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State anxiety levels of nurses providing care to patients with COVID-19 in Turkey

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Abstract

Purpose: This study investigates the state anxiety levels of nurses providing care to patients with coronavirus disease-2019 (COVID-19) in Turkey.

Design and Methods: This cross-sectional study is based on the COVID-19 pandemic situation. The State-Trait Anxiety Inventory was used to collect the study data.

Findings: Nurses' state anxiety levels were high (51.51 ± 9.94). Participants evaluated for state anxiety were female; who were married; worked in intensive care units; were service nurses, having more professional experiences; and experienced hand irritation ($p < 0.05$).

Practice Implications: The mental health of nurses providing primary care to patients with COVID-19 should be evaluated in the long term.

KEYWORDS
anxiety, COVID-19, nurse, State-Trait Anxiety Inventory

1 | INTRODUCTION

The coronavirus disease-2019 (COVID-19) outbreak, which first manifested in Wuhan, Hubei Province, China, in late December 2019, became a global epidemic in a very short time and has caused the deaths of more than 810,492 people worldwide.[1] The first infection case was identified on March 11, 2020, in Turkey.[2] The World Health Organization[3] declared the COVID-19 outbreak as a pandemic in March. On August 26, 2020, the total number of reported cases in Turkey was 259,692, with 6139 deaths.[4] Questions related to the pandemic have no definite answers, such as when it will end and how it can be most effectively treated. In addition, constant exposure to rapidly changing information about the pandemic can adversely affect individuals' mental health.[5]

COVID-19 is typically spread from person to person through respiratory droplets produced when coughing and sneezing. It is considered most contagious when infected people are symptomatic, although transmission by asymptomatic or presymptomatic individuals may also be possible. The time from exposure to symptom onset ranges between 2 and 14 days, with an average time of 5 days.[6] The symptoms of COVID-19 can range from very mild to severe and may include fever, cough, and shortness of breath. Many people have been observed to be asymptomatic.[7] Currently, there is no specific antiviral treatment or vaccine for COVID-19; efforts consist of reducing symptoms and providing supportive therapy.[6]

Healthcare professionals worldwide are on the frontline dealing with COVID-19. Nurses have been key members of professional healthcare teams trying to save lives and play a crucial role in controlling the pandemic.[8] Infection prevention and control in primary, community, and acute care settings present nursing professionals with huge challenges. The outbreaks of new infectious diseases such as COVID-19 produce uncertainty, anxiety, and panic because the situation changes quickly, particularly when the disease is not under control.[9] The COVID-19 outbreak has also created additional concern among nurses regarding their personal or family health in the face of direct contact with a potentially deadly virus, and it includes concerns about a shortage of staff and personal protective equipment.[10]

The rate of psychiatric disorders attributed to the COVID-19 pandemic, including posttraumatic stress disorder, depression, and alcohol abuse, is estimated to be high among healthcare professionals, who are considered a vulnerable group during this time.[11]

In another Chinese study conducted with 82 physicians and 98 nurses providing care to patients with COVID-19 in January and February, participants' anxiety levels were reported to rise commensurate with their stress.[12] The prevalence of overall psychological problems in nurses was 62.02%, and receiving negative information and participating in frontline work appear to be important risk factors for developing psychological issues.[13]

Despite measures taken early in Turkey, issues in the health system persisted, according to the COVID-19 Current Situation Analysis Report prepared by the Turkish Nurses Association.[14] Participants in a survey study included 520 nurses from 61 provinces. It was determined that 74% of the nurses had difficulty accessing personal protective equipment and did not get sufficient rest periods during working hours. More than 21% took no breaks during working hours. A qualitative study found that nurses caring for patients with COVID-19 in Turkey were adversely affected by the pandemic psychologically and socially.[15] Based on the concern whether these issues and the ongoing pandemic affect the anxiety levels of nurses, this study investigates the anxiety levels of nurses during the COVID-19 outbreak in Turkey and examines the effective factors.

2 | METHODS

2.1 | Aim

This study investigates the state anxiety levels of nurses providing care for patients with COVID-19 in Turkey.

2.2 | Participants

This cross-sectional and web-based study was conducted among nurses in Turkey's 81 provinces from April 25 to May 7, 2020. The study was conducted using an online survey, for which a questionnaire was created using the Google form. The Snowball sampling technique was used to collect information from participants. Snowball sampling is a method of gathering information to access specific groups of people. The specific group in this study was nurses providing care for patients with COVID-19. The questionnaire link was sent via WhatsApp to personal contacts and published on Facebook. The respondents were asked to forward or post the links among their WhatsApp groups. After clicking on the questionnaire link, a brief summary of the survey appeared on the screen, followed by the consent form. The sample calculation was made with known average scores of the State and Trait Anxiety Inventory (STAI). The known average score of the state subscale, which is calculated by the number of samples, was based on a reference.[16] The sample size of the study was calculated with the known score (37.1 ± 8.9) using the formula $n = (t2 \times s2)/d2$ and determined to be 1217 nurses.[17] The study sample consisted of 1457 nurses who met the inclusion criteria: they were aged 18 years and older, they provided care to patients with COVID-19, and they consented to participate in the study. The exclusion criteria included having difficulties with reading and comprehension or showing disagreement with the publication of the study results.

2.3 | Data collection

The Nurse Identification Form (NIF) and the STAI were used to collect the study data. The goal of the NIF was to determine demographic characteristics and assess effective factors on anxiety. This form was created by researchers and based on findings from prior studies of nurses and healthcare professionals providing care to patients with COVID-19.[11–13] The first part of the NIF included questions about age, educational background, the clinics where they worked, their title, and their work experience. The second part included questions about whether they were staying with their children during the COVID-19 outbreak, whether they underwent the COVID-19 test, whether there were any disruptions in the tissue integrity of their hands during the study period and whether they experienced psychological symptoms.

The STAI was developed by Spielberger et al.[18] A Turkish validity and reliability version was implemented by Öner and Le Compte.[19] The alpha reliability coefficient was found to be 0.94–0.96 in various applications. The State Anxiety Subscale (SAS) determined how the individual feels at the time of the COVID-19 outbreak, using items that measure subjective feelings of apprehension, tension, nervousness, worry, and activation/arousal of the autonomic nervous system. The Trait Anxiety Subscale (TAS) determined stable aspects of "anxiety tendency," including general states of calmness, confidence, and security. As we wanted to measure the anxiety levels of nurses during the COVID-19 outbreak, we only used the SAS; for this reason, we did not use the TAS. The SAS consists of 20 items, and each item is answered on a 1–4 scale: 1 = not at all, 2 = sometimes, 3 = often, and 4 = almost always. The first, second, fifth, eighth, tenth, eleventh, fifteenth, sixteenth, nineteenth, and twentieth items in the scale are reverse scored. After individually calculating the total weighted scores of direct and reversed statements, the total weighted score of the reversed statements is subtracted from the total weighted score of the direct statements. The anxiety score of the individual is calculated by adding a predetermined, constant value (50) to this number. Higher scores indicate high levels of anxiety. In this study, Cronbach's alpha coefficient of the scale was found to be 0.93.

2.4 | Ethical consideration

Aksaray University Human Subjects Ethics Committee Approval (Date: 24.04.2020, No: 2020/03-60) was obtained before starting the study. The study was performed in accordance with the Declaration of Helsinki. Data were collected online. We informed all nurses about the purpose of the study in the Google form and invited them to participate. To ensure the confidentiality of participant information,

we did not include any identifying information in the online questionnaire.

2.5 | Statistical analysis

Statistical analysis was performed using Statistical Package for Social Science for Windows version 25.0. Descriptive data were expressed as frequency, percentage, mean, and standard deviation. The Kolmogorov–Smirnov test was used to determine whether the data were distributed normally. As mean total SAS scores did not show normal distribution, the use of nonparametric tests in data analysis was found to be appropriate. The Mann–Whitney U test was applied in two-way group comparisons, and the Kruskal–Wallis test was used to test differences among three groups. Variables that correlated significantly with the dependent variable were entered into the regression model (enter method) to identify potential indicators of nurses' state anxiety level during the COVID-19 outbreak. A p-value of < 0.05 was considered statistically significant.

3 | RESULTS

When the identification characteristics of the participants were examined (Table 1), 81% were female, 38% were aged 25–31 years, 70.9% had a bachelor's degree, 54.4% were married, 48.3% had children, and 89.6% had nuclear family structures. Of the participants, 83.8% stated that they stayed in the same house as their children during the COVID-19 outbreak.

Of the nurses, 44.1% reported that they had more than 9 years of professional experience, 59.1% reported that they were working in a service other than the pandemic and intensive care unit, and 82% reported that they were service nurses. Of the remaining, 85% had not undergone the COVID-19 test, 86.5% stayed in their own homes, and 57.2% and 29.2% had mild-to-serious hand irritation (Table 1).

The mean total SAS score of the nurses was 51.51 ± 9.94 (Table 2). Stress due to the COVID-19 outbreak accounted for 73.6%, 65.5% had anxiety, and 61.6% were worried about being infected with COVID-19 (Table 3).

The analyses (Table 4) found that the SAS levels were higher in older, married, and female nurses with children ($p < 0.01$). When the SAS levels of the participants were examined according to professional experience, the SAS levels were found to be higher in those with experience of 1–4 years (51.04 ± 9.25), 5–8 years (52.24 ± 10.12), and 9 years and more (52.75 ± 9.84) compared with those with less than 1 year of professional experience (48.04 ± 10.02; $p < 0.01$). The levels of state anxiety were found to be higher in those working in the intensive care unit (52.16 ± 9.88), pediatrics department (53.53 ± 10.82), internal medicine (52.09 ± 8.37), obstetrics and gynecology (52.69 ± 8.33), and operating room (52.00 ± 10.46) during the pandemic compared with those who were working in the emergency department (49.48 ± 10.43; $p < 0.05$). The SAS levels of the nurses working in the service (51.86 ± 9.87) were found to be higher

TABLE 1 Distribution of identifying and professional characteristics of the nurses ($n = 1457$)

Characteristics	Number	Percentage
Gender		
Female	1180	81.0
Male	277	19.0
Age		
18–24 years	292	20.0
25–31 years	554	38.0
32–38 years	239	16.5
39–45 years	296	20.3
46 years and above	76	5.2
Educational status		
Vocational school	126	8.6
Two-year college degree	175	12.0
Bachelor degree	1032	70.9
Postgraduate degree	124	8.5
Marital status		
Single	665	45.6
Married	792	54.4
Number of children		
0	753	51.7
1	299	20.5
2	322	22.1
3+	83	5.7
Family structure		
Nuclear	130	89.6
Extended	151	10.4
Being with their children during the COVID-19 outbreak		
My kids are staying in a different house in the same city	72	10.2
My kids are staying in a different city	42	6.0
I stay in the same house with my kids	590	83.8
Working experience		
Less than a year	242	16.5
1–4 years	307	21.1
5–8 years	266	18.3
9+ years	642	44.1
Department		
Pandemic intensive care units	596	40.9
Pediatrics	82	5.6
Internal medicine	106	7.3
Surgical	73	5.0
Psychiatry	26	1.8
Gynecology-Obstetrics Clinic	59	4.0
Emergency	227	15.6
Operating room	102	7.0
Institution nurse	67	4.6
Healthcare services directorate, education nurse, quality, etc.	119	8.2
Working position		
Service nurse	1196	82.0

TABLE 1 (Continued)

Characteristics	Number	Percentage
Charge nurse	113	7.8
Healthcare services directorate, education nurse, quality, etc.	148	10.2
Coronavirus test status		
No	1238	85.0
Yes, the test has been done. The result is negative	199	13.7
Yes, the test has been done. The result is positive	12	0.8
Yes, the test has been done but has not been resulted yet	8	0.5
Staying any other place than your home due to the COVID-19 outbreak		
Yes	197	13.5
No	1260	86.5
Impaired skin integrity in your hands due to COVID-19 outbreak		
Yes, but there is a slight irritation	833	57.2
Yes, there is a severe irritation in my hands	425	29.2
No	199	13.6

Abbreviation: COVID-19, coronavirus disease-2019.

TABLE 3 Symptoms experienced by nurses due to COVID-19 outbreak

Symptoms	Number	Percentage	Percent of cases
Stress	1072	18.7	73.6
Fear of being infected with the disease	897	15.6	61.6
Insomnia	442	7.7	30.3
Anxiety	955	16.6	65.5
Anger	303	5.3	20.8
Cry	201	3.5	13.8
Fear of death	214	3.7	14.7
Despair, hopelessness	432	7.5	29.6
Depression	338	5.9	23.2
Panic	314	5.5	21.6
Eating more than usual	431	7.5	29.6
Eating less than usual	145	2.5	10.0
Total	5744	100	394.2

Abbreviation: COVID-19, coronavirus disease-2019.

than the responsible nurses (49.50 ± 9.59; $p < 0.05$). Finally, the SAS levels of the nurses with hand irritation were found to be higher than those without any hand irritation ($p < 0.01$).

According to the results of multiple linear regression analysis, the significant predictive variables for state anxiety were the following, in order of importance: female ($B = -3.750$, $p = 0.000$), more professional experience ($B = 1.437$, $p = 0.000$), being married ($B = -1.416$, $p = 0.049$), working position as service nurse ($B = -1.412$, $p = 0.001$), working in the pandemic intensive care unit ($B = -1.333$, $p = 0.014$), and experiencing hand irritation ($B = -0.922$, $p = 0.009$; Table 5). The gender variable was the most effective factor in the state anxiety levels of the nurses.

4 | DISCUSSION

In Turkey, the state anxiety levels of nurses working during the COVID-19 pandemic were found to be higher than normal, according to the STAI. In a study investigating pandemic-related anxiety in nurses in Turkey, 46.3% of the nurses demonstrated an elevated level of state anxiety.[20] Another study showed that the state anxiety level among Chinese nurses during COVID-19 was serious.[21]

Compared with studies conducted before the Covid-19 outbreak, the state anxiety levels of nurses were higher in this study.[16,22,23] This aspect can be associated with uncertainty, fear of being infected and infecting others, and concerns about shortages of staff and of personal protective equipment due to the outbreak of new infectious diseases such as COVID-19.[9,10,24] In light of these findings, we can say that the state anxiety levels of the nurses providing care for patients with COVID-19 are high. This finding is understandable because frontline nurses dealing with COVID-19 struggle on a daily basis to keep their patients alive and constantly find themselves exposed to highly risky situations.[25] In future studies, the factors affecting the state anxiety levels of nurses should be qualitatively investigated.

The state anxiety levels were also found to be higher in females, who were older, and married with children, had more professional experience and were working in the pandemic intensive care unit. Similar to this study, COVID-19-related state anxiety was closely associated with older age and years of experience and having a child, but gender and marital status did not affect the development of higher anxiety.[20,26] conducted a study with 194 doctors in the Sultanate of Oman during the COVID-19 outbreak, wherein the mental health of young female doctors was found to be negatively affected

TABLE 2 The mean SAS score of the nurses ($n = 1457$)

Scale	X ± SD	The lowest-highest value taken from the scale	The lowest-highest value that can be taken from the scale
SAS	51.51 ± 9.94	20–80	20–80

Abbreviation: SAS, State Anxiety Subscale.

TABLE 4 Factors affecting the mean SAS score of the nurses (n = 1457)

Characteristics	$X \pm SD$	Test value	p
Gender			
Female	52.33 ± 9.39	z = −6.016	0.000
Male	48.05 ± 11.38		
Age			
18–24 years	48.63 ± 9.55	x^2 = 42.335	0.000
25–31 years	51.83 ± 10.03		
32–38 years	52.91 ± 10.30		
39–45 years	52.43 ± 9.24		
46 years and above	52.36 ± 10.24		
Marital status			
Single	50.19 ± 10.23	z = −4.923	0.000
Married	52.63 ± 9.55		
Have children			
Yes	52.62 ± 9.72	z = −4.584	0.000
No	50.48 ± 10.03		
Working experience			
Less than a year	48.04 ± 10.02	x^2 = 47.946	0.000
1–4 years	51.04 ± 9.25		
5–8 years	52.24 ± 10.12		
9+ years	52.75 ± 9.84		
Department			
Pandemic intensive care units	52.16 ± 9.88	x^2 = 21.088	0.012
Pediatric	53.53 ± 10.82		
Internal medicine	52.09 ± 8.37		
Surgical	51.04 ± 10.42		
Psychiatry	49.69 ± 5.91		
Gynecology-Obstetrics Clinic	52.69 ± 8.33		
Emergency	49.48 ± 10.43		
Operating room	52.00 ± 10.46		
Institution nurse	50.32 ± 10.58		
Healthcare services directorate, education nurse, quality, etc.	50.63 ± 9.75		
Working position			
Service nurse	51.86 ± 9.87	x^2 = 6.104	0.047
Charge nurse	49.50 ± 9.59		
Healthcare services directorate, education nurse, quality, etc.	50.25 ± 10.52		
Impaired skin integrity in your hands due to COVID-19 outbreak			
Yes, but there is a slight irritation	51.18 ± 9.15	x^2 = 131.406	0.000
Yes, there is a severe irritation in my hands	55.30 ± 9.37		
No	44.85 ± 10.50		

Abbreviations: COVID-19, coronavirus disease-2019; SAS, State Anxiety Subscale.

by the outbreak. However, in the same study, the mental health of married participants was found to be better and stress levels were found to be lower than the single participants. It was further reported that the gender of the participants did not affect the anxiety levels. In a study by Lu et al.,[27] in which the psychological state of 2299 healthcare professionals during the pandemic was evaluated, the levels of fear, anxiety, and depression were found to be higher in those providing care for infected patients and those working in emergency, intensive care, respiratory, and infectious diseases services. To minimize the impact of COVID-19-related state anxiety problems, psychological counseling services for nurses should be planned, and they should be supported to seek psychological help.

This study found that the state anxiety level of nurses with hand irritation was high. Similarly, 94.8% of the nurses caring for patients in COVID-19 in China had one or more skin lesions.[28] In another study, the prevalence rate of skin damage caused by enhanced infection prevention measures was 97.0% among frontline healthcare professionals.[29,30] stated that skin conditions can emerge as a result of prolonged contact with personal protective equipment and excessive personal hygiene. In other respects, the frequent cleaning of hands to prevent the spread of COVID-19 can cause or exacerbate anxiety disorders such as obsessive-compulsive disorder in vulnerable people.[31] Therefore, the association between nurses' anxiety levels and skin issues should be assessed.

There are limited studies conducted with healthcare professionals during the COVID-19 outbreak. Among the existing studies, factors affecting the psychological status of those professionals have few similarities among different countries. In fact, when the results are compared, the differences among the countries appear to be rather high. This study found that the nurses working in the emergency room had the lowest state anxiety level, whereas, in a study conducted in China, emergency workers were reported to be one of the groups with the highest anxiety level.[27] In this study, the state anxiety levels of older nurses were higher than younger nurses; however, a study conducted in Oman reported that younger physicians experienced more stress than older physicians.[26] Conducting more comprehensive studies that reveal these differences along with determining personality characteristics and working conditions that negatively affect mental health will provide this given field a wider perspective.

4.1 | Study limitations

The representation of all nurses in Turkey is the greatest strength of the study. Another strength is that it was conducted when COVID-19 cases were high. One of the study's limitations is that the results are based on the participants' statements. Another limitation is that the data were not collected through face-to-face interviews. Future studies should be conducted using face-to-face interviews with nurses, particularly during the normalization process. Qualitative studies with in-depth interviews can be conducted to better identify issues.

TABLE 5 Results of multiple linear regression analysis evaluating effective factors for state anxiety

	SAS			
	B	β	95% CI for B	p-value
Gender (female vs. male)	−3.750	−0.148	(0.975–1.026)	0.000
Age (18–24 years vs. others)	−0.306	−0.036	(0.351–2.850)	0.400
Marital status (single vs. married)	−1.416	−0.071	(0.495–2.021)	0.049
Working experience (Less than a year vs. others)	1.437	0.165	(0.329–3.036)	0.000
Have children (yes vs. no)	0.164	0.008	(0.384–2.605)	0.840
Department (pandemic intensive care units vs. others)	−1.333	−0.066	(0.894–1.118)	0.014
Working position (service nurse vs. others)	−1.412	−0.090	(0.879–1.138)	0.001
Impaired skin integrity (yes, but there is a slight irritation vs. others)	−0.922	−0.067	(0.976–1.024)	0.009

Abbreviation: SAS: State Anxiety Subscale.

5 | CONCLUSION

The study results revealed that nurses working during the COVID-19 outbreak have high state anxiety levels and experience psychological symptoms such as stress, anxiety, and fear of being infected with the virus. The study results also suggest that the COVID-19 outbreak may have a greater effect on nurses who are female, married, and service nurses, work in the pandemic intensive care unit, have more professional experience, and experience hand irritation.

6 | IMPLICATIONS FOR NURSING PRACTICE

Nurses who are working in the pandemic intensive care unit should be supported by psychiatric nurses and other mental health professionals. The mental health of nurses providing primary care to infected patients should be evaluated in the long term, and spiritual interventions should be provided to strengthen the nurses mentally and enhance their psychological resilience and capability to cope with stress. To lower the level of anxiety and other psychological issues, nurses must make efforts to reduce job stress, increase their sense of security, and reinforce hospital resources for the treatment of COVID-19.

The state anxiety causes of nurses who are working as service nurses should be determined in future studies. Understanding and addressing their concerns, reducing the risk of nurses acquiring the infection, and providing support for physical, emotional, and psychological needs should be included in psychosocial interventions. On the contrary, the findings show that female gender, older age, being married, having children, and long working experience increase nurses' state anxiety levels should be taken into account by interventions aimed at preventing and decreasing the development of anxiety in nurses.

Skin issues among nurses providing care for patients with COVID-19 should be researched, and skincare information, such as best practices for skin cleaning, disinfection, and care and prevention and treatment of skin injuries, should be provided to nurses. Organizational strategies should formulate a physically and psychologically safe environment for nurses. At the same time, guidelines should be created to protect and strengthen the mental health of nurses. Finally, future studies may consider the causes and levels of state anxiety in nurses, and interventions can be planned to reduce state anxiety and help nurses effectively cope with anxiety.

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REFERENCES

1. World Health Organization. 2020. WHO coronavirus disease (COVID-19) dashboard. https://covid19.who.int/. Accessed August 26, 2020.
2. Turkish Academy of Sciences. 2020. The COVID-19 Pandemic Assessment Report. http://www.tuba.gov.tr/files/images/2020/kovidraporu/Covid-19%20Raporu-Final+.pdf. Accessed May 3, 2020.
3. World Health Organization. 2020. Mental health and psychosocial considerations during the COVID-19 outbreak. https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf. Accessed May 3, 2020.
4. Republic of Turkey Ministry of Health. 2020. https://covid19.saglik.gov.tr/. Accessed August 7, 2020.
5. Özdin S, Bayrak-Özdin Ş. Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: the importance of gender. *Int J Soc Psychiatry*. 2020;66:504-511. https://doi.org/10.1177/0020764020927051
6. Hafeez A, Ahmad S, Siddqui SA, Ahmad M, Mishra S. A review of COVID-19 (coronavirus disease-2019) diagnosis, treatments and prevention. *Eurosian J Med Oncol*. 2020;4(2):116-125. https://doi.org/10.14744/ejmo.2020.90853
7. Sheikhi K, Shirzadfar H, Sheikhi M. A review on novel coronavirus (COVID-19): symptoms, transmission and diagnosis tests. *Res Infect Dis Trop Med*. 2020;2(1):1-8. https://doi.org/10.33702/ridtm.2020.2.1.1

8. Wu X, Guo N, Zhou N, Zhang S. Containing COVID-19: crucial role of nurses. 2020. https://blogs.bmj.com/bmj/2020/05/04/containing-covid-19-crucial-role-of-nurses/. Accessed August 8, 2020.

9. Chen SH, Lai YH, Tsay SL. Nursing perspectives on the impacts of COVID-19. J Nurs Res. 2020;28(3):e85. https://doi.org/10.1097/NRJ.0000000000000389

10. Maben J, Bridges J. COVID-19: supporting nurses' psychological and mental health. J Clin Nurs. 2020;29(15-16):2742-2750. https://doi.org/10.1111/jocn.15307

11. DePierro J, Lowe S, Katz C. Lessons learned from 9/11: mental health perspectives on the COVID-19 pandemic. Psychiatry Res. 2020;288:113024. https://doi.org/10.1016/j.psychres.2020.113024

12. Xiao H, Zhang Y, Kong D, Li S, Yang N. The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China. Med Sci Monit. 2020;26:e923549. https://doi.org/10.12659/MSM.923549

13. Que J, Shi L, Deng J, et al. Psychological effect of the COVID-19 pandemic on healthcare workers: a cross-sectional study in China. Gen Psychiatry. 2020;33(3):e100259. https://doi.org/10.1136/gpsych-2020-100259

14. Turkish Nurses Association. The COVID-19 Current Situation Analysis Report. 2020. http://www.thder.org.tr/uploads/files/EK-SB-Hemsirelerin-Durum-Analizi-5.Rapor.pdf. Accessed May 3, 2020.

15. Kackın O, Ciydem E, Aci OS, Kutlu FY. Experiences and psychological problems of nurses caring for patients diagnosed with COVID-19 in Turkey: a qualitative study [published online ahead of print July 16, 2020]. Int J Soc Psychiatry. 2020. https://doi.org/10.1177/0020764020942788

16. Polat Ş, Kutlu L, Ay F, Purisa S, Erkan HA. Decision-making styles, anxiety levels, and critical thinking levels of nurses. Jpn J Nurs Sci. 2019;16:309-321. https://doi.org/10.1111/jjns.12240

17. Aktürk Z, Acemoğlu H. Sağlık Çalişanlari İçin Araştırma ve Pratik İstatistik: Örnek Problemler ve SPSS Çözümleri. 2nd ed. İstanbul, Turkey: Anadolu Ofset; 2011. http://www.aile.net/img/dosya/akturkzsaglikcalisanlariicin pratikistatistik.pdf. Accessed May 3, 2020. (in Turkish).

18. Spielberger CD, Gorsuch RL, Lushene RE. Manual for the State-Trait Anxiety Inventory STAI (Form). Palo Alto, CA: Consulting Psychologists Press; 1970.

19. Öner N, Le Compte A. Süreksiz (Durumluk) Sürekli Kaygı Envanteri El Kitabı. Turkey: Boğaziçi Üniversitesi Yayınları; 1985; (in Turkish).

20. Saricam M. COVID-19-related anxiety in nurses working on front lines in Turkey. Nurs Midwifery Stud. 2020;9:178-181. https://doi.org/10.4103/nms.nms_40_20

21. Wan Z, Lian M, Ma H, Cai Z, Xianyu Y. Factors associated with burnout among Chinese nurses during COVID-19 epidemic: a cross-sectional study [published online ahead of print June 09, 2002]. BMC Nurs. 2020. https://doi.org/10.21203/rs.3.rs-31486/v1

22. Mitrousi S, Travlos A, Koukia E, Zyga S. The experience of anxiety in nursing staff in public hospitals of Peloponnese, Greece. Int J Caring Sci. 2014;7(1):188-194.

23. Nikolaou I, Alikari V, Tzavella F, Zyga S, Tsironi M, Theofilou P. Predictors of anxiety and depressive symptoms among Greek nurses. J Health Sci. 2020;10(1):90-98. https://doi.org/10.17532/jhsci.2020.856

24. Liu Q, Luo D, Haase JE, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. Lancet Glob Health. 2020;8:e790-e798. https://doi.org/10.1016/S2214-109X(20)30204-7

25. Di Tella M, Romeo A, Benfante A, Castelli L. Mental health of healthcare workers during the COVID-19 pandemic in Italy [published online ahead of print July 25, 2020]. J Eval Clin Pract. 2020. https://doi.org/10.1111/jep.13444

26. Badahdah AM, Khamis F, Mahyijari NA. The psychological well-being of physicians during COVID-19 outbreak in Oman. Psychiatry Res. 2020;289:113053. https://doi.org/10.1016/j.psychres.2020.113053

27. Lu W, Wang H, Lin Y, Li L. Psychological status of medical workforce during the COVID-19 pandemic: a cross-sectional study. Psychiatry Res. 2020;288:112936. https://doi.org/10.1016/j.psychres.2020.112936

28. Hu D, Kong Y, Li W, et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: a large-scale cross-sectional study. EClinicalMedicine. 2020;24:100424. https://doi.org/10.1016/j.eclinm.2020.100424

29. Lan J, Song Z, Miao X, et al. Skin damage among health care workers managing coronavirus disease-2019. J Am Acad Dermatol. 2020;82(5):1215-1216. https://doi.org/10.1016/j.jaad.2020.03.014

30. Darlenski R, Tsankov N. COVID-19 pandemic and the skin: what should dermatologists know? [published online ahead of print March 24, 2020]. Clin Dermatol. 2020. https://doi.org/10.1016/j.clindermatol.2020.03.012

31. Zareie F. The necessity of preventing obsessive-compulsive disorder during the COVID-19 pandemic. Iran J Psychiatry Behav Sci. 2020;14(3):e104749. https://doi.org/10.5812/ijpbs.104749