

# An examination of the burnout levels of healthcare professionals according to some variables during the COVID-19 pandemic

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## ABSTRACT

**Objectives:** The objective of this study is to examine the effects on burnout levels of socio-demographic characteristics of healthcare professionals in different professions who are on active duty during the COVID-19 pandemic.

**Methods:** Obtained through socio-demographic information form created by the researchers and Maslach Burnout Scale (MBS) e-data collection method.

**Results:** It has been found out that gender variable reveals important differences among healthcare professionals and female healthcare professionals are more exhausted than men, the burnout levels of healthcare professionals who have a one-to-one relationship with COVID-19 patients are higher, and healthcare professionals trying to obtain information about the pandemic through social media are more exhausted than others. Variables such as marital status, education level, and being diagnosed with COVID-19 were not found to affect burnout in this study. However, when the data set was divided into two over the gender variable, it was observed that the education level variable affected emotional exhaustion scores among female participants. Although the emotional exhaustion scores of female participants with doctoral and high school education did not reveal a significant difference between the groups in the advanced statistical study, they revealed a significant difference according to the One-Way Analysis of Variance. The group with the highest burnout among healthcare professionals was determined as nurses.

**Conclusions:** It is important to carry out studies on psychological support and coping with burnout for healthcare professionals who are on active duty during the pandemic.

**Keywords:** COVID-19, pandemic, healthcare professionals, burnout

As a highly contagious disease affecting the upper respiratory tract, COVID-19 (SARS-CoV-2 virus) has become a global health problem acting upon every aspect of social life since December 2019. In

March 2020, the World Health Organization (WHO) declared COVID-19 as a pandemic [1]. As of September 2021, there were 230,418,451 diagnosed COVID-19 patients and 4,724,876 deaths due to COVID-19

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worldwide [2]. Labrague and de Los Santos [3] reported that approximately 6% of diagnosed COVID-19 patients are healthcare professionals.

Burnout syndrome, first described by Freudenberg in 1974 [4] frequently experienced especially in occupational groups that provide face-to-face service [5]. Burnout syndrome occurs as a result of stress reactions that develop due to long-term exposure to disturbing events [6]. The most comprehensive definition of burnout syndrome used today was made by Christina Maslach in 1981 [7]. Maslach defined burnout syndrome as a syndrome consisting of emotional exhaustion, a sense of personal failure, and depersonalization [7].

Due to a virus with such a contagious and high mortality rate, many factors such as increased workload, uncertainty, fear and stress have been considered important for healthcare professionals to develop burnout syndrome. Not only the increased workload and being at the forefront of fighting the virus, but also the risk of contracting the disease are factors that negatively affect healthcare professionals in this process. Hoşgör *et al.* [8] found that there is a significant relationship between fear of COVID-19 and burnout level. Abdelghani *et al.* [9] found that the fear of COVID-19 among physicians working in Egypt during the pandemic increased emotional exhaustion, depersonalization, and feelings of personal failure. Giusti *et al.* [10] found the emotional exhaustion rates of healthcare professionals working during the pandemic to be very high, while they also found that their feelings of depersonalization and personal failure were at average levels. Ozbezek *et al.* [11] found that social support perceived by healthcare professionals reduces the severity of burnout syndrome. Turkili *et al.* [12] have determined that contact with COVID-19 patients, catching COVID-19 disease of healthcare professional, difficulty in accessing personal protective equipment, lack of social support and following social media for information purposes are important risk factors for burnout syndrome.

The aim of this study is to examine the burnout levels of healthcare professionals in different occupational groups working in the field of health according to some socio-demographic variables.

## METHODS

### Research Design

By using a cross-sectional design, it was conducted via internet. The Maslach Burnout Scale was applied to the participants in order to determine their burnout levels as well as their socio-demographic information. The data of the research, which is a cross-sectional study, was collected in 2021 by publishing the questionnaire form prepared on google forms on social media sharing platforms. The questionnaire was online between 01 June 2021 to 01 September 2021.

### Data Collection Tools

#### Maslach Burnout Scale (MBS)

The inventory developed by Maslach and Jackson in 1981 [7]) was adapted into Turkish by Ergin in 1992 [13]. MBS, a 5-point Likert-type rating scale, consists of 22 items and three sub-dimensions. Three points are obtained from the scale as Emotional Exhaustion (9 items), Depersonalization (5 items) and Feeling of Personal Failure (8 items) [7, 13]. Capri (2006) reported the Cronbach  $\alpha$  internal consistency coefficients of the sub-dimensions of the scale as 0.83 for Emotional Exhaustion (EE), 0.72 for Feeling of Personal Failure (PF) and 0.65 for Depersonalization (D) [14].

### Ethical Considerations

Ethics committee approval was obtained from European University of Lefke, Ethics Committee 01.11.2021, BAYEK 001.10 approval number. The questionnaire form consists of three parts. The first part is about the participants' consent to participate in the research. When "I give consent" option is selected; the second part of the questionnaire is displayed. This section basically includes questions about the socio-demographic data of the participants, such as age, gender, educational status, and whether they have a physical or psychological disorder. Also, they were asked about their experiences and information on availability of personal protective equipment, whether they or a colleague has contracted the disease, whether they lost patients due to COVID-19, the sources from which they follow information about COVID-19, and whether they were the victim of verbal or physical vi-

olence by relatives of patients during the pandemic. Finally, Maslach Burnout Scale questions were asked to the participants in the survey. The study was conducted in accordance with the Declaration of Helsinki principles.

### Participants

The participants of the study consisted of 261 healthcare professionals. The distribution of the participants regarding gender, marital status, education level and occupation is given in Table 1.

The mean age and working years of the participants were calculated as  $35.99 \pm 10.34$  years (range 20-65) for age and  $11.91 \pm 9.91$  years (range 0-40) for working year, respectively. 47.9% (n = 125) of the participants could not go to their homes during the pandemic, 38.7% (n = 101) experienced loss of patients due to COVID-19, and 21.8% (n = 57) were diagnosed

with COVID-19. 9.6% (n = 25) stated that their colleague caught COVID-19 and 34.9% (n = 91) stated that they had difficulty in reaching personal protective equipment. 31.8% (n = 83) of the participants stated that they were exposed to verbal and physical abuse by their relatives during the pandemic, 12.6% (n = 33) were physically abused and 8% (n = 21) reported that they started to experience psychological and another 8% (n = 21) reported that they started to experience both physical and psychological problems. Finally, 75.5% (n = 197) of the participants reported that they followed the course of the pandemic and new developments on social media platforms.

### Statistical Analysis

The datas were presented as mean  $\pm$  standard deviation or frequency and percentage values. Normally distributed data were compared with the independent-samples t-test or one-way analysis of variance. One-Way Analysis of Variance was used to determine whether the participants' MBS scores showed a difference between occupational groups. The level of statistical significance was set at  $p < 0.05$ .

**Table 1. Distribution of participants by gender, marital status, education level and occupation**

	n	%
<b>Sex</b>		
Female	168	64.4
Male	93	35.6
<b>Marital status</b>		
Married	164	62.8
Single	81	31.0
Divorced	13	5.0
Widow	3	1.1
<b>Education level</b>		
High school	35	13.4
Associate degree	61	23.4
Undergraduate	97	37.2
Master's degree	40	15.3
PhD	28	10.7
<b>Occupation</b>		
Healthcare professional	37	14.2
Manager	10	3.8
Pharmacist	9	3.4
Doctor	53	20.3
Nurse	93	35.6
Contact tracing team	59	22.6

## RESULTS

The average values obtained by all of the participants and also from the MBS defined according to their occupational groups are given in Table 2.

According to the results obtained, the personal failures of healthcare professionals working as nurses and pharmacists were found to be higher than those working as healthcare professionals. On the other hand, nurses experience more personal failure than doctors. When the data set is divided into two on the basis of the gender variable, the sense of personal failure of female healthcare professionals and physicians was found to be low enough to make a significant difference compared to female nurses and contact tracing team members. On the other hand, among male healthcare professionals, there was a significant difference between healthcare professionals working as nurses and those working as pharmacists. Accordingly, male healthcare professionals working as nurses experience more emotional exhaustion than those working as pharmacists.

The scores of the participants in the MBS were

**Table 2.** The mean values obtained by the participants from the Maslach Burnout Scale and the differences between the groups

	Emotional Exhaustion	Depersonalization	Feeling of Personal Failure
<b>All participants</b>	25.45 ± 7.92	8.85 ± 3.17	26.79 ± 4.00
<b>Healthcare professional</b>	26.84 ± 8.51	9.38 ± 3.43	24.38 ± 4.78
<b>Manager</b>	24.00 ± 7.55	7.70 ± 2.66	27.20 ± 2.44
<b>Pharmacist</b>	20.22 ± 6.34	7.22 ± 1.30	27.22 ± 3.07
<b>Doctor</b>	25.79 ± 8.22	9.60 ± 3.27	25.47 ± 3.34
<b>Nurse</b>	25.96 ± 8.18	8.65 ± 3.22	28.31 ± 3.28
<b>Contact tracing team</b>	24.51 ± 6.88	8.63 ± 2.97	26.98 ± 4.38
<b>p value</b>	> 0.05	> 0.05	< 0.001*

Data are shown as mean ± standard deviation. \* $p < 0.05$

compared according to the gender variable. Based on to this calculation, male participants' feelings of personal failure made a significant difference compared to female participants ( $p = 0.008$ ). Personal failure scores of healthcare professionals who were away from their homes during the pandemic were higher than those who did not have to stay away from their homes ( $p = 0.034$ ).

The depersonalization ( $p = 0.015$ ) and personal failure ( $p = 0.025$ ) scores of healthcare professionals who lost patients due to COVID-19 were found to be higher than those who did not, revealing a significant difference. The data set was divided into two based on the gender variable and it was investigated whether the gender variable revealed significant differences between various socio-demographic variables and burnout scores. Accordingly, female participants with loss of patient experience depersonalization ( $p = 0.018$ ) and personal failure (0.003), while male participants ( $p > 0.05$ ) do not.

Emotional exhaustion ( $p = 0.012$ ) and depersonalization ( $p = 0.001$ ) scores of healthcare professionals who were exposed to physical and verbal abuse by the relatives of the patients were calculated higher than those who did not, and this increase created a significant difference. When the data set was divided into two based on the gender variable, it was determined that female participants who were exposed to physical and verbal abuse experienced depersonalization ( $p = 0.000$ ) and emotional exhaustion ( $p = 0.039$ ), whereas male participants did not.

The personal failure scores ( $p = 0.007$ ) of health-

care professionals, whose close colleague had contracted COVID-19 disease, were high enough to make a significant difference. Emotional exhaustion ( $p = 0.011$ ) and depersonalization ( $p = 0.023$ ) scores of the participants who stated that they had difficulty in reaching personal protective equipment created a significant difference. When the data set was divided into two on the gender variable, it was determined that male participants who had difficulty in reaching personal protective equipment experienced emotional exhaustion ( $p = 0.001$ ) and depersonalization ( $p = 0.015$ ), while female participants did not.

Personal failure ( $p = 0.044$ ) scores of healthcare professionals who follow the developments related to COVID-19 on social media were found to be higher. Emotional exhaustion ( $p = 0.001$ ) scores differed between the participants who had both physical and psychological disorders, those who only reported having psychological disorders, and those who did not have any disease. Participants with physical and psychological disorders experience more emotional exhaustion than participants without any disorders. Similarly, a significant difference was found between the participants who reported that they did not have any disorder and those who reported that they had a psychological disorder. Participants with psychological disorders are more depersonalized than those without psychological disorders ( $p = 0.030$ ).

Variables such as marital status, education level, and being diagnosed with COVID-19 were not found to affect burnout in this study. However, when the data set was divided into two over the gender variable, it



was observed that the education level variable affected emotional exhaustion scores among female participants. Although the emotional exhaustion scores of female participants with doctoral and high school education did not reveal a significant difference between the groups in the advanced statistical study, they revealed a significant difference according to the One-Way Analysis of Variance ( $p = 0.030$ ).

The relationship between the years of service and burnout levels of healthcare professionals was examined. Accordingly, as the years of service of female healthcare professionals increase, their depersonalization levels decrease ( $r = -0.172$ ,  $p = 0.025$ ,  $p < 0.05$ ), and similarly, as the years of service of male healthcare professionals increase, their emotional exhaustion ( $r = -0.262$ ,  $p = 0.011$ ,  $p < 0.05$ ) and depersonalization levels ( $r = -0.238$ ,  $p = 0.022$ ,  $p < 0.05$ ) decrease.

## DISCUSSION

Among the main findings of the study, it was determined that the gender variable was effective on emotional exhaustion, depersonalization, and the feeling of personal failure. Accordingly, female healthcare professionals experience more personal failure and emotional exhaustion than male healthcare professionals. Especially female healthcare professionals working as contact tracing team members are more exhausted than their male teammates. Barello *et al.* [15] also found that female healthcare professionals have higher emotional exhaustion rates than males. Jalili *et al.* [16] found that being a woman is the variable that reveals the differences between groups in all three dimensions of burnout, and that depersonalization levels are higher especially among young men compared to others. Torrente *et al.* [17] found that female healthcare professionals who are fighting COVID-19 on the front line are more exhausted than others. Hu *et al.* [18] also found the burnout levels of healthcare professionals working on the frontline during the COVID-19 pandemic to be higher than others. Ruiz-Fernández *et al.* [19] found that doctors' burnout levels were higher than nurses, and health personnel working in COVID-19 services were more exhausted than others.

It has been found that the physical, psychological or both physical and psychological disorders of the

participants participating in the research or the diagnoses they received during the pandemic also increased the level of burnout. Duarte *et al.* [20] looked at the burnout levels of Portuguese healthcare professionals during the COVID-19 process. According to their studies, they determined that female healthcare professionals are more exhausted than men and that being diagnosed with any health problem is the main factor that increases burnout [20].

Another finding of the study is the significant increase in the burnout levels of healthcare professionals who have difficulties in accessing personal protective equipment. Morgantini *et al.* [21] found that the ease of access to personal protective equipment is a factor that reduces burnout. Martínez-López *et al.* [22] similarly found that the levels of burnout are higher among healthcare professionals who have difficulty in accessing personal protective equipment.

In our study, it was observed that especially nurses were exhausted more than other occupational groups. On the other hand, the burnout levels of the healthcare professionals who were caring for the patients according to the instructions given by the doctor were found to be at least as high as the nurses. This finding is similar to research conducted around the world during the COVID-19 era. For example, Liu *et al.* [23] found that working in areas with a high prevalence of COVID-19 patients increased emotional exhaustion and depersonalization, while intense working hours increased emotional exhaustion and decreased the sense of personal accomplishment. Matsua *et al.* [24] found that the burnout levels of healthcare professionals who were working face-to-face during the pandemic were higher than those of healthcare professionals working in the background.

During the COVID-19 pandemic, the burnout levels of healthcare professionals who lost several patients were higher than those who did not. Mong and Noguchi [25], in their study on emergency service workers, similarly found that the level of burnout increased with higher number of patients lost in the emergency room during COVID-19.

The burnout levels of healthcare professionals who reported that they were exposed to physical and verbal abuse during the pandemic were also found to be significantly higher. Elhadi *et al.* [26] found that the burnout levels of healthcare professionals who worked during the pandemic in Libya and who were exposed

to physical and verbal abuse were similarly higher.

In this research, long working years, in other words, work life and experience in the profession lower the burnout levels. As the years spent in the profession increase, it becomes easier to cope with the burnout syndrome. Alrawashdeh et al. [27], in their study with healthcare professionals, similarly, it was found that more experienced healthcare personnel with longer working years had lower burnout levels than those with fewer working years. In our study, the burnout levels of healthcare professionals who update their information about COVID-19 via social media were calculated to be higher. Shao et al. [28] determined that negative emotions arise and burnout becomes widespread in the case of using social media for updating information about the pandemic and following developments.

## CONCLUSION

In this study, in addition to variables such as being a woman, being in a one-to-one relationship with patients with COVID-19 and being obliged to provide care, performing the nursing profession and following the updates about the pandemic on social media were identified as variables that increase burnout. On the other hand, the length of the years spent in the profession has been determined as a factor that reduces burnout depending on the experience gained.

### *Authors' Contribution*

Study Conception: ZO, GBA; Study Design: ZO, GBA; Supervision: ZO, GBA; Funding: ZO, GBA; Materials: ZO, GBA; Data Collection and/or Processing: ZO, GBA; Statistical Analysis and/or Data Interpretation: ZO, GBA; Literature Review: ZO, GBA; Manuscript Preparation: ZO, GBA and Critical Review: ZO, GBA.

### *Conflict of interest*

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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