



Assessment of Occupational Fatigue in Healthcare Professionals During the COVID-19 Pandemia

COVID-19 Pandemisi Sürecinde Sağlık Profesyonellerinin Mesleki Yorgunluklarının Değerlendirilmesi

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Abstract

Aim: This study aimed to determine the level of occupational fatigue in healthcare professionals during the COVID-19 pandemic process and assess some variables considered to have a relationship with it.

Material and Method: This study used a descriptive cross-sectional design and was carried out on physicians and nurses between June and July 2020. The study data were collected using a questionnaire with items questioning some socio-demographic data of the healthcare professionals, characteristics of their workplace and working conditions, and contact with patients with COVID-19, and the items of the Occupational Fatigue-Exhaustion Recovery Scale. The study group consisted of 308 females and 98 males. In non-normal distributions, the Mann-Whitney U test was used for variables with two groups and Kruskal-Wallis-H test for variables with more than two groups.

Results: The mean scores of the healthcare professionals from the chronic fatigue and acute fatigue sub-domains of the Occupational Fatigue Exhaustion Recovery Scale were 60.65 ± 29.10 , 65.52 ± 21.64 and 45.09 ± 19.1 , respectively. In the study group, fatigue levels were higher in women who were aged 49 years or younger, had weekly working hours of more than 40 hours, and came into contact with COVID 19 patients every day.

Conclusion: The fatigue and burnout levels of healthcare professionals who are directly involved in the care of patients with COVID-19 during the pandemic process were above moderate levels, and the level of their recovery was at a moderate level. It is recommended that necessary administrative initiatives should be taken to improve healthcare workers' rights, whose working conditions are getting more difficult in the pandemic environment, their needs for rest should be planned, and that working environments that will ensure that not only the risk of contamination but also the risk factors that will arise due to fatigue are under control should be created.

Keywords: Covid 19, Pandemia, Fatigue, Healthcare Professionals

Öz

Amaç: Bu çalışma ile COVID 19 pandemisi sürecinde sağlık çalışanlarının mesleki yorgunluk düzeylerinin saptanması ve ilişkili olduğu düşünülen bazı değişkenlerin değerlendirilmesi amaçlanmıştır.

Materyal ve Metod: Çalışma, Haziran-Temmuz 2020 tarihleri arasında hekim ve hemşireler üzerinde yapılan kesitsel tanımlayıcı bir araştırmadır. Çalışmanın amacına uygun olarak literatürden de faydalanılarak bir anket form hazırlanmıştır. Anket form, sağlık çalışanlarının bazı sosyodemografik özelliklerini, çalışma yeri ve çalışma koşulları ile ilgili bazı özellikleri, COVID 19 hastaları ile temas hakkındaki bazı bilgileri ve Mesleki Yorgunluk Tükenmişlik Toparlanma Ölçeğinin maddelerinden oluşmaktadır. Çalışma grubunu oluşturanların 308'i kadın, 98'i ise erkektir. Veriler normal dağılım göstermediğinden iki guruplu değişkenler için Mann-Whitney U testi, ikiden fazla guruplu değişkenler için Kruskal-Wallis-H testi kullanıldı.

Bulgular: Sağlık çalışanlarının Mesleki Yorgunluk Tükenmişlik Toparlanma Ölçeğinin Kronik Yorgunluk, Akut Yorgunluk Toparlanma Alt boyutlarından aldıkları puanlar sırasıyla 60.65 ± 29.10 , 65.52 ± 21.64 ve 45.09 ± 19.1 , puan idi. Çalışma grubunda kadınların, 49 yaş ve altı yaş grubunda olanların, haftalık çalışma süresi 40 saatten fazla olanların, COVID 19 hastaları ile her gün temas edenlerin yorgunluk düzeyleri daha yüksek bulunmuştur.

Sonuç: COVID-19 hastalarının bakımıyla doğrudan ilgilenen sağlık profesyonelleri, pandemi sürecinde yorgunluk, tükenmişlik düzeylerinin orta düzeyden daha fazla olduğu, toparlanma düzeylerinin ise orta düzeyde olduğunu bildirdiler. Pandemi ortamında çalışma şartları daha da zorlaşan sağlık çalışanlarının haklarının iyileştirilmesi, dinlenme ihtiyaçlarının planlanarak, sadece bulaşma riski değil yorgunluğa bağlı oluşacak risk faktörlerin kontrol altına alınması sağlayacak çalışma ortamlarının oluşturulmasına yönelik idari çalışmaların yapılması önerilmektedir.

Anahtar Kelimeler: Covid-19, Pandemi, Yorgunluk, Sağlık Profesyonelleri

Geliş Tarihi / Received: 14.04.2021 **Kabul Tarihi / Accepted:** 03.07.2021

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INTRODUCTION

The COVID-19 pandemic, which started in Wuhan city, China in December 2019 and has affected the whole world since then, has been declared as an international public health emergency by the World Health Organization (WHO) (1). COVID-19 belongs to the virus group that causes Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (2). It causes severe acute respiratory tract infections, progresses as asymptomatic, mild, or severe symptomatic, and can be fatal with factors such as advanced age and underlying diseases (3).

The occupational group that is considered to be at high and very high risk for COVID-19 infection by OSHA (Occupational Safety and Health Administration) includes healthcare workers. Those who carry out aerosol-generating procedures (intubation, cough induction, bronchoscopy, mouth-throat-nose examination, ophthalmological examinations, central catheter placement, use of nebulizers, cardiopulmonary resuscitation, oxygen therapy, non-invasive ventilation, examinations involving some dental procedures, or invasive specimen collection), physicians, nurses, and other healthcare workers were defined as risk groups (4).

The health sector constitutes the most important step of the crisis. The crisis has physical, mental, and social effects on healthcare workers. Healthcare workers is exposed time pressure, low social support, high workload, uncertainty about patient treatment, and emotional impact. Therefore, health workers are at high risk of experiencing distress, fatigue, burnout, and mental and physical discomfort. Healthcare workers face a higher risk for stress and COVID-19 transmission compared to other segments of society since they work in the same environment with people who are infected or likely to be carriers (5).

In particular, the anxiety about transmitting the disease to their relatives negatively affects the physical and mental health of healthcare workers. Daily cases of infection and death, uncertain working hours, and having to work with COVID-19 cases regardless of the field of specialization are factors that increase the risk of fatigue, burnout and depression of healthcare professionals (6-9).

To work more efficiently, it is important that people feel good both mentally and physiologically. There are over 59 million healthcare workers in the world. Therefore, research in this field will be guiding to provide healthcare workers with more effective psychological support in the field. This pandemic has once more revealed that society needs healthcare workers and their performance of healthcare practices happily and healthily (10). This study aimed to determine the occupational fatigue levels of healthcare workers during the COVID 19 pandemic and to evaluate some variables thought to be related to it.

MATERIAL AND METHOD

Participants

This study used a descriptive cross-sectional design and was carried out with physicians and nurses between June and July 2020. The study population consisted of physicians and nurses across Turkey. According to the April 2020 data, the total population of the physicians and nurses was 165,363 and 204,969, respectively. For this study, the sample size was calculated as a minimum of 386 individuals at a 90% confidence interval using the known universe sample size calculation model. Eventually, 406 individuals who agreed to participate in the study formed the study group. While creating the sample, we targeted participants who were healthcare professionals working actively during the pandemic process and volunteered to participate in the study. Participants were determined using the virtual snowball (chain) sampling method, which is among the purposive sampling methods. The study data were collected using Google forms, designed in the form of an online self-report. A questionnaire form was developed based on the literature by the purpose of the study.

Measures

The 20-item questionnaire consisted of questions about socio-demographic (age, gender, the city of residence, level of education, marital status, number of children, chronic diseases) data of the healthcare professionals, characteristics of their workplace, and working conditions (occupation, institution, unit, total work experience, weekly working hours, mode of work, number of patients served daily), regarding contact with patients with COVID-19 (frequency of contact with patients with COVID-19, frequency of contact with family during the pandemic, type of accommodation, whether the participant or a family member was diagnosed with COVID-19), and the items of the Occupational Fatigue-Exhaustion Recovery Scale.

The Occupational Fatigue-Exhaustion Recovery Scale (OFER)

The Occupational Fatigue-Exhaustion Recovery Scale was developed by Winwood et al. in 2005 to measure occupational fatigue (11). Its Turkish validity and reliability study was carried out by Havlioğlu et al. in 2019 (12). Cronbach's alpha coefficient of the scale is 0.93 for chronic fatigue, 0.82 for acute fatigue, and 0.75 for recovery subscale. In this study, Cronbach's alpha was found to be 0.92 for chronic fatigue subscale, 0.73 for acute fatigue subscale, and 0.78 for recovery subscale. The scale consists of 15 items and three sub-dimensions, namely, chronic fatigue (items 1-5), acute fatigue (items 6-10), and recovery (items 11-15). Items 9, 10, 11, 13, and 15 are negative statements, which are inversely scored. It has a 7-point Likert-type rating structure with options 0 = strongly disagree, 1 = disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = agree, and 6 = strongly agree. The scale does not have

an overall score, and scores are calculated separately for each subscale (item-total scores / 30 x 100). A score between 0 and 100 is obtained for each subscale. A high score on the chronic and acute fatigue subscales indicates increased occupational fatigue, and a high score on the recovery subscale indicates recovery between shifts. A score between 0 and 25 shows low fatigue, 25-50 medium / low fatigue, 50-75 medium / high fatigue, and 75-100 high fatigue.

Ethical considerations

At the outset, the ethical approval of Eskisehir Osmangazi University Social and Human Sciences Scientific Research and Publication Ethics Committee was obtained (date: 27.04.2020 and issue: 11869). In addition, the study protocol was approved by the Ministry of Health of Turkey as it involved the COVID-19 pandemic.

Statistical analysis

The data obtained were analyzed using the SPSS Statistical Software Package. Shapiro-Wilk test was used to test the normal distribution of the data. In non-normal distributions, the Mann-Whitney U test was used for variables with two groups and Kruskal-Wallis-H test

for variables with more than two groups. The statistical significance value was accepted as $p < 0.05$.

RESULT

The study group consisted of 308 females and 98 males. Their ages ranged between 20 and 61, with a mean value of 35.46 ± 9.21 years. The scores obtained by the healthcare professionals from the chronic fatigue subscales of the Occupational Fatigue-Exhaustion Recovery Scale ranged between 0 and 100, with a mean score of 60.65 ± 29.10 (median: 66.7). Their scores from the acute fatigue subscale ranged between 6.67 and 100, with a mean score of 65.52 ± 21.64 (median: 66.7). For the recovery subscale, the scores ranged from 0 to 100, and the mean score was 45.09 ± 19.11 (median: 50.0). In the study group, women had higher levels of chronic and acute fatigue. Those who were aged 49 or younger had higher acute fatigue levels than those aged 50 and over. The acute fatigue levels of participants with a chronic disease history and the recovery levels of those with no chronic disease history were higher ($p < 0.05$ for each). The distribution of the scores obtained by the study group from the subscales of the Occupational Fatigue-Exhaustion Recovery Scale by some sociodemographic characteristics is given in Table 1.

Table 1. The distribution of the scores obtained by the study group from the subscales of the Occupational Fatigue-Exhaustion Recovery Scale by some sociodemographic characteristics

Sociodemographic characteristics	n	The subscale scores of the Occupational Fatigue-Exhaustion Recovery Scale		
		Chronic fatigue subscale Median (min.-max.)	Acute fatigue subscale Median (min.-max.)	Recovery subscale Median (min.-max.)
Gender				
Male	98	53.3 (3.3-100.0)	56.6 (10.0-100.0)	50.0 (0.0-100.0)
Female*	308	70.0 (0.0-100.0)	66.7 (6.7-100.0)	46.7 (0.0-100.0)
Test value (z; p)		2.752; 0.006	2.816; 0.005	1.206; 0.228
Age group				
29 or younger	143	63.3 (10.0-100.0)	60.0 (6.7-100.0)	50.0 (0.0-100.0)
30-39	108	66.7 (0.0-100.0)	70.0 (10.0-100.0)	46.7 (3.3-100.0)
40-49*	130	70.0 (0.0-100.0)	68.3 (30.0-100.0)	43.3 (0.0-93.3)
50 or older*	25	50.0 (13.3-100.0)	53.3 (13.3-96.7)	53.3 (10.0-76.7)
Test value (KW; p)		4.186; 0.242	10.603; 0.014	8.621; 0.035
Profession				
Physician	142	63.3 (0.0-100.0)	66.7 (10.0-100.0)	46.7 (0.0-100.0)
Nurse	264	66.7 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)
Test value (z; p)		0.069; 0.945	0.082; 0.935	0.199; 0.842
History of chronic disorder				
Yes	81	66.7 (0.0-100.0)	70.0 (23.3-100.0)	43.3 (3.3-83.3)
No	325	66.7 (0.0-100.0)	63.3 (6.7-100.0)	50.0 (0.0-100.0)
Test value (z; p)		1.178; 0.239	2.220; 0.026	2.499; 0.012
Total	406	66.7 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)

*The group creating the difference

Of the participants in the study group, 231 worked in hospitals of the Ministry of Health, 108 in university hospitals, 41 in private hospitals, and 26 in primary healthcare institutions. The professional seniority ranged from 1 to 38 years, with a mean value of 12.54 ± 9.18 years. The participants reported that the number of patients they gave care daily varied between 2 and 150, with a mean value of 27.91 ± 27.60 patients. The recovery level of those working in Family Health Centers

was higher than those working in other institutions. The chronic fatigue level of those who worked more than 40 hours a week was higher, and the recovery level between shifts among those who worked day and night shifts was lower than those who worked only day shift and only night shift. The distribution of the scores obtained by the study group from the subscales of the Occupational Fatigue Exhaustion Recovery Scale by some of the working conditions is given in Table 2.

Table 2. The distribution of the scores obtained by the study group from the subscales of the Occupational Fatigue Exhaustion Recovery Scale by some of the working conditions

Some working conditions	n	The subscale scores of the Occupational Fatigue-Exhaustion Recovery Scale		
		Chronic fatigue subscale Median (min.-max.)	Acute fatigue subscale Median (min.-max.)	Recovery subscale Median (min.-max.)
The Hospitals				
The Ministry of Health	231	70.0 (0.0-100.0)	70.0 (10.0-100.0)	46.7 (0.0-100.0)
University	108	58.3 (0.0-100.0)	68.3 (6.7-100.0)	50.0 (0.0-76.7)
Private	41	70.0 (0.0-100.0)	60.0 (10.0-100.0)	46.7 (0.0-100.0)
Primary healthcare*	26	56.7 (3.3-100.0)	56.7 (30.0-100.0)	56.7 (20.0-80.0)
Test value (KW; p)		4.010; 0.260	5.833; 0.120	15.025; 0.002
Pandemic polyclinic	52	70.0 (13.3-100.0)	73.3 (0.0-100.0)	41.7 (0.0-100.0)
Pandemic service	62	73.3 (0.0-100.0)	70.0 (23.3-100.0)	50.0 (0.0-93.3)
Pandemic intensive care	48	60.0 (0.0-100.0)	70.0 (6.7-100.0)	45.0 (3.3-100.0)
Emergency department	43	56.7 (6.7-100.0)	56.7 (26.7-100.0)	50.0 (0.0-73.3)
Clinical services	133	66.7 (0.0-100.0)	66.7 (13.3-100.0)	46.7 (0.0-100.0)
Others	68	61.7 (0.0-100.0)	58.3 (16.7-100.0)	53.3 (6.7-86.7)
Test value (KW; p)		6.541; 0.257	9.221; 0.101	10.306; 0.067
Professional seniority (year)				
4 and fewer	92	63.3 (3.3-100.0)	63.3 (6.7-100.0)	50.0 (0.0-100.0)
5-9	90	63.3 (0.0-100.0)	65.0 (23.3-100.0)	46.7 (3.3-100.0)
10-14	72	70.0 (6.7-100.0)	70.0 (10.0-100.0)	46.7 (3.3-100.0)
15-19	53	56.7 (0.0-100.0)	66.7 (30.0-100.0)	46.7 (0.0-80.0)
20 or more	99	66.7 (0.0-100.0)	63.3 (13.3-100.0)	46.7 (0.0-93.3)
Test value (KW; p)		1.853; 0.763	1.483; 0.830	1.528; 0.822
Weekly working hours (hour)				
40 and fewer	239	60.0 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)
41 or more*	167	76.7 (0.0-100.0)	70.0 (10.0-100.0)	43.3 (0.0-100.0)
Test value (z; p)		3.575; 0.001	1.003; 0.316	1.924; 0.054
Work shifts				
Day	129	66.7 (0.0-100.0)	63.3 (10.0-100.0)	50.0 (3.3-100.0)
Night	10	63.3 (16.7-100.0)	75.0 (30.0-86.7)	53.3 (20.0-86.7)
Day-night*	267	66.7 (0.0-100.0)	70.0 (6.7-100.0)	46.7 (0.0-100.0)
Test value (KW; p)		0.019; 0.991	3.027, 0.220	7.416; 0.025
Daily number of patients				
9 or fewer	113	63.3 (0.0-100.0)	63.3 (6.7-100.0)	50.0 (3.3-100.0)
10-29	137	63.3 (0.0-100.0)	66.7 (10.0-100.0)	46.7 (0.0-93.3)
30-49	66	71.7 (6.7-100.0)	66.7 (26.7-100.0)	48.3 (0.0-80.0)
50 or more	90	71.7 (0.0-100.0)	66.7 (13.3-100.0)	46.7 (0.0-100.0)
Test value (KW; p)		4.622; 0.202	1.201; 0.753	0.457; 0.928
Total	406	66.7 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)

* The group creating the difference

Of the participants, 66 reported that they had no contact with patients with COVID-19, 240 had contact with them every other day, and 100 had contact with these patients every day. The number of those who had not been seeing their family was 145, and the number of those who tested positive for COVID-19 was 12. Chronic and acute fatigue levels of those in the study group who contacted

COVID-19 patients every day were found to be higher. Chronic fatigue levels of those who were diagnosed with COVID-19 disease were found to be lower. Table 3 shows the distribution of the scores of the study group from the subscales of the Occupational Fatigue-Exhaustion Recovery Scale by some features regarding contact with patients with COVID-19.

Table 3. Distribution of the scores of the study group from the subscales of the Occupational Fatigue-Exhaustion Recovery Scale by some features regarding contact with patients with COVID-19

Some features regarding contact with patients with COVID-19	n	The subscale scores of the Occupational Fatigue-Exhaustion Recovery Scale		
		Chronic fatigue subscale Median (min.-max.)	Acute fatigue subscale Median (min.-max.)	Recovery subscale Median (min.-max.)
The status of contact with patients with COVID-19				
None	66	66.7 (0.0-100.0)	60.0 (23.3-100.0)	50.0 (3.3-83.3)
Every other day	240	63.3 (0.0-100.0)	65.0 (6.7-100.0)	50.0 (0.0-100.0)
Every day*	100	76.7 (0.0-100.0)	73.3 (23.3-100.0)	46.7 (0.0-93.3)
Test value (KW; p)		9.004; 0.011	10.079; 0.006	4.371; 0.112
Place of accommodation after work				
Home with family	308	66.7 (0.0-100.0)	66.7 (10.0-100.0)	46.7 (3.3-100.0)
Hotel / Guest House	19	56.7 (6.7-96.7)	50.0 (36.7-100.0)	50.0 (20.0-63.3)
Home alone	79	63.3 (6.7-100.0)	63.3 (6.7-100.0)	50.0 (0.0-100.0)
Test value (KW; p)		1.438; 0.487	4.387; 0.112	1.657; 0.437
History of diagnosis with COVID-19				
Yes*	12	48.3 (6.7-83.3)	53.3 (30.0-100.)	53.3 (26.7-73.3)
No	394	66.7 (0.0-100.0)	66.7 (6.7-100.0)	48.3 (0.0-100.0)
Test value (z; p)		2.101; 0.036	1.258; 0.208	1.032; 0.302
The family member that tested positive for COVID-19				
Yes	87	70.0 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)
No	319	66.7 (0.0-100.0)	66.7 (10.0-100.0)	50.0 (0.0-100.0)
Test value (z; p)		1.038; 0.299	0.941; 0.347	0.241; 0.809
Total	406	66.7 (0.0-100.0)	66.7 (6.7-100.0)	50.0 (0.0-100.0)

*Farkyaratangurup

DISCUSSION

The number of healthcare workers affected by COVID-19 is at a substantial level. To date, there are limited publications and reports on healthcare workers and COVID-19. There is a need for a detailed examination of the situation of healthcare workers in the COVID-19 process (13). In the study, healthcare professionals who are directly involved in the care of patients with COVID-19 during the pandemic process reported that their fatigue and burnout levels were above the moderate level and that the level of their recovery was at a moderate level. In previous studies on healthcare workers, fatigue levels were found to be high, similar to our study results (11,14,15,16) Frontline healthcare workers face problems due to increased workload, busy working schedules, and increased exposure to positive cases (17). At the same

time, this study was carried out in the first months of the emergence of the COVID-19 pandemic in Turkey. Many uncertainties, such as the working order not yet established, may have increased the fatigue in healthcare workers.

In the study group, both chronic and acute fatigue levels of females were higher than those of males. It was reported that regarding a higher susceptibility or vulnerability to diseases among health professionals, all mental disorder measurements in female healthcare workers were associated with more severe levels (18). This can be explained by the fact women are under more institutional and social expectation pressure than normal depending on the roles they undertake both in the institutions they work and in social life and with the increase in the time and workload in the health institutions they work during

the pandemic period. In the study of Polat and Coşkun (2020) on health workers during the pandemic process, the anxiety and depression levels of female workers were found to be significantly higher. This study supports the predisposition of female health workers to mental disorders (19).

The acute fatigue levels of the participants in the 49-and-younger age group were higher than those in the 50-and-older age group. Similar to our study, Yu et al. found that older or more experienced nurses had lower acute fatigue levels compared to younger or less experienced nurses (20). Tang et al. found that work-related accumulated fatigue was higher in healthcare workers aged between 30 and 45 years old (15). Recovery levels were found to be higher in the 50-and-older age group compared to those in the 40-49 age group. Possible causes of these situations can be explained by the fact that healthcare workers get exhausted more, their body resistance weakens, they have difficulty in showing performance, and that they start losing sensitivity due to long periods of work.

When the scores were compared by occupational groups, chronic fatigue, acute fatigue, and recovery scores of physicians and nurses were found very close to each other, and there was no statistical difference between them. This can be explained by the fact that all occupational groups in the health sector have been affected by the pandemic process and that especially physicians and nurses, who provide one-to-one care to patients and spend most of their time with patients, have been affected more than others.

There was no difference between the chronic fatigue and acute fatigue levels of the study group in terms of the institutions where they worked. The recovery level of those working in family health centers was higher compared to those working in other institutions. There are no night shifts in family health centers in our country, which may be the reason for the high recovery levels due to regular working shifts.

Chronic fatigue was higher in those who worked for more than 40 hours a week. This was due to more intense working conditions, more working hours, having one-on-one contact with too many patients, and spending less time in social life. Some studies showed that high working hours led to mental effects on healthcare workers (21,22).

The inter-shift recovery level of participants who worked day and night was found to be lower than those who worked only during the day and only at night. In a study on nurses working shifts in the USA, Chen et al. found high levels of acute fatigue and moderate recovery and chronic fatigue (23). Hazzard et al. found moderate levels of chronic fatigue, acute fatigue, and recovery in nurses (24). Healthcare workers who work in shifts work more shifts and overtime during the COVID-19 pandemic. Reduced rest periods due to excessive night shifts may be the reason for low recovery levels.

In the study group, the participants who came into contact

with patients with COVID-19 every day had higher levels of chronic fatigue and acute fatigue. This is traumatizing for healthcare professionals who see that many patients who are infected with the virus and need intensive care cannot survive during the pandemic process (25). Kannampallil et al. (2020) also stated that the exposure of healthcare workers, who are at the forefront of care during the COVID-19 pandemic, to infected patients caused their level of stress and burnout to increase (26). In addition, healthcare workers are vulnerable to the risk of infection under pandemic conditions, which leads them to worry that they can be infected or they can transmit the virus to their families and friends. In addition, during this period, physicians and nurses provide care to individuals at risk of death, witness their physical and mental pain, and may reflect the difficulties they experience to employees inappropriately. Moreover, both sick individuals and healthcare professionals are isolated, their sharing is restricted, and they cannot come together with their family members, all of which may make up a risk factor for exhaustion.

The physicians and nurses in our study who tested positive for COVID-19 were found to have lower chronic fatigue levels. This can be associated with general occupational fatigue rather than chronic fatigue experienced due to the pandemic process.

When the literature was examined, there were no studies investigating the relationship between similar variables and occupational fatigue. Therefore, these results are new to the literature.

CONCLUSION

In conclusion, fatigue levels in the study group were higher in women who were aged 49 years or younger, had weekly working hours of more than 40 hours, and came into contact with COVID 19 patients every day. Healthcare professionals have significant responsibilities in managing large-scale public health events such as the COVID-19 pandemic. However, while healthcare professionals strive to provide professional care in this process, they also have to struggle with factors predisposing occupational exhaustion, such as being at risk of infection in the work environment, working long and intense hours, protecting the health of those around them, and physical/psychological fatigue and tension. It is important and necessary to plan the needs of healthcare personnel for rest, establish working and resting environments that will control not only the risk of contamination but also other risk factors due to insomnia and fatigue, create working and resting environments, reschedule working hours, and carry out supportive administrative work to reduce fatigue and burnout levels.

Financial disclosures: All authors declare no financial support.

Conflict of Interest: The authors declare that they have no competing interest.

Ethical approval: At the outset, the ethical approval of Eskisehir Osmangazi University Social and Human Sciences Scientific Research and Publication Ethics Committee was obtained (date: 27.04.2020 and issue: 11869).

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