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Assessing Preoperative Fear of COVID-19 in Patients: A Descriptive-Cross-Sectional Study

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ABSTRACT

This study aimed to determine patients' fear of COVID-19 before surgery through a descriptive-cross-sectional design. This study was carried out with 281 patients in the surgical clinics of a public hospital between November 2021 and May 2022. The data were collected using the Patient Descriptive Information Form and the COVID-19 Fear Scale. The mean total score on the COVID-19 Fear Scale for patients was 23.43±4.88. Patients who were unemployed, had chronic diseases, or underwent major surgery exhibited higher mean total scores ($p<.05$). Additionally, individuals vaccinated against COVID-19 and those concerned about transmission had significantly higher scale mean total scores ($p<.05$). According to our study findings, the majority of patients demonstrated elevated levels of fear regarding COVID-19. Various factors, including diagnosis, disease process, type of surgery, patient characteristics, and negative social media posts, were identified as potential contributors to heightened COVID-19 fear, potentially impacting both patient psychological states and clinical outcomes. In this context, coping methods should be thoroughly evaluated and supported during the preoperative period, considering the sources of COVID-19 fear and individual patient characteristics.

Hastalarda Ameliyat Öncesi COVID-19 Korkusunun Belirlenmesi: Tanımlayıcı ve Kesitsel Bir Çalışma

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ÖZET

Çalışma, hastaların ameliyattan önce COVID-19 korkusunu belirlemek için tanımlayıcı kesitsel bir çalışma olarak tasarlandı. Kasım 2021 ile Mayıs 2022 tarihleri arasında bir devlet hastanesinin cerrahi kliniklerinde 281 hasta ile gerçekleştirildi. Çalışmada veri toplamak için Hasta Tanımlayıcı Bilgi Formu ve COVID-19 Korku Ölçeği kullanıldı. Hastaların COVID-19 Korku Ölçeği toplam puan ortalaması 23,43±4,88 idi ve çalışmayan, kronik hastalıkları olan veya majör ameliyat geçiren hastaların toplam puan ortalaması diğerlerinden daha yüksekti ($p<.05$). Ayrıca, COVID-19 aşısı olan hastalar ve COVID-19 bulaşma endişesi olan hastalar önemli ölçüde daha yüksek ölçek toplam puan ortalamasına sahipti ($p<.05$). Çalışmamızın bulgularına göre, hastaların çoğunluğunun COVID-19 korku düzeylerinin yüksek olduğu bulundu. Teşhis, hastalık süreci, ameliyat türü, hastaların özellikleri ve olumsuz sosyal medya gönderileri vb. hastaneye yatırılan hastalarda COVID-19 korkusunu dolayısıyla da hastalık sürecini ve hasta sonuçlarını olumsuz etkileyebilir. Bu kapsamda COVID-19 korkusunun nedenleri ve hasta özellikleri göz önünde bulundurularak ameliyat öncesi dönemde başa çıkma yöntemleri değerlendirilmeli ve desteklenmelidir.

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INTRODUCTION

The coronavirus infection stands out as one of the most severe global outbreaks, marked by reported cases of viral pneumonia in humans. The virus responsible for this infection has been named COVID-19 by the World Health Organization (Çobanoğlu, 2020; Erden, 2020). Similar to past global epidemics, the COVID-19 epidemic has led to both physiological and psychological negative outcomes in affected individuals. While initial symptoms of COVID-19 were mild, including fever, sore throat, weakness, and cough, more severe cases manifested as serious respiratory diseases such as shortness of breath and pneumonia (Erden et al., 2022). The swift transmission of the disease, alterations in living conditions due to the pandemic, and the pervasive fear of falling ill have all underscored the anticipated psychological repercussions (Kalafatoğlu &Yam, 2021).

The COVID-19 epidemic and effeots to minimize the number of cases have led to a decline in social relations within society, accompanied by an increase in depression, feelings of loneliness, anxiety, and a pervasive sense of uncertainty (Zeybek et al., 2020). Various negative factors have significantly impacted human psychology, including social isolation, the loss of loved ones, the fear of personal mortality due to coronavirus infection, apprehension while consuming coronavirus-related news on social media, and the overall uncertainty surrounding the trajectory of the epidemic (Altundağ, 2021).

To mitigate the adverse effects of the fear of COVID-19 on patients, it is crucial to gauge the intensity of this fear. In addressing this need, the "COVID-19 Fear Scale" was introduced in 2020 (Ahorsu et al., 2022). However, it is noteworthy that such a scale exists, the majority of the studies on the fear of COVID-19 have predominantly focused on healthy individuals. Limited research has been identified regarding this fear among patients (Balkaya et al., 2021; Gök Metin, 2020; Mao et al., 2020). The fear of contagion, the progression of the disease, uncertainty, stress, anxiety, and fear all contribute to adverse impacts on patient outcomes, particularly during critical and sensitive periods. The pre-operative phase, characterized by elevated surgical stress, is one such crucial period. The physical ramifications of COVID-19, coupled with the apprehension of contagion, can induce heightened worry and anxiety in patients from hospitalization through to discharge (Balkaya et al., 2021). Pre-operative stressors, in all their forms, exert a detrimental influence on post-operative recovery. Throughout the perioperative phase, the surgical nurse overseeing the patient's treatment and care should proactively undertake measures to minimize or mitigate any stressors that could compromise the recovery process. Assessing the degree of preoperative fear related to COVID-19, identifying its sources, and understanding its impact on patient outcomes are crucial for supporting patients' coping skills. To facilitate necessary interventions, determining the level of fear becomes imperative. In this context, the purpose of this study is to measure patients' fear of COVID-19 during the preoperative phase.

Research Questions

- What is the level of the COVID-19 fear among patients scheduled for surgery?
- Do the descriptive characteristics of patients undergoing surgery have an impact on their fear of COVID-19?
- Do the surgical characteristics of patients undergoing surgery influence their fear of COVID-19?

METHOD

Research Design

The study was designed as a descriptive cross-sectional study to assess patients' fear of COVID-19 before surgery.

Research Sample/Study Group/Participants

This study took place between November 1, 2021, and May 31, 2022, in the surgical clinics of a state hospital. The hospital, which has approximately 300 beds, maintains an average of 30 beds in each clinic. Patients with a negative PCR test in the preoperative period are admitted one day before the operation, and no information about COVID-19 transmission is disclosed. The study's population comprised 1028 patients admitted to the state hospital's surgical clinics for surgery between November 1, 2021, and May 31, 2022. The sample consisted of 281 patients who met the following inclusion criteria: individuals aged 18 and above, undergoing elective surgeries as specified in the anesthesia notes (major procedures like gastrectomy, bypass, or minor procedures like cholecystectomy, hemorrhoid, etc.), staying in the hospital for at least 24 hours/1 night post-surgery, having a negative PCR test in the preoperative period, not experiencing cognitive impairment, and willingly agreeing to participate in the study. The study excluded 747 patients who did not meet the specified sampling criteria. This exclusion encompassed 147 patients under the age of 18, 200 patients scheduled for emergency surgery, 100 patients designated for day surgery, 100 patients with cognitive impairment, and 200 patients who declined to participate.

Research Instruments and Processes

After obtaining the necessary hospital permissions, patients hospitalized in surgical clinics one day before surgery were administered an informed consent form, a Patient Descriptive Information Form, and the COVID-19 Fear Scale. The completion of these forms took approximately 20 minutes.

Patient Descriptive Information Form

This form comprises a total of 10 questions, divided into two sections. The first section includes 5 questions focusing on sociodemographic information (age, gender, education, employment status, chronic diseases). The second section consists of 5 questions covering surgery and COVID-19-related details (type of surgery, history of COVID-19, vaccination status against COVID-19, presence of a relative with COVID-19, and whether the patient has concerns or anxiety/fear regarding the risk of contracting COVID-19). These questions were formulated by the researchers through a review of the literature (Aydin Yıldırım & Gebeşoğlu, 2022; Detoc et al., 2020; Kalafatoğlu & Yam, 2021).

The COVID-19 Fear Scale

The COVID-19 Fear Scale, developed by Ahorsu et al. in 2020 to measure the level of fear during the COVID-19 outbreak (Ahorsu et al., 2022), underwent a Turkish validity and reliability study conducted by Kaya et al. in 2020 (Kaya et al., 2021). The scale exhibited a Cronbach's alpha reliability coefficient of .874 in the original study and .851 in our investigation. Participants selected the response that best conveyed their apprehension level regarding the scale's items. If patients had never experienced the described fear, they indicated how intense the fear would have been if they had. The items were graded using Likert-type scoring, ranging from 1 to 5, in the evaluation of the scale without reverse expression (1= strongly disagree, 2= disagree, 3= undecided, 4= agree, 5= strongly agree). The total score ranges from 7 (lowest) to 35 (highest), with a higher score indicating a higher level of fear of COVID-19 (Kaya et al., 2021).

Data Analysis

The statistical analysis utilized the SPSS 24.0 software package (IBM SPSS, Armonk, NY: IBM Corp. released 2017). Descriptive data were expressed in the statistical analysis using numbers, percentages, means, minimum-maximum values, and standard deviations. For the comparison of the scale mean total score with binary independent variables, the Independent T test was employed for data with a normal distribution, and the One-Way Anova Test was used for data with a non-normal distribution and more than one independent variable. A significance level of $p<.05$ was considered statistically significant for all the tests conducted.

RESULTS

Based on the data, the scale's mean total score is 23.43±4.88. The statements "I feel nervous or worried (4.14±0.77) while watching news and events related to coronavirus infection on social media" and "I am afraid of losing my life due to coronavirus infection (4.00±0.89)" received the highest scores. Conversely, the statements "When I think about the coronavirus infection, my hands sweat (2.57±0.96)" and "I can't sleep because I'm afraid of getting the coronavirus infection (2.58±1.00)" received the lowest scores (Table 1).

Table 1

The Score of the COVID-19 Fear Scale (n=281)

	***Mean±SD**	**Min-Max**
I am most afraid of coronavirus infection.	3.61±1.07	1-5
Thinking about the coronavirus infection bothers/worries me.	3.91±0.90	1-5
My hands get sweaty when I think about the coronavirus infection.	2.57±0.96	1-5
I'm afraid of losing my life due to coronavirus infection.	4.00±0.89	1-5
I get nervous or worried when watching news and events related to coronavirus infection on social media.	4.14±0.77	1-5
I can't sleep because I'm afraid of getting a coronavirus infection.	2.58±1.00	1-5
The thought of contracting a coronavirus infection makes my heartbeat fast.	2.62±1.07	1-5
Total:	**23.43±4.88**	**7-35**

*SD: Standard Deviation

The average age of the patients was 54.13±16.04, with 55.5% being female, 45.7% having completed literacy, and 70.2% being unemployed. Additionally, 47% of the participants reported having a chronic disease. Minor surgeries constituted 54.1% of all the surgeries performed. There was no significant difference observed between gender and education level ($p>.05$). However, the mean total score of the scale was found to be higher in patients who were unemployed, had chronic diseases, or had undergone major surgery ($p<.05$) (refer to Table 2).

Table 2

Comparison of the COVID-19 Fear Scale Scores Based on The Descriptive Characteristics and Operational Information of Patients (n=281)

Variable				
Age	**Min**	**Max**	**Mean**	**SD**
	19	84	54.13	16.04
	Number	**%**	**Mean±SD**	**Test/p**
Age Groups				
18-35	41	14,5	20.14±4.75	
36-50	69	24,5	22.68±4.95	**f=10.777**
51-65	92	32,6	24.25±4.38	**p=0. 000**
65+	79	28,0	24.83±4.61	
Gender				
Female	156	55.5	23.71±5.07	t=1.077
Male	125	44.5	23.08±4.63	p=.279
Educatıon				
İlliterate	29	10,3	23.44±5.24	
Literate	129	45,7	24.08±4.96	**f=2.805**
High School	86	30,5	23.27±4.37	**p=0.40**
University	37	13,1	21.48±5.09	
Employment status				
Yes	83	29,4	22.39±4.34	**f=4.662**
No	125	44,3	23.34±5.44	**p=0.010**
Retired	73	25,9	24.75±4.14	
Chronic diseases				
Yes	132	47.0	24.11±4.58	t=2.221
No	149	53.0	22.82±5.08	**p=.027**
Type of surgery				
Minor[a]	152	54.1	22.62±4.97	t=-2.587
Major[b]	129	45.9	24.11±4.71	**p=.010**

SD: Standard Deviation; f: Anova Test, t: T-test in independent groups

a. Minor: Hemorrhoid, Hernia, Cholecystectomy, Varicose Vein Surgery etc.

b. Major: By-pass, Gastrectomy, Mastectomy, Transurethral Resection of Prostate, Arthroplasty etc.

Coronavirus was not detected in 74.4% of the patients and 53.4% of their relatives. Furthermore, 64.4% of patients expressed concerns regarding the potential transmission of COVID-19. According to our findings, the scale mean total score was significantly higher in patients who were vaccinated and those concerned about COVID-19 transmission (p<.05) (refer to Table 3).

Table 3

Comparison of Scale Total Score Averages According to Questions Regarding COVID-19

	Number	**%**	**Mean±SD/**	**Test/p**
Questions Regarding COVID-19				
Have you ever had a coronavirus?				
Yes	72	26.6	23.40±4.69	t=-.058
No	209	74.4	23.44±4.96	p=.955
Are you vaccinated?				
Yes	262	93.2	23.74±4.75	t=4.055
No	19	6.8	19.15±4.72	**p=.000**
Coronavirus in Family History				
Yes	131	46.6	23.19±4.79	t=-.716
No	150	53.4	23.63±4.96	p=.458
Which one anxiety/fear ou more?				
Risk of transmission of Covid-19	181	64.4	25.71±3.63	t=-13.532
Surgery	100	35.6	19.30±4.09	**p=.000**

SD: Standard Deviation; t: T-test in independent groups

DISCUSSION

COVID-19 fear is characterized as an emotional threat posed by the coronavirus, which can have detrimental effects on people's health. While the body's reaction to fear in healthy individuals may have minimal short-term impacts, the fear experienced during the preoperative period, influencing the entire surgical process, can potentially lead to delayed recovery (Kurtuluş & Düşünceli, 2021). The fear of COVID-19 during the preoperative phase may adversely affect postoperative recovery by amplifying the surgical stress response. The primary objective of this study was to assess patients' fear of COVID-19 in the preoperative period. Reducing negative emotions such as fear during the preoperative phase is crucial, as it is anticipated to contribute positively to postoperative recovery.

In our study, the mean total score for the fear of COVID-19 was 23.43. This suggests that patients' fears are notably significant. The statements with the highest average on the COVID-19 scale are, firstly, "It is remarkable that I get nervous or worried while watching news and events about coronavirus infection on social media," followed by "I am afraid of losing my life due to coronavirus infection." This indicates that patients' fears intensify due to negative information they encounter about COVID-19 on social media. Information regarding the number of deaths and hospital occupancy rates may contribute to an increased fear among individuals concerning the possibility of succumbing to the virus. According to the study findings, patients who were unemployed exhibited higher levels of fear of COVID-19. Interestingly, there are published studies in the literature highlighting a heightened fear of COVID-19 among employed individuals (Karaca et al., 2021; Özgünay et al., 2021; Yıldırım et al., 2022). These disparities may suggest that factors such as age, education level, occupation, current medical condition, in addition to employment status, could contribute to variations in fear levels.

Chronic diseases have induced anxiety and fear in patients, primarily due to the heightened risk of contracting COVID-19 and exacerbating the disease process. The restrictive measures implemented during the COVID-19 epidemic, coupled with increased stress levels and reduced physical activity, have contributed to an elevated incidence of diseases like diabetes mellitus and cardiovascular conditions (Çöl & Baysan, 2021). In our study, we observed that patients with chronic diseases and those undergoing major surgery exhibited heightened fear of COVID-19. Similarly, a study on individuals with chronic diseases revealed higher scale mean total scores, attributed to treatment interruptions during the pandemic (Aydın Yıldırım & Gebeşoğlu, 2022). Additionally, patients undergoing major surgical procedures in 2021 were found to experience fear as a consequence of the pandemic process (Keskin et al., 2021).

The current study uncovered that vaccinated patients exhibited a higher level of fear of COVID-19. Similarly, a study conducted in our country in 2020 indicated that the escalating fear associated with the COVID-19 epidemic influenced the societal perspective on vaccines (Doğan & Düzel, 2020). Detoc et al. observed that as the fear of COVID-19 intensifies, the positive perception towards the COVID-19 vaccine also increases (Detoc et al., 2020). Individuals tend to have a positive stance on vaccines when they are well-informed about the disease process. The belief that COVID-19 might escalate morbidity and mortality, thereby worsening chronic diseases, may lead individuals to view the vaccine as a potential savior. According to our findings, patients exhibit a greater concern about the risk of COVID-19 transmission in the preoperative period (64.4%) compared to their apprehension about undergoing surgery. A study conducted on patients in the preoperative period also found that patients' fear of being infected with COVID-19 was notably high during hospitalization (Balkaya et al., 2021). Thus, factors such as diagnosis, disease process, surgery type, patients' characteristics, and negative social media posts may collectively influence the fear of COVID-19 in hospitalized patients.

Implications for research and practice

The fear of COVID-19, including concerns about contagion, the disease process, uncertainty, stress, anxiety, and fear, can all have a negative impact on patient outcomes, particularly during sensitive periods such as preoperatively. Considering the patient's attitude towards COVID-19 fear, along with their experiences and knowledge, precautions should be taken to prevent and/or alleviate all types of stressors that may adversely affect recovery. In the preoperative period, it is essential to provide patients with information about COVID-19 infection, transmission, prevention strategies, and vaccination. Neglecting these aspects may lead to delayed recovery, prolonged discharge times, and reduced patient satisfaction in the postoperative period. Ensuring that patients are well-informed about COVID-19-related topics can contribute to a better understanding and confidence among patients, potentially enhancing the overall surgical experience and recovery process.

CONCLUSION AND SUGGESTIONS

In conclusion, a predominant number of patients express apprehension about the potential transmission of COVID-19 during the preoperative period. Therefore, it is imperative to provide support for patients' coping skills, taking into consideration individual patient characteristics. Alleviating patient anxiety related to COVID-19 in the preoperative phase has the potential to enhance patient outcomes by mitigating the surgical stress response.

LIMITATIONS

This study has several limitations. Firstly, it was conducted exclusively on patients within a single hospital in the province of Adana. Additionally, a significant limitation of our study is the relatively small sample size.

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Ethic Approval

The study received approval from the Cukurova University Faculty of Medicine's Non-Interventional Clinical Research Ethics Committee (01.10.2021/39) and the Provincial Health Directorate (26.11.2021/96172664-604.01.02). Patients who expressed their willingness to participate in the study provided both verbal and written consent. Following the acquisition of required hospital permissions, an informed consent form was administered to patients hospitalized in surgical clinics one day before surgery.

Conflict of interest

The authors declare no conflict of interest.

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Authorship Contributions

Design: A.N.A., S.E., Data Collection or Processing: A.N.A., S.E., Analysis or Interpretation: A.N.A., S.E., Literature Search: A.N.A., S.E., Writing: A.N.A., S.E.

REFERENCES

Ahorsu, D.K., Lin, C.Y., Imani, V., Saffari, M., Griffiths, M.D., & Pakpour, A.H. (2022). The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction, 20(3),* 1537–1545. https://doi.org/10.1007/S11469-020-00270-8

Altundağ, Y. (2021). Erken Dönem COVID-19 Pandemisinde COVID-19 Korkusu ve Psikolojik Dayanıklılık. *EKEV Akademi Dergisi, 0(85*), 99–516. https://dergipark.org.tr/en/download/article-file/2568491

Aydın Yıldırım, T., & Gebeşoğlu, N. (2022). Kronik Hastalığı Olan Bireylerde COVID-19 Korkusu ve Sağlık Hizmetlerini Kullanma Durumlarının Değerlendirilmesi. *İstanbul Gelişim Üniversitesi Sağlık Bilimleri Dergisi, (16), 98-113* https://doi.org/10.38079/igusabder.996416

Balkaya, A.N., Karaca, Ü., Yılmaz, C., & Ata, F. (2021). COVID-19 Pandemisinde Elektif Cerrahi Uygulanacak Hastaların Preoperatif Anksiyete Düzeylerinin Değerlendirilmesi. *Uludağ Üniversitesi Tıp Fakültesi Dergisi*, *47*(2), 233–239. https://doi.org/10.32708/uutfd.913827

Çobanoğlu, N. (2020). COVID-19 Pandemisi ile Değişen Yaşamlar ve Toplumsal Değerlerimiz. *Eurasian Journal of Health Sciences*, *3(COVID-19*), 90–94. https://dergipark.org.tr/en/pub/avrasyasbd/issue/56010/755137

Çöl, M., & Baysan, C. (2021). *Kronik Hastalıklar ve COVID-19*. https://www.researchgate.net/publication/353246997

Detoc, M., Bruel, S., Frappe, P., Tardy, B., Botelho-Nevers, E., & Gagneux-Brunon, A. (2020). Intention to participate in a COVID-19 vaccine clinical trial and to get vaccinated against COVID-19 in France during the pandemic. *Vaccine*, *38(45),* 7002-7006. https://doi.org/10.1016/j.vaccine.2020.09.041

Doğan, M. M., & Düzel, B. (2020). COVID-19 Özelinde Korku-Kaygı Düzeyleri. *Journal of Turkish Studies*, *15(4)*, 739–752. https://doi.org/10.7827/TurkishStudies.44678

Erden, S. (2020). Kritik COVID-19 hastaları için etkili bir tedavi seçeneği: Yüksek akımlı oksijenizasyon. *Gürsoy A, editör. Cerrahi Hastalıkları Hemşireliği ve COVID-19*, *1*, 9-14. https://l24.im/sTA81O

Erden, S., Artıklar, T., Tura, İ., & Türkmen, A. (2022). Assessment of procedural pain in patients with COVID-19 in the intensive care unit. *Pain Management Nursing*, *23*(5), 596-601. https://www.sciencedirect.com/science/article/pii/S1524904222000923

Gök Metin, Z. (2020). COVID-19 Hastalığının Fizyopatolojisi ve Holistik Hemşirelik Yaklaşımı. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi*, *7*, 15–24. https://doi.org/10.31125/hunhemsire.775658

Kalafatoğlu M.R, & Yam F.C. (2021). Bireylerin COVID-19 Korkularının Bazı Değişkenler Açısından İncelenmesi. *Humanistic Perspective*, *3*(2), 306–323. https://doi.org/10.47793/HP.942883

Karaca, Y., Selçuk, M.H., & Kalaycı, M.C. (2021). Examination of COVID-19 Phobias of Physical Education Teachers. *Turkiye Klinikleri Journal of Sports Sciences*, *13*(2), 292–301. https://doi.org/10.5336/sportsci.2020-80011

Kaya, S., Dünder, E., Çakıroğlu, F. P., & Uzdil, Z. (2021). Adaptation of the Fear of 2019 Coronavirus Disease (COVID-19) Scale to Turkish Culture: A Validity and Reliability Study. *J Cogn Behav Psychother Res*, *10*(1), 40–45. https://doi.org/10.5455/JCBPR.104890

Keskin, E., Çelik, S., & Köstekli, S. (2021). Surgical Process Anxıety From The Perspective Of Neurosurgery Patients In The COVID-19 Pandemic. *Kocaeli Medical Journal*, *10*(Supp:1), 72–84. https://doi.org/10.5505/KTD.2021.36034

Kurtuluş, E., & Düşünceli, B. (2021). COVID-19 Farkındalığı ve Genel Aidiyetleri Düzeyleri. *Üsküdar Üniversitesi Sosyal Bilimler Dergisi*, *13*, 451–485. https://doi.org/10.32739/uskudarsbd.7.13.96

Mao, L., Wang,M., Chen, S., He,Q., Chang, J., Hong, C., Zhou, Y., Wang, D., Li, Y., Jin, H., Hu, B., & Huijuan Jin, O. (2020). Neurological Manifestations of Hospitalized Patients with COVID-19 in Wuhan, China: a retrospective case series study. *JAMA Neurology*, *77(6),* 683-690. https://doi.org/10.1101/2020.02.22.20026500

Özgünay, S. E., Akça, F., Karasu, D., Eminoğlu, Ş., & Gamlı, M. (2021). Evaluation of Anesthetists' Fear Levels and Prophylaxis Practices in the Coronavirus (COVID-19) Pandemic. *Journal of Anesthesiology and Reanimation Specialists' Society*, *29(1),* 25-31. https://doi.org/10.5222/jarss.2021.40412.

Yıldırım, M., Hanayoğlu, T., & Güçlü, M. (2022). Futbol Hakemlerinin COVID-19 Korkusu Düzeylerinin İncelenmesi (Examination of the Covid-19 Fear Levels of Football Referees). *Türk Turizm Araştırmaları Dergisi, 5(5)* 648-656. https://doi.org/10.26677/TR1010.2022.982

Zeybek, Z., Bozkurt, Y., & Aşkın, R. (2020). COVID-19 pandemisi: Psikolojik etkileri ve terapötik müdahaleler. *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi, 19(37),* 304–318. https://dergipark.org.tr/en/pub/iticusbe/issue/55168/753233