



Coronavirus Phobia and Burnout in Healthcare Workers During the Pandemic Process

Burcu Bayrak Kahraman^{1*}, Aysun Acun¹, Erhan Arıkan², Nilgün Çevik³, Arzu Dahil³

¹ Bilecik Şeyh Edebali University, Faculty of Health Sciences, Department of Nursing
burcumbayrak@hotmail.com
aysun.acun@bilecik.edu.tr

² Bilecik Şeyh Edebali University, Faculty of Medicine
dr.erhan.arikan@gmail.com

³ Bilecik Training and Research Hospital
kaankerem11@hotmail.com
arzueren11@hotmail.com

*Corresponding Author

Abstract

Aim: During the pandemic process, healthcare workers are in a very high-risk group and constitute the group most affected by the process. This study was conducted to determine coronavirus phobia and burnout in healthcare workers during the pandemic process.

Method: This descriptive study was conducted with 337 healthcare workers between June and December 2021. Research data were collected using the Descriptive Characteristics Form, the Coronavirus 19 Phobia Scale, and the Coronavirus Burnout Scale.

Results: The mean age of participants in the study was 31.7±8.5; 69.97% of them were female, and 45.7% of them were nurses. The mean score of the Coronavirus Phobia Scale of the healthcare professionals was 49.46±15.83, and the mean score of the Coronavirus Burnout Scale was determined as 25.65±10.50. It was concluded that there was a statistically significant positive correlation between the Coronavirus Phobia Scale of healthcare workers and the Coronavirus Burnout Scale ($p<0.05$). It was determined that coronavirus phobia and burnout were higher in women and in those who worked in the intensive care unit. Coronavirus phobia was higher in healthcare workers who had chronic diseases and whose family members were not diagnosed with COVID-19 ($p<0.05$). In addition, it was determined that coronavirus phobia and burnout were higher in nurses in doctors ($p<0.05$).

Conclusion: It was concluded that the coronavirus phobia and burnout levels of healthcare workers were low, and the burnout increased as the phobia level increased.

Keywords: Coronavirus, Phobia, Burnout, Healthcare worker

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1. Introduction

It is a well-known fact that the epidemic process that the whole world is going through has psychological as well as physical effects on individuals. Healthcare workers are undoubtedly the most affected by this situation (1). Since the beginning of the H1N1 pandemic, healthcare workers have been under heavy workloads. Limited resources, long shifts, disruption of sleep and work-life balance, and occupational hazards associated with exposure to COVID-19 patients lead to many post-traumatic psychological problems such as stress, insomnia, anxiety, and depression in healthcare workers (2). According to data from a study conducted with healthcare workers, depression was found in 95% of the participants, and 35% of these individuals were found to have severe depression. In the same study, 60% of participants were reported to have extremely severe anxiety (3). In addition to anxiety and depression, another psychological problem experienced by healthcare workers is fear. Fear is a defense mechanism. It can be adapted to the environment and increase the chance of survival (4). The results of studies on the fear caused by the coronavirus, which has recently entered our lives, on individuals have begun to take their place in the literature. In fact, in a study conducted with healthcare workers, it was found that the participants' COVID-19 anxiety levels were above average and that male participants had higher anxiety

levels than females (3). In a similar study conducted with healthcare workers in our country, it was found that women's fear of COVID-19 was higher than men's (5). Fear can be defined as a defense mechanism, but its excessive presence leads to individual mental health problems such as phobia (4). A phobia is defined by the Turkish Language Association as "an unusually strong fear of certain objects or situations, anxiety" (6). In addition, phobia is also expressed as a pathological fear that cannot be controlled and causes panic. Therefore, in phobias, life is organized around fear, and quality of life is negatively affected (7). Certain phobias may arise due to structural, genetic, and physiological characteristics, as well as the influence of environmental conditions. In this sense, the COVID-19 pandemic may be an environmental trigger of phobic conditions. People may develop disproportionate reactions to objects or situations that they associate with the COVID-19 pandemic, and as a result, a coronavirus phobia may develop (8). It can be seen that current studies generally question the fear of coronavirus. However, considering the changes and effects it causes in lives, it is believed that the fear of coronavirus has begun to reach pathological dimensions. All of these effects can lead to burnout in healthcare workers (5). In a study conducted with healthcare workers, 52.8% of the participants experienced burnout (9). In another study of healthcare workers, this rate was found to be 75% (10). The COVID-19 process has highlighted the importance of the healthcare system for societies and healthcare professionals. Undoubtedly, the usefulness of healthcare workers is related to their physical and mental health (11). Determining the psychological problems experienced by healthcare workers during the COVID-19 process will prepare the ground for effective psychological support practices and institutional policies that can be made in this regard. Therefore, this study was designed to determine coronavirus phobia and burnout in healthcare workers.

2. Methods

The study was conducted in a training and research hospital in Turkey between 15.7.2021 and 15.12.2021. The population of the study consisted of 900 employees working in the hospital on the specified dates. The study aimed to reach the entire population, so no sample selection was made. After explaining the purpose of the study to the individuals based on voluntary participation in the study, 337 healthcare workers who were over 18 years of age, who could read and write, who were not on vacation on the dates of the study, who did not have hearing/visual disabilities, and who agreed to participate in the study were included in the study. The data collection form was administered through face-to-face interviews. At the end of the study, a sample calculation was performed using the OpenEpi version 3 program. The sample size was determined to be 310, with a margin of error of 5% and a power interval of 97%.

3. Data Collection Forms

3.1. Descriptive characteristics form

This section includes a total of 16 questions, such as age, gender, occupation, type of employment, COVID-19 vaccination status, COVID-19 infection status, and COVID-19 infection status of a family member.

COVID-19 phobia scale (C19P-S): It was developed by Arpacı et al. The aim of this scale, which is a 5-point Likert-type self-rating scale, is to measure coronavirus phobia. It is rated between 1 "strongly disagree" and 5 "strongly agree." The scale consists of psychological (items 1, 5, 9, 13, 17, 20), somatic (items 2, 6, 10, 14, and 18), social (items 3, 7, 11, 15, and 19) and economic (items 4, 8, 12, and 16) subscales. The subscale scores are obtained by summing the responses to the subscale items, and the total scale score is obtained by summing all the subscale scores. The total score ranges from 20-100. An increase in the score indicates an increase in the sub-dimensions and general coronavirus phobia. The Cronbach's alpha value of the scale was found to be 0.92 (8). In our study, this value was found to be 0.94.

Covid-19 burnout scale: The validity and reliability of the scale conducted by Yıldırım and Solmaz has a 5-point Likert scale. The scale items are rated as Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5. The scale is unidimensional, and the total score is obtained by summing up all responses. The total score ranges from 10 to 50. A higher total score indicates a higher level of burnout. The Cronbach alpha value of the scale is 0.92 (12). This value was found to be 0.94 in our study.

3.2. Data analysis

Data were analyzed using SPSS Statistics for Windows 25.0. Numbers, percentages, and means were used to evaluate the data. An independent sample t-test was used to compare two independent groups, and F test was used to compare more than two groups. The Bonferroni multiple comparison test was used to identify groups with differences. A value of $p < 0.05$ was accepted as the level of statistical significance.

3.3. Ethical aspect of the study

Approval was obtained from Bilecik Şeyh Edebali University Ethics Committee for the research to be carried out (18/06/2021-27325). Written institutional permission was obtained from Health Ministry and the hospital where the study was conducted (E-41652334-604.02-2021/15). In addition, the necessary permissions were obtained from the health professionals participating in the study too.

4. Results

The mean age of the participants was 31.7 ± 8.5 years 69.7% were female, and 45.7% were nurses. 14.5% of the workers had a chronic disease, 26.4% had been diagnosed with COVID-19, and 86.6% had received the COVID-19 vaccine. In addition, 19.9% of the healthcare workers participating in the study worked in the COVID-19 clinic, and 17.5% worked in the intensive care unit during the pandemic (Table 1).

Table 1. Sociodemographic Characteristics of Participants (n=337)

Sociodemographic Characteristics		Number	Percentage
Age (Mean \pm SD =31.7 \pm 8.5)	18-30	168	49.9
	30-60	169	50.1
Gender	Female	235	69.7
	Male	102	30.3
Profession	Nurse	154	45.7
	Physician	50	14.8
	Patient care staff	79	23.4
	Cleaning staff	27	8.0
	Health Technician	27	8.0
Marital status	Married	169	50.1
	Single	168	49.9
Has children	Yes (Mean \pm SD)=1,69 \pm 0,73	175	51.9
	No	162	48.1
Chronic disease	Yes	49	14.5
	No	288	85.5
The unit worked before the pandemic	Intensive care	51	15.1
	Emergency service	44	13.1
	Polyclinic	166	49.3
	Inpatient care	76	22.6

The unit worked in the pandemic	Intensive care	59	17.5
	COVID-19 service	67	19.9
	Emergency service	35	10.4
	Polyclinic	94	27.9
	Non-COVID-19 services	82	24.3
Operating hours	Day shift	131	38.9
	Night shift	6	1.8
	Rotating shifts	200	59.3
Are there any people over 65 years of age or with a high-risk disease in your family or among the people you live with?	Yes	135	40.1
	No	202	59.9
Have you been diagnosed with COVID-19?	Yes	89	26.4
	No	248	73.6
If you have been diagnosed with COVID-19, have you had to be hospitalized for further examination and treatment?	Yes	13	3.9
	No	324	96.1
Have you been vaccinated against COVID-19?	Yes	292	86.6
	No	45	13.4
Has anyone in your family been diagnosed with COVID-19?	Yes	132	39.2
	No	205	60.8
If someone in your family was diagnosed with COVID-19, did they have to be hospitalized for further examination and treatment?	Yes	31	9.2
	No	306	90.8
Have you experienced the loss of family, friends, etc. due to COVID-19?	Yes	82	24.3
	No	255	75.7

Mean±SD: Mean ±Standard Deviation

The mean score of the C19P-S scale was 49.46 ± 15.83 , and the mean score of the COVID-19 Burnout Scale was 25.65 ± 10.50 (Table 2).

Table 2. Coronavirus Phobia and Burnout Levels of Participants

	Minimum	Maximum	Mean	Std. Deviation
COVID-19 Phobia Scale	20.00	100.00	49.46	15.83
<i>Psychological Sub-dimension</i>	6.00	30.00	17.91	5.69
<i>Somatic Sub-dimension</i>	5.00	25.00	10.01	4.27
<i>Social Sub-dimension</i>	5.00	25.00	13.27	4.83
<i>Economic Sub-dimension</i>	4.00	20.00	8.28	3.53
COVID-19 Burnout Scale	10.00	50.00	25.65	10.50

It was found that there was a statistically significant positive and moderate relationship between the C19P-S scale and the Coronavirus Burnout Scale ($r=0.642$; $p=0.000$). It was also concluded that there was a statistically significant positive and moderate relationship between the psychological, somatic, social, and economic sub-dimensions of the C19P-S scale and the COVID-19 Burnout Scale ($r=0.607$; $p=0.000$, $r=0.531$; $p=0.000$, $r=0.601$; $p=0.000$, $r=0.437$; $p=0.000$) (Table 3).

Table 3. The Relationship Between Coronavirus Phobia and Burnout Levels of Participants

Scale	COVID-19 Burnout Scale	
COVID-19 Phobia Scale	r	0.642**
	p	0.000
<i>Psychological Sub-dimension</i>	r	0.607**
	p	0.000
<i>Somatic Sub-dimension</i>	r	0.531**
	p	0.000
<i>Social Sub-dimension</i>	r	0.601**
	p	0.000
<i>Economic Sub-dimension</i>	r	0.437**
	p	0.000

**p<0.01

Table 4. Coronavirus Phobia and Burnout Levels of Participants Based on Some Descriptive Characteristics (n=337)

Some descriptive characteristics	CP19-S	Psychological Sub-dimension	Somatic Sub-dimension	Social Sub-dimension	Economic Sub-dimension	COVID-19 Burnout Scale
	Mean±SD (med) (Min-Max)	Mean±SD (med) (Min-Max)	Mean±SD (med) (Min-Max)	Mean±SD (med) (Min-Max)	Mean±SD (med) (Min-Max)	Mean±SD (med) (Min-Max)
Gender						
Female	51.94±15.21 (51)(20-100)	18.94±5.35(19) (6-30)	10.47±4.38(10)(5-25)	13.94±4.69(14) (5-25)	8.6±3.57(8) (4-20)	27.11±10.33 (26)(10-50)
Male	43.73±15.82 (43)(20-100)	15.54±5.76(15) (6-30)	8.93±3.82(8) (5-25)	11.73±4.83(11) (5-25)	7.53±3.33(8) (4-20)	22.28±10.15 (21.5)(10-50)
t test	4.502	5.230	3.082	3.941	2.582	3.961
p value	0.000	0.000	0.002	0.000	0.010	0.000
Profession						
Nurse (1)	52.35±15.15 (51)(20-100)	18.84±5.35(19) (6-30)	10.64±4.25(10)(5-25)	13.99±4.61(14) (5-25)	8.88±3.48(8) (4-20)	27.37±10.37 (27.5)(10-50)
Physician (2)	39.36±12.03 (40)(20-65)	14.1±4.49(13) (6-26)	8.26±3.15(7) (5-16)	10.5±3.42(10) (5-18)	6.5±2.76(6) (4-15)	23.28±8.2(24) (10-49)
Patient care staff (3)	50.78±14.23 (50)(20-81)	18.9±5.58(19) (6-30)	9.87±3.84(10) (5-21)	13.9±4.97(13) (5-25)	8.11±3.15(8) (4-16)	24.29±9.74(23) (10-50)
Cleaning staff (4)	50.85±22.36 (50)(23-100)	17.52±6.8(18) (7-30)	11.19±6.31(9) (5-25)	13.44±5.83(14) (5-25)	8.7±4.96(8) (4-20)	23.3±13.88(18) (10-50)
Health Technician (5)	46.37±15.67 (43)(20-75)	17.15±5.97(17) (6-27)	8.81±3.88(9) (5-20)	12.26±5.15(11) (5-23)	8.15±3.47(8) (4-18)	26.56±12.11 (26) (10-47)
F test	10.170	7.994	5.153	9.036	6.098	2.632
p value	0.000	0.000	0.000	0.000	0.000	0.040
Post-hoc	2<1,3,4	2<1,3	2<1,4	2<1,3	2<1	2<1
Chronic disease						
Yes	54.98±15.48(54) (20-94)	19.24±5.42(19)(6-30)	11.27±4.32(10)(5-23)	14.92±4.61(14)(5-25)	9.55±3.7(9) (4-19)	27.37±10.98 (27) (10-50)
No	48.52±15.73(48) (20-100)	17.68±5.71(18) (6-30)	9.79±4.23(10) (5-25)	12.99±4.82(12.5) (5-25)	8.06±3.46(8) (4-20)	25.36±10.41 (24) (10-50)
t test	2.665	1.785	2.247	2.610	2.764	1.240
p value	0.008	0.075	0.025	0.009	0.006	0.216
Unit worked in the pandemic						
Intensive care (1)	54.15±16.32 (51) (24-100)	20.15±4.94(19) (10-30)	10.36±4.78(10)(5-25)	14.51±4.87(14) (5-25)	9.14±3.87(8) (4-20)	30.76±11.44 (29) (10-50)

COVID-19 service (2)	49.73±14.78 (52) (20-77)	18.03±5.85(19) (6-30)	10.25±3.66(10)(5-20)	13.61±4.83(14) (5-25)	7.84±3.56(8) (4-18)	26.22±10.59 (25) (10-50)
Emergency service (3)	41.29±14.81 (40) (20-79)	15.34±5.64(15) (6-27)	8.31±3.98(7) (5-20)	10.69±4.3(10) (5-21)	6.94±2.75(7) (4-14)	23.57±9.87(24) (10-47)
Polyclinic (4)	51.05±15.97 (49) (21-100)	18.29±5.74(18) (7-30)	10.46±4.51(10)(5-25)	13.55±4.78(12.5) (5-25)	8.76±3.61(8) (4-20)	23.82±9.12 (22.5) (10-45)
Non-COVID-19 services (5)	47.51±15.32 (46) (20-80)	16.85±5.46(17) (6-30)	9.76±4.08(10) (5-21)	12.87±4.74(13) (5-25)	8.04±3.26(8) (4-16)	24.49±10.45 (23.5)(10-48)
F test	4.347	5.132	1.882	3.911	2.985	5.094
p-value	0.002	0.001	0.113	0.004	0.019	0.001
Post-hoc	3<1,4	1>3,5		3<1,2,4	3<1,4	1>3,4,5
Has anyone in your family been diagnosed with COVID-19?						
Yes	47.11±16.12 (46)(20-100)	16.83±5.75(16)(6-30)	9.81±4.35(10) (5-25)	12.33±4.67(12)(5-25)	8.14±3.6(8) (4-20)	24.95±10.16 (24)(10-50)
No	50.97±15.5(50)(20-100)	18.6±5.55(19) (6-30)	10.13±4.22(10)(5-25)	13.87±4.85(14)(5-25)	8.36±3.49(8) (4-20)	26.1±10.71(25) (10-50)
t-test	-2.192	-2.811	-0.673	-2.901	-0.551	-0.986
p-value	0.029	0.005	0.501	0.004	0.582	0.325

Mean±SD: Mean±Standard Deviation

When the levels of coronavirus phobia and burnout of the participants were examined according to some descriptive characteristics of the participants, it was determined that the scores obtained from the C19P-S, psychological, somatic, social, economic sub-dimensions, and the COVID-19 Burnout Scale showed a statistically significant difference according to the gender of the participants ($p<0.05$) and the scores of women were higher. It was concluded that the scores obtained from the C19P-S scale, psychological, somatic, social, and economic sub-dimensions, and the COVID-19 Burnout Scale showed a statistically significant difference according to the occupation of the participants ($p<0.05$). According to the multiple comparison tests performed to determine the groups showing differences, it was determined that the general and sub-dimensions of phobia scores of nurses were higher than those of physicians. It was determined that the scores obtained from the C19P-S scale, somatic, social, and economic sub-dimensions showed a statistically significant difference according to the presence of chronic disease of the participants ($p<0.05$), and the scores of individuals with chronic disease were higher. However, it was concluded that the participants' scores on the burnout scale did not show a statistically significant difference according to the presence of chronic disease ($p>0.05$). It was found that the participants' scores on the C19P-S scale, psychological, social, economic sub-dimensions, and COVID-19 burnout scale showed a statistically significant difference according to the unit in which they worked during the pandemic process ($p<0.05$). According to the multiple comparison tests performed to determine the groups showing differences, it was found that the total score of the C19P-S scale was higher among intensive care and outpatient clinic staff than among emergency department staff. In the psychological sub-dimension, it was determined that the score of those working in the intensive care unit was higher than that of those working in the emergency department and units other than COVID. In the social and economic sub-dimensions, it was found that the scores of those working in the emergency department were lower than those working in intensive care and outpatient clinics. The COVID-19 Burnout Scale score was higher for those working in the ICU than for those working in the ED, outpatient clinics, and outside the COVID-19 clinic. It was found that the scores obtained from the C19P-S scale, psychological and social sub-dimensions showed a statistically significant difference ($p<0.05$) according to the presence of someone diagnosed with COVID-19 in the family of the participants ($p<0.05$), and the scores of people who did not have a COVID-19 diagnosis in their family were higher.

5. Discussion

It is clear that healthcare workers are at very high risk during the pandemic process and are one of the most affected groups. In addition to the physiological effects of the process on healthcare workers, the psychological effects are also considerable (13). Therefore, the psychological impact of the pandemic on healthcare workers has been addressed in many studies (14). This study investigated the coronavirus phobia and burnout levels of healthcare workers during the pandemic. Considering the highest and lowest scores attainable from the coronavirus phobia and burnout levels scales, the coronavirus phobia and burnout levels of healthcare workers are low. In a study conducted by Oktay Arslan et al. (2021), it was observed that healthcare workers had a moderate level of coronavirus phobia (15). The fear of coronavirus was also found to be at a moderate level in a study conducted among nurses (14). In a study done by Hu et al. (2020), the level of burnout among nurses was found to be moderate (16), while in another study conducted among physicians, physicians were found to have high levels of burnout symptoms (17). When the results of similar studies in the literature were examined, the levels of burnout and fear of COVID-19 varied (14-17). These differences may be due to many factors, such as the characteristics of the group studied, the intensity of the institution, and whether there is a lack of personal protective equipment. In fact, many healthcare workers were infected at the beginning of the COVID-19 pandemic due to the global problems experienced in this regard (18). It is also thought that this may be related to the time interval where the research was conducted. Because the COVID-19 vaccination program started in 2021, it can be assumed that vaccination changes the impact of the pandemic on the psychology of healthcare workers by eliminating uncertainty in the early stages of the pandemic. Our study showed that the fear of COVID-19 and burnout were found to be higher in women. The study conducted by Çayır Yılmaz and Uysal showed that the level of fear of COVID-19 was found to be significantly higher in women. Similarly, in the study conducted by Arpacioğlu et al. (2021), the fear of COVID-19 and burnout were found to be significantly higher in women. It can be seen that the results of our study are similar to the studies in the literature.

In our study, burnout was found to increase as coronavirus phobia increased. In a similar study conducted by Yakut et al. (2020) among healthcare workers, it was found that burnout increased as fear of COVID-19 increased (19). In another study conducted by Çalışkan and Kargın (2022) with healthcare workers, it was concluded that there was a significant relationship between fear of COVID-19 and burnout (20). It can be seen that the result obtained in our study is similar to the literature. It can be assumed that healthcare workers are in direct contact with patients as a high-risk group in the COVID-19 process, and the increased workload in this process is effective in the fear and burnout of employees. In our study, the COVID-19 phobia score of nurses was found to be higher than that of physicians. In a study investigating the health risk factors of physicians and nurses during the pandemic period, nurses were found to be more stressed and anxious than physicians (21). In a study conducted by Karadem et al. (2021) among healthcare professionals, it was concluded that nurses' fear of COVID-19 was higher than that of physicians (22). Our study is similar to the literature. Due to the nature of their profession, nurses spend more time with patients and have closer contact with patients than other healthcare professionals. Therefore, their level of anxiety may be higher.

At the same time, our study found that coronavirus phobia was higher among those working in intensive care units and outpatient clinics than among those working in the emergency department. Intensive care units are units where there is close contact with patients, and many interventions are performed that may increase the risk of infection with COVID-19, such as airway aspiration and intubation. Therefore, it is normal that individuals working in intensive care units were found to have high coronavirus phobia in our study. In outpatient clinics, it is thought that coronavirus phobia among staff may be high because of problems such as maintaining social distancing and providing adequate ventilation in waiting areas. The reason for the low coronavirus phobia among emergency room staff, where the risk of infection with COVID-19 may be high, might be due to the establishment of a triage

area outside the emergency room at the facility where the study was conducted and allowing individuals to enter this area after certain screenings.

In our study, burnout was found to be higher in ICU workers compared to those working in other units. In a similar study conducted in our country during the pandemic, investigating burnout in physicians and nurses in a university hospital, emotional exhaustion was found to be higher in ICU workers (23). A similar result was found in a study conducted by Alnazly et al. (2021) in Jordan (3). In another study conducted in our country, burnout was found to be higher in the group in contact with COVID-19 patients (24). As the COVID-19 pandemic spread, the workload of intensive care units increased (25). It can be said that the higher burnout of ICU staff compared to other units is a result of this situation.

Fear of transmitting the infection to loved ones and separation from family members are some of the challenges faced by healthcare workers during the pandemic process (15). The psychological impact of this fear experienced by healthcare workers has been highlighted in many studies (16,26,27). Sakaoğlu et al. (2020) also stated that the most challenging factor for healthcare workers was the risk of infecting their children and other family members (28). In fact, in our study, it was concluded that the general, sociological, and psychological subdimension scores of coronavirus phobia were higher in healthcare workers whose family members were not diagnosed with COVID-19. The lower scores of those diagnosed with COVID-19 may have been because they were confronted with the disease.

6. Conclusions and Recommendations

Results showed that coronavirus phobia and burnout were low among healthcare workers, and burnout increased as phobia levels increased. It was found that coronavirus phobia and burnout were higher in women, and coronavirus phobia and burnout were higher in healthcare workers with chronic diseases, whose family members had not been diagnosed with COVID-19, and who worked in intensive care. It was also found that coronavirus phobia and burnout were higher in nurses than in physicians. The pandemic negatively impacted the mental and physical health of healthcare workers. Based on these results, institutional and national plans should be made to strengthen the mental health of healthcare workers. The motivation of workers can be increased through material and moral arrangements to be made within these plans. In addition, health workers can undergo mental health screening at certain intervals. The psychological effects of staff working in high-risk areas, such as intensive care units, can be monitored, and therapeutic programs prepared for them. Healthcare workers subjected to quarantine or isolation can be given access to psychological support during or after quarantine or isolation. In addition, this study was conducted in a teaching and research hospital. Since there may be differences in working conditions, it may be recommended to conduct the study with a larger sample group, including university and private hospitals.

Limitations

This study had some limitations. First, the research was conducted in a single center and within a specific time period. And second the survey responses are based on participant reporting.

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