context, the determination of the fear levels of day surgery patients and the affecting factors, which are increasing all over the world, can guide the nurses who will provide health care services in a limited time period in the preoperative psychological evaluation of the patient. This study was carried out to determine the level of fear of surgery and the affecting factors in outpatient surgery patients.

## MATERIAL AND METHODS

### DESIGN

The study was conducted as descriptive and cross-sectional research. Strengthening the Reporting of

Observational Studies in Epidemiology checklist was followed to report the study process.

### PARTICIPANTS

The research data were collected between December 2022 and May 2023 at the day surgery clinic of a university hospital in the Mediterranean region. The population of the study consisted of patients who were admitted to the hospital's day surgery clinic, aged 18 and over, literate, able to understand and speak Turkish, without communication barriers, and willing to participate in the research. Power analysis was performed according to the reference article ( $p=0.000$ ,  $t=3.79$ ) using the G\*Power 3.0.10 (G\*Power Ver. 3.0.10, Franz Faul, Universität Kiel, Almanya) program.<sup>10</sup> The results of the power analysis showed that a total of 94 minimum sample sizes were sufficient, with 80% power, 5% margin of error, and an effect size of  $f=0.587$ . The sample of the study consisted of 111 patients who met the inclusion criteria and agreed to participate in the research. A posthoc power analysis revealed a power of 99% for the study, with an effect size of 0.8 and a significance level of 0.05.

### INSTRUMENTS

The data for the research will be collected using a personal information form and the Surgical Fear Questionnaire (SFQ), prepared in accordance with the literature.

The personal information form consisted of a total of 10 questions, including 9 questions about the demographic characteristics [age, gender, marital status, educational level, type of anesthesia, previous surgical experience, American Society of Anesthesiologists (ASA) score, presence of preoperative pain, etc.] of the patients and 1 question about the reasons for fear of surgery.

Developed in 2014 by Theunissen et al. the SFQ was adapted into Turkish by Bağdigen and Karaman Özlü in 2016. SFQ is an 8-item scale, and the scores for each item range from 0 to 10 (0 indicating "not fearful at all" and 10 indicating "very fearful"). The lowest possible total score on the scale is 0, while the highest is 80. The scale's first four items (1-4) measure fear of short-term surgical outcomes, while the last four items (5-8) measure fear of long-term surgi-

cal outcomes. Bağdigen and Karaman Özlü determined Cronbach's alpha coefficient of the scale to be 0.89.<sup>12</sup> In this study, the Cronbach alpha coefficient of the scale was determined as 0.91.

## DATA COLLECTION PROCEDURES

Patients who were scheduled for surgical procedures admitted to the day surgery clinic met the inclusion criteria, and agreed to participate in the study were introduced to the study on the morning of the surgery. Information about the purpose of the study was provided to them. Subsequently, verbal consent was obtained from the patients, and they were asked to complete the personal information form and the SFQ. Afterward, the patients were thanked for their participation in the research.

## DATA ANALYSIS

The data was analyzed using SPSS 22.0 program (IBM, Armonk, NY, USA). Descriptive statistics were employed for data evaluation. The Kolmogorov-Smirnov test statistics were used to assess the data's normal distribution fit. Independent samples t-test was employed for normally distributed data, while Kruskal-Wallis and Mann-Whitney U tests were used for non-normally distributed data. Results were evaluated at a significance level of  $\alpha=0.05$ .

## ETHICAL CONSIDERATIONS

In order research, ethical approval was obtained from the Isparta University of Applied Sciences Scientific Research and Publication Ethics Committee (date: November 28, 2022; no: 127/07), and necessary institutional permissions were obtained from the hospital where the study was conducted. The participants included in the study were provided with information about the research, and the purpose of the study was explained. Verbal consent was obtained from them indicating their willingness to participate. Participants were informed that their choices to participate and the research results would not affect their treatment or care. The research was conducted in accordance with the Helsinki Declaration.

## RESULTS

It was determined that the mean age of the participating patients was  $48.26\pm 15.02$ , with 52.3% being

male, 82.9% being married, and 50.5% having completed primary education. Of the patients, 55.9% were planned for general anesthesia, 55% had an ASA score of I, 55.9% experienced preoperative pain, 64% had previous surgical experience, and 80.2% were afraid of surgery.

No statistically significant difference was observed in the scale subscale and total score averages based on patients' education level and surgical experience ( $p>0.05$ ). However, a statistically significant difference was found in the SFQ subscale and total score averages based on the gender of the participating patients. It was determined that females had significantly higher scores in subscales and total scores compared to males. Similarly, a statistically significant difference was observed in the SFQ subscale and total score averages based on the marital status of the patients. Unmarried patients had significantly higher scores in subscales and total scores compared to married patients (Table 1).

According to the type of planned anesthesia, a statistically significant difference was found in SFQ-S score averages among the participating patients. Patients planned for general anesthesia had significantly higher SFQ-L subscale score averages compared to patients planned for local anesthesia. Based on the ASA score, there was a statistically significant difference in SFQ-L and scale total score averages. Patients with ASA Score I had significantly higher SFQ-L subscale and total score averages compared to patients with ASA Score II (Table 1).

Furthermore, a statistically significant difference was observed in SFQ subscale and total score averages based on the presence of preoperative pain among the participating patients. Patients with pain had significantly higher subscale and total score averages compared to patients without pain. Similarly, a statistically significant difference was found in SFQ subscale and total score averages based on patients' fear of surgery. Patients who expressed fear of surgery had significantly higher subscale and total score averages compared to patients who did not fear surgery (Table 1).

The mean score obtained from the SFQ-S subscale by the participating patients was found to be

TABLE 1: Distribution of patients' demographic characteristics and comparison according to SFQ (n=111).					
	n	%	SFQ-S X±SD	SFQ-L X±SD	SFQ X±SD
<b>Gender</b>					
Female	53	47.7	17.40±6.87	22.17±6.01	39.57±11.91
Male	58	52.3	10.48±7.22	14.28±5.83	24.75±11.55
Test			t=5.154 <b>p=0.000</b>	t=7.016 <b>p=0.000</b>	t=6.645 <b>p=0.000</b>
<b>Marital status</b>					
Married	92	82.9	12.62±7.85	16.84±6.91	29.46±13.85
Single	19	17.1	19.42±4.78	23.89±4.76	43.32±5.58
Test			MW-U=440.500 <b>p=0.001</b>	MW-U=378.500 <b>p=0.000</b>	MW-U=349.000 <b>p=0.000</b>
<b>Education level</b>					
Primary school	56	50.5	14.77±8.22	18.89±8.59	33.66±15.94
High school	28	25.2	13.04±9.00	17.14±5.51	30.18±13.12
University	27	24.3	12.52±5.31	17.22±4.73	29.74±8.87
Test			KW=2.207 p=0.332	KW=1.336 p=0.505	KW=1.495 p=0.474
<b>Type of anesthesia</b>					
General	62	55.9	15.26±8.79	18.55±7.92	33.81±15.91
Local	49	44.1	11.92±5.99	17.41±5.91	29.33±10.26
Test			t=2.372 <b>p=0.020</b>	t=0.868 p=0.388	t=1.794 p=0.076
<b>ASA</b>					
I	61	55.0	14.95±8.09	19.80±7.28	34.75±13.97
II	50	45.0	12.36±7.34	15.90±6.30	28.26±12.92
Test			t=1.749 p=0.083	t=2.983 <b>p=0.004</b>	t=2.519 <b>p=0.013</b>
<b>Preoperative pain</b>					
Yes	62	55.9	17.06±7.44	20.76±7.14	37.82±13.52
No	49	44.1	9.63±6.22	14.61±5.40	24.24±10.05
Test			t=-5.606 <b>p=0.000</b>	t=-4.997 <b>p=0.000</b>	t=-5.860 <b>p=0.000</b>
<b>Surgical experience</b>					
Yes	71	64.0	13.59±8.47	17.38±7.08	30.97±14.57
No	40	36.0	14.13±6.63	19.23±7.06	33.35±12.44
Test			t=-0.367 p=0.714	t=-1.318 p=0.190	t=-0.868 p=0.387
<b>Fear of surgery</b>					
Yes	89	80.2	14.78±8.04	18.85±7.43	33.63±14.43
No	22	19.8	9.77±5.41	14.77±4.33	24.55±7.78
Test			MW-U=644.500 <b>p=0.013</b>	MW-U=654.000 <b>p=0.016</b>	MW-U=594.500 <b>p=0.014</b>

\*p-values in bold are statistically significant (p<0.05); SFQ: Surgical Fear Questionnaire; SD: Standard deviation; ASA: American Society of Anesthesiologists.

13.78±7.83, the mean score obtained from the SFQ-L subscale was 18.05±7.10, and the overall mean

score of the SFQ was determined as 31.83±13.83 (Table 2).

**TABLE 2:** Mean scores of patients' SFQ sub-dimensions and total score.

	X±SD	Minimum-maximum
SFQ-S	13.78±7.83	0-29
SFQ-L	18.05±7.10	1-33
SFQ	31.83±13.83	1-56

SFQ: Surgical Fear Questionnaire; SD: Standard deviation.



**FIGURE 1:** Reasons for patients' surgical fear (more than one option was selected) (n=89).

The reasons for surgical fear among the participating patients are presented in Figure 1. Among the patients who reported being afraid of surgery (n=89), it was determined that all of them had a fear of the unknown after the surgery, 33.7% were afraid of death, 29.2% were afraid of not waking up after the surgery, 14.6% were afraid of not being able to control postoperative pain, and 12.3% were afraid of receiving a poor diagnosis (Figure 1).

## DISCUSSION

Day surgery is on the rise both nationally and internationally, primarily because it is a safe, effective and cost-effective level of care.<sup>13</sup> As day surgery increases and hospital stays shorten, patient self-management has become a crucial factor in optimizing health outcomes.<sup>14</sup> Due to lack of time, the preoperative conversation focuses mainly on biomedical issues, with little focus on psychosocial aspects. Lack of information can cause uncertainty, anxiety and fear in the patient.<sup>13</sup> Fear experienced in the pre-operative period affects the comfort and well-being of patients, causing physiological and psychological changes,

and may adversely affect postoperative patient outcomes.<sup>4</sup> In our study to determine the preoperative fear levels of patients undergoing day surgery and the factors affecting it, the mean score of the patients on SFQ was determined as 31.83±13.83 (0-80). In the study conducted by Çolak and Vural, the mean SFQ score of the patients who underwent day surgery was found to be 25.26±18.16.<sup>15</sup> In the literature, in the studies conducted with patients hospitalized in surgical clinics and planned for elective surgery, Kaya and Karaman Özlü found the mean SFQ score of the patients to be 37.55±21.11, and Çetin and Yılmaz (2022) found the mean SFQ score to be 36.76±20.31.<sup>16,17</sup> We think that these results may be related to the low risk of postoperative complications and shorter hospital stay in patients undergoing day surgery. The thought that patients will spend the night before and after the surgery in day surgery may also be effective in reducing fear. In the study, it was determined that women experienced significantly higher fear than men. The results of the study are similar to the literature.<sup>15,16,18</sup> Fluctuations in estrogen and progesterone hormones in women can cause them to be more emotional and fragile.<sup>19</sup> We think that the results of the study are due to this physiological difference between the sexes. In addition, these results may be culturally related to women's ability to express their fears more easily than men. In the study, as another finding related to sociodemographic characteristics, it was determined that single people experienced significantly higher fear than married ones. However, no study with similar findings was found in the literature. These findings of the study can be associated with the relatively higher postoperative care and social support of married individuals. In the study, it was determined that the patients who were planned for general anesthesia had a significantly higher short-term fear of surgery than those scheduled for local anesthesia. In parallel with our study, Çolak (2023) in his study with patients scheduled for day surgery reported that patients scheduled for general anesthesia experienced a higher level of surgical fear than patients scheduled for local anesthesia.<sup>15</sup> It has been reported in the literature that patients who underwent general anesthesia often experience fears such as not being able to wake up,

loss of control and fear of death.<sup>20</sup> For this reason, it is thought that it is an expected result that patients who are scheduled for general anesthesia have a higher fear of short-term surgery.

In the preoperative period, all patients are evaluated in terms of the ASA classification, which is the anesthesia risk determination score. ASA score is classified between 1-6.<sup>21</sup> In this study, 55% of the patients had an ASA score of I, while the rest had an ASA score of II. According to the ASA scoring, patients in the ASA I class do not have a systemic disease other than the disease requiring surgical intervention, while the patients in the II class have a mild systemic disease. In the study, it was determined that patients with ASA Score II had a significantly higher fear of surgery than patients with I. We think that these results may be related to the increase in the risk of postoperative complications and the prolongation of the healing process due to the fact that patients with ASA Score II have a systemic disease.

In the study, it was determined that the fear levels of patients with preoperative pain were significantly higher than those without. In a study, it is seen that there is a positive relationship between the level of preoperative pain and the level of fear of surgery.<sup>22</sup> These findings may be associated with the effect of pain experienced in the preoperative period on the comfort and well-being of patients.

In the study, the first 5 reasons for patients' fear of surgery are; fear of the unknown after surgery, fear of death, fear of not being able to wake up after surgery, fear of not being able to control postoperative pain, and fear of getting a bad diagnosis. In parallel with our study, Baskin determined in his study that patients who were scheduled for day surgery were most often afraid of not knowing what would happen after the surgery. He also determined that the patients were afraid of being disabled, not being able to control the pain, and not being able to adapt to the hospital environment, respectively.<sup>6</sup> In studies conducted with patients scheduled for elective surgery, Bedaso and Ayalew found that patients most frequently experience uncertainty about the surgical procedure, fear of anesthesia and unexpected surgical results.<sup>23</sup> Ruhaiyem et al., on the other hand, deter-

mined that the first three reasons for the fear experienced by the patients before the operation were post-operative pain, being awake during the operation and not being able to wake up after the operation.<sup>24</sup>

## STUDY STRENGTHS AND LIMITATIONS

This study is one of the limited number of studies that report the levels of surgical fear and influencing factors in day surgery patients. The contribution of this study to the literature can be considered a strong aspect of the research. Additionally, the use of validated scales for objective measurements can be seen as a strong point of this study. However, there are some limitations that need to be addressed in this study. Firstly, since the study was conducted with patients treated in a single hospital's day surgery clinic, the generalizability of the findings is limited. Second, self-reported information can cause bias due to the social desirability effect.

## CONCLUSION

In conclusion, considering the minimum and maximum values that can be obtained from the scale, it can be said that patients undergoing day surgery experience a moderate level of fear. Reducing fears of outpatient surgery can be achieved with detailed information, effective communication and sensitivity. The experienced surgical fear was found to be influenced by gender, marital status, anesthesia type, ASA score, and the presence of preoperative pain. The role of the day surgery nurse in the preoperative period should be to prepare the patient for the surgical process both physiologically and psychologically. Solid communication between healthcare professionals and patients can help minimize the fear of surgery. In line with this objective, nurses should routinely assess the fear that could potentially affect postoperative recovery using reliable measurement tools during the preoperative period and develop individualized care plans accordingly.

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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:** Sevgi Deniz Doğan; **Design:** Sevgi Deniz Doğan, Şeyma Yurtseven; **Control/Supervision:** Sevgi Deniz Doğan, Şeyma Yurtseven; **Data Collection and/or Processing:** Sevgi Deniz Doğan, Şeyma Yurtseven; **Analysis and/or Interpretation:** Sevgi Deniz Doğan; **Literature Review:** Sevgi Deniz Doğan, Şeyma Yurtseven; **Writing the Article:** Sevgi Deniz Doğan, Şeyma Yurtseven; **Critical Review:** Sevgi Deniz Doğan, Şeyma Yurtseven.

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