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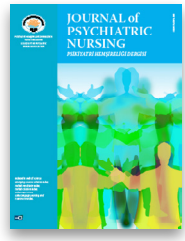

Original Article

Negative impacts of the COVID-19 pandemic on health workers: a cross-sectional study on emotional labor and burnout

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Abstract

Objectives: This research aimed to examine the relationship between emotional labor and burnout levels of healthcare workers during the COVID-19 pandemic.

Methods: It was aimed to examine healthcare workers' emotional labor and burnout levels during the COVID-19 pandemic in this cross-sectional descriptive and relationship-seeking study. Data were obtained from 315 healthcare workers who worked at a hospital during the COVID-19 pandemic between February 1 and 26, 2021, using a Descriptive Information Form, the Emotional Labor Inventory, and Maslach Burnout Inventory. The data collection tools were sent online to health workers. The data were analyzed through descriptive statistics, independent t-tests, One-Way Variance (ANOVA), Kruskal-Wallis tests, and Pearson analysis.

Results: The mean scores of the participants' total Emotional Labor Inventory, surface acting, deep-acting, and naturally felt emotions subdimensions were 39.18±6.79, 15.71±5.21, 12.58±3.58, and 10.88±2.62, respectively. The mean scores of the participants' total Maslach Burnout Inventory, emotional exhaustion, depersonalization, and personal accomplishment subdimensions were 40.61±10.95, 20.68±7.23, 7.56±3.73, and 12.36±4.66, respectively. It was found that there was a positive significant relationship between the participants' total emotional labor and burnout point averages ($p<0.05$). The analysis showed that in the COVID-19 pandemic, emotional labor behavior increases in healthcare workers, and this leads to burnout.

Conclusion: Participants' mean scores of emotional exhaustion and depersonalization from burnout subdimensions were found to be moderate, and their personal accomplishment subdimension mean score was found to be high. Emotional labor behavior has a determining role in the burnout of the participants.

Keywords: Burnout; COVID-19; emotional labor; health workers.

The Novel Coronavirus Disease (COVID-19), which emerged in China in December 2019 and spread rapidly worldwide, was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020. According to the current data from WHO, which was dated April 15, 2021, the total number of confirmed cases of COVID-19 worldwide is 137 million, and the number of those who lost their lives is 2.96 million. In addition, these rates continue to increase.[1] In Türkiye, the first confirmed case was reported dated on March 11, 2020, and the first death because of the virus was reported dated on March 11, 2020. As of April 15, 2021, it was stated that the total number of cases in Türkiye was 4,086,957, and the total number of deaths was 35,031 people.[2] With the emergence of the COVID-19 pandemic, the increasing number of cases brought an additional burden on healthcare institutions that played a key role in this process. Thus, all healthcare workers were in-

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What is presently known on this subject?

- Healthcare workers, who have had to work intensely and selflessly since the start of the COVID-19 pandemic, experience many negative emotions. Healthcare workers experience burnout the most among these negative emotional states, and the severity of this varies depending on multiple factors.

What does this article add to the existing knowledge?

- The research indicated that emotional labor behavior has a decisive role in the burnout of healthcare professionals working actively during the COVID-19 pandemic.

What are the implications for practice?

- This research provides findings that during the pandemic period, healthcare workers may encounter more situations that cause emotional reactions, and the possibility that they may experience burnout, as a result, should be taken into consideration. Determining the factors that cause emotional reactions in health workers and making institutional interventions for this will affect mental health positively.

volved in a very difficult and labor-intensive process in every aspect.[3,4] In this period, when social isolation and staying at home are important to protect against COVID-19, healthcare workers continue to fight the epidemic in health institutions. In this difficult process, long working hours, an increasing number of patients, working with protective equipment, being constantly alert due to the risk of disease transmission, loss of spontaneity and autonomy, problems in maintaining physical and mental health during working hours, the need to follow up-to-date information on COVID-19 further increases the stress caused by COVID-19.[5–7] In many studies, it has been observed that healthcare workers are negatively affected, especially psychologically, during the pandemic period.[8–10] The fact that healthcare workers manage a newly defined disease with an unknown prognosis, the ethical dilemmas and the uncertainties regarding the content of health care to be offered for the needs of their patients and their families have various psychological effects.[4]

Healthcare workers who have to display more than one emotion because of their job can intensely display emotional labor behaviors during the pandemic. The reason is that emotional labor arises from the need to continue the work without reflecting the negative emotions experienced by the patients, family members, and colleagues. In an environment of uncertainty and problems created by pandemic conditions, managing negative emotions and not reflecting them on patients and others requires a high level of effort. These problems can reveal the feeling of burnout in healthcare workers.[11,12] Moreover, they feel the effects of the epidemic closely while working in the field while socially isolating themselves in terms of transmitting the disease when they are not working, and some of them, especially those who are risky at home, stay away from their families. It is crucial to underline that healthcare workers may experience burnout while exhibiting these behaviors.[13]

It also causes serious consequences, such as poor performance and inability to perform duties successfully while the feeling of burnout causes.[3,6] In many studies, it has been stated that healthcare workers experience burnout symptoms during the pandemic period.[3,14,15] Based on that, healthcare workers continue to experience such a complex process that requires managing emotions and emotional labor during the COVID-19 pandemic, leading to negative outcomes, such as burnout. In this process, determining the healthcare workers' emotional labor and burnout levels is significant in terms of increasing the visibility of the problems experienced.[11,12] Although many studies express that they were negatively affected psychologically during the COVID-19 epidemic,[16–18] no study examining the relationship between emotional labor and burnout specific to the pandemic was found. However, examining this relationship is one of the important factors that should be addressed in psychological counseling programs for healthcare workers. We think that this study is unique in this respect and will contribute to the literature.

Objective

This study aimed to investigate the relationship between emotional labor and burnout levels and healthcare workers during the COVID-19 pandemic.

Research Questions

- What is the emotional labor level of healthcare workers during the COVID-19 pandemic?
- What is the burnout level of healthcare workers during the COVID-19 pandemic?
- Is there a relationship between the level of emotional labor and burnout of healthcare workers during the COVID-19 pandemic?

Materials and Method

Study Design

This study is a cross-sectional descriptive-correlational study that was carried out between February 1 and 26, 2021, at a training and research hospital in the eastern region.

Population and Sample of the Study

The universe of the study consisted of all healthcare workers in a hospital. This hospital is the only training and research hospital in the city center where the study was conducted. This hospital is the only hospital serving an average of 169,615 individuals living here under the Ministry of Health during the pandemic period. In this context, the number of patient beds in the services is 194 and in intensive care units is 19. It was determined that 722,345 people received outpatient healthcare treatment and 23,099 people received inpatient treatment in 2020 according to the information obtained from the hospital records. Since this hospital is the only pandemic hospital in the city center, the universe of the study consisted of the healthcare workers working here. The number of healthcare workers in this hospital is 780, and 289 of them are midwives and nurses. The required sample size was calculated using the Epi Info computer package software. The number of in-

dividuals to be included in the sampling was determined as 278 with a 95% confidence interval, with an error margin of 5% and an unknown prevalence of 50%, and 315 healthcare workers were included in the study sample who met the criteria for inclusion in the study and without any sampling criteria with the thought that there might be those who did not want to participate in the study sample of the study. The criteria for inclusion in the study were determined as being a health worker, being able to access the internet to fill in the prepared questionnaire, and volunteering to participate in the study.

Data Collection Tools

The research data collection process was carried out online using the Descriptive Information Form, Emotional Labor Inventory, and Maslach Burnout Inventory forms prepared on Google Forms for the research purpose. The forms consisted of 48 items and took an average of 8–10 minutes to complete. The research data were collected online to reduce face-to-face interaction because of the current isolation policy caused by the COVID-19 outbreak. The patients were informed about the purpose of the study, and their consent was obtained online. Then, healthcare workers who accepted to participate in the study voluntarily filled in the questionnaires of the study via Google Forms. Google Forms is an online application where research questions can only be accessed by participants and researchers. In this way, data confidentiality is ensured. Besides, thanks to the questionnaires designed to not allow the form to be completed without answering all questions; the case of missing data was avoided.

Descriptive Information Form

The demographic characteristics form prepared by the researchers in line with the literature includes the sociodemographic characteristics of the participants (5 items), the working environment (3 items), and the pandemic process (5 items), which consists of 13 items in total.[5–8]

Emotional Labor Inventory

This inventory was developed by Diefendorff et al.[19] The validity and reliability of the inventory in Turkish were conducted by Basim and Beğenirbaş.[20] It consists of 13 items in total and is a 5-point Likert type (1=Never, 5=Always). It also has three subdimensions: surface acting, deep-acting, and naturally felt emotions. The first six items in the scale include surface acting, the next four items are about deep-acting, and the last three items are about naturally felt emotions. In the reliability analysis for the original inventory, Cronbach's Alpha coefficients were found as 0.92 for the surface acting subdimension, 0.85 for the deep-acting subdimension, and 0.83 for the naturally felt emotions subdimension.[20] In this study, Cronbach's Alpha coefficients were found as 0.76 for the surface acting subdimension, 0.70 for the deep-acting subdimension, and 0.64 for the naturally felt emotions subdimension.

Maslach Burnout Inventory (MBI)

This inventory was developed by Maslach and Jackson (1986).[21] The Turkish validity and reliability study of the inventory was made by Ergin.[22] The scale consists of 22 items in total and is a 5-point Likert type (0=Never, 4=Always). It has three subdimensions: emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion is measured with nine items, depersonalization with five items, and personal accomplishment with eight items. Questions measuring a personal accomplishment contain positive statements. Therefore, high emotional exhaustion and depersonalization scores and low personal achievement scores indicate burnout. In the interpretation of the burnout inventory, 0–16 points for emotional exhaustion, 0–6 points for depersonalization, and 39 and above for personal accomplishment are low level; 17–26 points, 7–12 points, and 32–38 points are intermediate level; and 27 and above, 13 and above, 0–31 points are indicators of a high level of burnout. In the inventory's reliability analysis, Cronbach's Alpha coefficients were originally found as 0.83 for the emotional exhaustion subdimension, 0.65 for the depersonalization subdimension, and 0.72 for the personal accomplishment subdimension.[22] In this study, Cronbach's Alpha coefficients were found as 0.84 for the emotional exhaustion subdimension, 0.56 for the depersonalization subdimension, and 0.63 for the personal accomplishment subdimension.

Evaluation of Research Data

The data analysis was carried out in the SPSS 25.0 (Statistical Package for Social Science) statistical package software. Normal distribution was evaluated with the Kolmogorov-Smirnov normality test and Q-Q charts. Descriptive statistics (number, percentage, mean, and standard deviation) were assessed by independent t-test, One-Way Variance (ANOVA), Kruskal-Wallis tests, and Pearson analysis. Statistical significance was accepted as a value of $p<0.05$.

Ethical Aspect of the Research

This study was designed based on the Helsinki Principles. Ethics committee approval from Siirt University Non-Interventional Clinical Research Ethics Committee (Application date: December 31, 2020, and approval number: 14892) and necessary institutional permission was obtained from the hospital where the study was conducted. A voluntary informed consent form containing information about the study was sent to the healthcare workers, and an electronic informed consent form was obtained for each healthcare worker who agreed to participate in the study. The participants were informed that the data collected in the study would be used only for scientific purposes and that they could leave out the study whenever they wanted. No personal information about the participants was collected in the study except for the answers given to the questionnaire items.

Results

The mean age of the participants is 33.15±8.63; 60.3% of the participants are female, 57.1% are married, 62.2% have an undergraduate degree, 56.9% are nurses, 39.4% are working in clinics, 59.4% are working day and night, and 40.0% are less satisfied with their job. Additionally, 64.8% of them had COVID-19, 61.3% of them had COVID-19 in their family, 64.4% of them have someone recovered from COVID-19 in their family, and 88.6% were psychologically negatively affected by the pandemic (Table 1).

The mean scores of the participants' total ELI, surface acting, deep-acting, and naturally felt emotions subdimensions are 39.18±6.79, 15.71±5.21, 12.58±3.58, and 10.88±2.62, respectively. The total MBI, emotional exhaustion, depersonalization, and personal accomplishment subdimensions mean scores of the participants are 40.61±10.95, 20.6±87.23, 7.56±3.73,and 12.36±4.66, respectively (Table 2).

It was found in this study that there was a significant positive relationship between the ELI surface acting subdimension score of the participants and the total MBI and its all subdimension scores ($p<0.05$). It was also determined that there was a significant positive relationship between participants' total ELI and deep-acting subdimension scores and the mean score of the emotional exhaustion subdimension of the MBI ($p<0.05$). Besides, the findings indicated that there was a significant negative relationship between the ELI deep-acting and naturally felt emotions subdimension scores of the participants and the mean scores of the MBI personal accomplishment and depersonalization subdimensions ($p<0.05$). The study analysis also suggested that there was a significant positive relationship between the participants' total ELI and their mean MBI scores ($p<0.05$) (Table 3).

It was determined a statistically significant difference between the total ELI mean score and the participants' satisfaction with their job and the status of having recovered from COVID-19 in their family ($p<0.05$). In the analysis of total ELI subdimensions, a statistically significant difference was found between the mean scores of ELI surface acting and naturally felt emotions and the participants' occupation, working unit, working order, and satisfaction with the job ($p<0.05$). Besides, a statistically significant difference was found between the mean scores of the ELI deep-acting subdimension and marital status and occupation ($p<0.05$) (Table 4). The study revealed a statistically significant difference between the total MBI mean score of the participants and their occupation, working order, satisfied with the job, and their COVID-19 status ($p<0.05$). In the examination of the MBI subdimensions, a statistically significant difference was determined between the participants' mean score of emotional exhaustion and their occupation, working unit, working order, satisfied with the job, the status of having someone recovered from COVID-19 in their family or themselves, the death status from COVID-19 in the family, and psychological exposure to the pandemic ($p<0.05$). A statistically significant difference was found between the deper-

Table 1. The distribution of participants' descriptive characteristic (n=315)

Descriptive characteristics	n	%
Gender		
Female	190	60.3
Male	125	39.7
Marital status		
Single	135	42.9
Married	180	57.1
Education level		
High school	22	7.0
Associate program	74	23.5
Undergraduate program	196	62.2
Master program	23	7.3
Occupation		
Doctor	31	9.8
Nurse	179	56.8
Midwife	33	10.5
Health technician	41	13.0
Others (Pharmacist, nutritionist, medical secretary etc.)	31	9.8
Working unit		
Polyclinics	68	21.6
Clinics	124	39.4
Intensive care services	46	14.6
Urgent services	35	11.1
Others (Administrative unit, laboratory etc.)	42	13.3
Working order		
Continuous night	109	34.6
Continuous daytime	19	6.0
Working day and night	187	59.4
Satisfied with their job		
Very	19	6.0
Middle	99	31.4
Less	126	40.0
No	71	22.5
Your COVID-19 past status?		
Yes	111	35.2
No	204	64.8
Your family COVID-19 past status?		
Yes	193	61.3
No	122	38.7
Death from COVID-19 in the family		
Yes	203	64.4
No	112	35.6
Psychological impact of pandemic status		
Positively affected	5	1.6
No affected	31	9.8
Negatively affected	279	88.6
Mean age, Mean±SD	33.15±8.63	

SD: Standard deviation.

Table 2. The distribution of means of the participant' ELI and MBI scores (n=315)

Scales and Sub-Scales	Number of Items	Min. - Max. Score	Mean±SD
Total ELI	13	15 - 63	39.18±6.79
Surface acting	1, 2, 3, 4, 5, 6	6 – 30	15.71±5.21
Deep acting	7, 8, 9, 10	4-20	12.58±3.58
Naturally felt emotions	11, 12, 13	3 - 15	10.88±2.62
Total MBI	22	10-69	40.61±10.95
Emotional exhaustion	1, 2, 3, 6, 8, 13, 14, 16, 20	1– 36	20.68±7.23
Depersonalization	5, 10, 11, 15, 22	00– 20	7.56±3.73
Personal accomplishment	4, 7, 9, 12, 17, 18, 19, 21	00-25	12.36±4.66

SD: Standard deviation; Min: Minimum; Max: Maximum; ELI: Emotional labor inventory; MBI: Maslach burnout inventory.

Table 3. Analysis of the associations between the means of the participant' ELI and MBI scores

	Surface acting	Deep acting	Naturally felt emotions	Overall ELI
Emotional exhaustion	r=0.30	r=0.11	r=- 0.13	r=0.24
	p=0.00	p=0.04	p=0.01	p=0.00
Depersonalization	r=0.36	r=-0.10	r=-0.37	r=0.08
	p=0.00	p=0.07	p=0.00	p=0.14
Personal accomplishment	r=0.25	r=-0.14	r=-0.49	r=-0.06
	p=0.00	p=0.01	p=0.00	p=0.22
Overall MBI	r=0.43	r=-0.02	r=-0.43	r=0.15
	p=0.00	p=0.72	p=0.00	p=0.00

ELI: Emotional Labor Inventory; MBI: Maslach Burnout Inventory; r: Pearson Correlation; Statistical significance was identified if the P-value was lower than 0.05 (p<0.05).

sonalization subdimension mean score according to the profession, working order, and satisfaction with the job (p<0.05). A statistically significant difference was found between the mean scores of the personal achievement subdimension and the educational status, occupation, working unit, working order, satisfied with the job, and psychological exposure to the pandemic (p<0.05) (Table 4).

Discussion

This study investigated the emotional labor and burnout levels of healthcare workers during the COVID-19 pandemic. Healthcare workers are at the forefront of fighting the pandemic. Therefore, the unexpected rate of the COVID-19 pandemic and the increase in the number of cases and deaths lead to many problems for them.[23] In the face of these problems, healthcare workers cannot reflect their negative feelings outward and show a high level of labor. Thus, healthcare workers may face a sense of burnout.[5,15]

It was determined that the majority of the participants were women in this study. This is an expected result since women are generally included in the health care staff, such as nursing in the health sector.[24] Additionally, it was found that the majority of the participants were nurses and had an undergraduate degree since nursing education has been university based since 2007 in the area where the study was conducted.[25] Besides, it was determined that most of the participants worked in clinics. The reason for this is the recent employment of many healthcare personnel to eliminate the shortage of healthcare workers to combat COVID-19 more effectively and follow the policy to meet the needs of clinics primarily in personnel distribution.

It was found that approximately one out of every three workers tested positive for COVID-19 (Table 1). This is important in terms of showing that the number of healthcare workers affected by COVID-19 is considerable. The International Council of Nurses states that 6% of all confirmed COVID-19 cases on average are among healthcare workers, and this rate increased to 18% in some regions.[26] However, more than half of the participants have someone who either had COVID-19 in their family or died of the virus. This finding indicates that there are problems caused by COVID-19 in the family life of healthcare workers and their work life, and it contributes to the literature in terms of addressing work and family life together with psychosocial interventions to be planned.

The COVID-19 pandemic negatively affected the psychology of most of the participants (Table 1). The findings that healthcare workers experience psychosocial problems, such as anxiety, depression, and insomnia, in the literature support the findings of this study.[6,27] Increased workload, prolonged

Table 4. Comparison of the means of the participant' ELI scores as per their descriptive characteristics

Descriptive characteristics	Overall ELI and Sub-Scales (Mean±SD)			
	Surface acting	Deep acting	Naturally felt emotions	Overall ELI
Gender				
Female	15.40±5.07	12.81±3.50	10.87±2.63	39.08±6.57
Male	16.19±5.39	12.23±3.69	10.90±2.61	39.32±7.13
Test and Statistical Significance	t=--1.32 p=0.60	t=1.40 p=0.50	t=-0.10 p=0.68	t=-0.31 p=0.58
Marital status				
Single	15.57±5.17	12.96±3.66	10.85±2.70	39.39±6.82
Married	15.89±5.27	12.06±3.41	10.93±2.51	38.89±6.75
Test and Statistical Significance	t= -0.53 p=0.59	t=-2.21 p=0.02	t=-0.27 p=0.78	t=-0.64 p=0.52
Education level				
High school	16.22±2.92	11.72±3.73	10.00±2.67	37.95±4.49
Associate program	16.31±5.51	12.78±3.67	11.00±2.72	40.09±7.37
Undergraduate program	15.50±5.17	12.39±3.53	10.90±2.54	38.80±6.65
Master program	15.13±6.23	14.30±3.18	11.17±2.85	40.60±7.63
Test and Statistical Significance	KW=1.55 p=0.67	KW=6.95 p=0.07	KW=3.32 p=0.34	KW=4.07 p=0.25
Occupation				
Doctor	16.25±3.62	12.67±2.79	9.48±2.29	38.41±4.16
Nurse	15.60±5.34	12.34±3.77	10.93±2.63	38.88±7.16
Midwife	15.24±5.48	11.66±1.82	11.51±2.70	38.42±5.73
Health technician	17.78±4.64	4.46±2.83	10.29±2.49	40.85±7.23
Others (Pharmacist, Nutritionist, Medical secretary etc.)	13.58±5.43	14.54±3.96	12.09±2.19	40.22±7.03
Test and Statistical Significance	F=3.16 p=0.01	F=3.18 p=0.01	F=5.15 p=0.00	F=1.09 p=0.36
Working unit				
Polyclinics	15.55±4.61	12.10±2.82	10.61±2.72	38.27±6.33
Clinics	16.20±5.42	12.71±4.01	10.62±2.50	39.54±7.65
Intensive care services	16.63±5.05	12.76±±3.31	10.10±2.87	39.50±6.14
Urgent services	15.25±5.44	11.77±3.44	12.37±2.05	39.40±5.74
Others (Administrative unit, Laboratory etc.)	13.90±5.21	13.42±3.63	11.71±2.34	39.04±6.39
Test and Statistical Significance	F=8.33 p=0.08	F=6.62 p=0.15	F=22.61 p=0.00	F= 3.32 p=0.50
Working order				
Continuous night	14.62±5.37	12.86±3.66	11.50±2.47	38.99±±6.68
Continuous daytime	16.21±6.60	12.94±4.80	9.57±3.42	38.73±8.37
Working day and night	16.29±4.87	12.37±3.40	10.65±2.53	39.33±6.70
Test and Statistical Significance	KW=6.80 p=0.03	KW=2.79 p=0.24	KW=9.61 p=0.00	KW=0.05 p=0.97
Satisfied with their job				
Very	11.57±4.33	14.00±3.55	12.31±2.66	37.89±5.08
Middle	14.07±4.85	11.95±3.99	11.25±2.53	37.28±6.99
Less	16.84±5.09	12.72±3.14	10.80±2.71	40.37±6.73
No	17.09±4.98	12.81±3.63	10.14±2.34	40.05±6.45
Test and Statistical Significance	KW=30.52 p=0.00	KW=4.20 p=0.24	KW=14.31 p=0.00	KW=9.56 p=0.02
Your COVID-19 past status				
Yes	15.73±4.78	12.55±3.12	10.66±2.55	38.96±5.90
No	15.70±5.44	12.59±3.81	11.00±2.65	39.29±7.23
Test and Statistical Significance	t=0.61 p=0.95	t=-0.08 p=0.93	t=-0.09 p=0.27	t=0.41 p=0.67
Your family COVID-19 past status				
Yes	15.87±5.15	12.87±3.46	11.03±2.47	39.77±6.69
No	15.45±5.31	12.12±3.72	10.65±2.83	38.23±6.86
Test and Statistical Significance	t=0.69 p=0.49	t=1.80 p=0.07	t=1.24 p=0.21	t=1.96 p=0.05
Death from COVID-19 in the family				
Yes	16.03±5.28	12.71±3.65	10.86±2.56	39.61±6.92
No	15.12±5.04	12.33±3.44	10.92±2.73	38.39±6.50
Test and Statistical Significance	t=1.49 p=0.13	t=0.88 p=0.37	t=-0.21 p=0.83	t=1.53 p=0.12
Psychological ımpact of pandemic status				
Positively affected	14.60±6.38	9.20±3.27	9.80±3.11	33.60±8.64
No affected	16.70±3.70	12.29±2.62	10.12±2.39	39.12±3.98
Negatively affected	15.62±5.33	12.67±3.65	10.98±2.62	39.28±6.97
Test and Statistical Significance	KW=1.87 p=0.39	KW=4.79 p=0.09	KW=4.94 p=0.08	KW=2.17 p=0.33

t: Independent Samples t-test; F: Anova test; KW: Kruskal Wallis Test. Statistical significance was identified if the p-value was lower than 0.05 (p<0.05).

Table 5. Comparison of the means of the participant' MBI scores as per their descriptive characteristics

Descriptive characteristics	Overall MBI and Sub-Scales (Mean±SD)			
	Emotional exhaustion	Depersonalization	Personal accomplishment	Overall MBI
Gender				
Female	15.40±5.07	12.81±3.50	10.87±2.63	39.08±6.57
Male	16.19±5.39	12.23±3.69	10.90±2.61	39.32±7.13
Test and Statistical Significance	t=--1.32 p=0.60	t=1.40 p=0.50	t=-0.10 p=0.68	t=-0.31 p=0.58
Marital status				
Single	15.57±5.17	12.96±3.66	10.85±2.70	39.39±6.82
Married	15.89±5.27	12.06±3.41	10.93±2.51	38.89±6.75
Test and Statistical Significance	t= -0.53 p=0.59	t=-2.21 p=0.02	t=-0.27 p=0.78	t=-0.64 p=0.52
Education level				
High school	16.22±2.92	11.72±3.73	10.00±2.67	37.95±4.49
Associate program	16.31±5.51	12.78±3.67	11.00±2.72	40.09±7.37
Undergraduate program	15.50±5.17	12.39±3.53	10.90±2.54	38.80±6.65
Master program	15.13±6.23	14.30±3.18	11.17±2.85	40.60±7.63
Test and Statistical Significance	KW=1.55 p=0.67	KW=6.95 p=0.07	KW=3.32 p=0.34	KW=4.07 p=0.25
Occupation				
Doctor	16.25±3.62	12.67±2.79	9.48±2.29	38.41±4.16
Nurse	15.60±5.34	12.34±3.77	10.93±2.63	38.88±7.16
Midwife	15.24±5.48	11.66±1.82	11.51±2.70	38.42±5.73
Health technician	17.78±4.64	4.46±2.83	10.29±2.49	40.85±7.23
Others (Pharmacist, Nutritionist, Medical secretary etc.)	13.58±5.43	14.54±3.96	12.09±2.19	40.22±7.03
Test and Statistical Significance	F=3.16 p=0.01	F=3.18 p=0.01	F=5.15 p=0.00	F=1.09 p=0.36
Working unit				
Polyclinics	15.55±4.61	12.10±2.82	10.61±2.72	38.27±6.33
Clinics	16.20±5.42	12.71±4.01	10.62±2.50	39.54±7.65
Intensive care services	16.63±5.05	12.76±±3.31	10.10±2.87	39.50±6.14
Urgent services	15.25±5.44	11.77±3.44	12.37±2.05	39.40±5.74
Others (Administrative unit, Laboratory etc.)	13.90±5.21	13.42±3.63	11.71±2.34	39.04±6.39
Test and Statistical Significance	F=8.33 p=0.08	F=6.62 p=0.15	F=22.61 p=0.00	F= 3.32 p=0.50
Working order				
Continuous night	14.62±5.37	12.86±3.66	11.50±2.47	38.99±±6.68
Continuous daytime	16.21±6.60	12.94±4.80	9.57±3.42	38.73±8.37
Working day and night	16.29±4.87	12.37±3.40	10.65±2.53	39.33±6.70
Test and Statistical Significance	KW=6.80 p=0.03	KW=2.79 p=0.24	KW=9.61 p=0.00	KW=0.05 p=0.97
Satisfied with their job				
Very	11.57±4.33	14.00±3.55	12.31±2.66	37.89±5.08
Middle	14.07±4.85	11.95±3.99	11.25±2.53	37.28±6.99
Less	16.84±5.09	12.72±3.14	10.80±2.71	40.37±6.73
No	17.09±4.98	12.81±3.63	10.14±2.34	40.05±6.45
Test and Statistical Significance	KW=30.52 p=0.00	KW=4.20 p=0.24	KW=14.31 p=0.00	KW=9.56 p=0.02
Your COVID-19 past status				
Yes	15.73±4.78	12.55±3.12	10.66±2.55	38.96±5.90
No	15.70±5.44	12.59±3.81	11.00±2.65	39.29±7.23
Test and Statistical Significance	t=0.61 p=0.95	t=-0.08 p=0.93	t=-0.09 p=0.27	t=0.41 p=0.67
Your family COVID-19 past status				
Yes	15.87±5.15	12.87±3.46	11.03±2.47	39.77±6.69
No	15.45±5.31	12.12±3.72	10.65±2.83	38.23±6.86
Test and Statistical Significance	t=0.69 p=0.49	t=1.80 p=0.07	t=1.24 p=0.21	t=1.96 p=0.05
Death from COVID-19 in the family				
Yes	16.03±5.28	12.71±3.65	10.86±2.56	39.61±6.92
No	15.12±5.04	12.33±3.44	10.92±2.73	38.39±6.50
Test and Statistical Significance	t=1.49 p=0.13	t=0.88 p=0.37	t=-0.21 p=0.83	t=1.53 p=0.12
Psychological ımpact of pandemic status				
Positively affected	14.60±6.38	9.20±3.27	9.80±3.11	33.60±8.64
No affected	16.70±3.70	12.29±2.62	10.12±2.39	39.12±3.98
Negatively affected	15.62±5.33	12.67±3.65	10.98±2.62	39.28±6.97
Test and Statistical Significance	KW=1.87 p=0.39	KW=4.79 p=0.09	KW=4.94 p=0.08	KW=2.17 p=0.33

t: Independent Samples t-test; F: Anova test; KW: Kruskal Wallis Test. Statistical significance was identified if the p-value was lower than 0.05 (p<0.05).

working hours because of an increased number of patients, physical limitations caused by protective equipment, and stress caused by the fear that they and their families could be infected can be considered as the main causes of psychological problems experienced by healthcare workers during the pandemic.

The negative impact of the COVID-19 pandemic causes burnout in healthcare workers.[23] In this study, it was also observed that the level of burnout caused by emotional and depersonalization of the participants was moderate, and the level of burnout caused by personal achievement was high (Table 1). Similar results were found in studies on healthcare workers during the pandemic.[5,6] However, in the study by Hu et al.[15] (2020), it was determined that the rate of emotional exhaustion in healthcare workers was 60.5%, depersonalization was 42.3%, and personal achievement was 60.6%.

The most important negative consequence of an increase in emotional labor behavior is an increase in the feeling of burnout.[15] A crucial finding of this study is that emotional labor behavior increases, leading to burnout during the COVID-19 pandemic, which changes the standard professional life of healthcare workers and causes them to experience various emotional conflicts (Table 2).

There is a significant relationship was found between job satisfaction and burnout (Table 3). It was determined that those who were not satisfied with their job experienced more burnout. This is thought to arise since there is a significant relationship between satisfaction with the job and emotional labor and those who are not satisfied with their job show more emotional labor behavior. In other words, although healthcare workers are not satisfied with their job, it can be associated with the fact that emotional labor is displayed as a human emotion during the COVID-19 pandemic, which requires high human contact and interaction, and this leads to burnout. Such a situation was previously reported in a study on nurses.[6]

There is no statistically significant difference was found when emotional labor and burnout scores were compared with gender in this research (Table 4). However, in the literature, it was suggested that burnout is higher in females,[3,28] and emotional labor is higher in males.[11] The reason why this result of the study does not coincide with the literature can be explained by the uncertainties about the COVID-19 pandemic.

This study found that participants with a graduate degree experience more burnout in the personal achievement dimension (Table 4). Similarly, it was indicated that those with higher education levels experienced more burnout when studies in the literature were examined.[3,6] Regarding the participants' occupational groups, it was observed that nurses experienced significantly more burnout in the emotional dimension, midwives in the depersonalization dimension, and the other group of healthcare workers in the personal achievement dimension (Table 5). Jalili et al.[5] (2020) determined that the healthcare workers who experienced the most burnout were assistants. This finding is noteworthy in terms of reflecting that each occupational group experiences different dimensions and degrees of burnout. Psychosocial measures delivered during the pandemic are generally online, and they are provided based on the participation of each occupational group. However, each occupation group has its specific duties and responsibilities although the healthcare workers are considered whole. With this finding of this study, the opinion that psychosocial interventions planned for healthcare workers during the pandemic should be different for each occupational group is supported.

Working at the forefront of combating COVID-19 is one of the few variables that significantly affect burnout. In this study, it was determined that those working in intensive care units that bear the greatest burden of the effect of COVID-19 disease experienced more emotional burnout (Table 5). Similar results were found in some studies conducted with healthcare workers who were active during the COVID-19 pandemic.[3,18] Burnout is inevitable in this group of people who deal with emergencies related to COVID-19 disease and experience feelings of extra fatigue, high anxiety, constant vigilance, and ethical problems because of their working conditions.

It was found that those who work continuously during the day also experienced significantly more emotional burnout although it is predicted that people who work continuously at night or sometimes during either the day or night experience more burnout because of having a more irregular life and caring for more patients during night shifts than those who work only during the day (Table 5). In this case, the reasons that push continuous daytime workers to burnout as much as those who work at night should be investigated and measures should be taken for this.

This research concluded that those who themselves or someone in their family tested positive for COVID-19 and those who have a family member who died of the virus experienced more emotional burnout (Table 5). In the study of Duartea et al.[3] (2020), it was indicated that healthcare workers who lost someone familiar because of COVID-19 experienced more burnout. It is seen that experiencing COVID-19 disease in some way is an important factor that emotionally strains and increases burnout of healthcare workers.

It was observed that those who were psychologically affected by the pandemic experienced more emotional burnout in the study (Table 5). Likewise, it was emphasized in previous studies that all the stressors brought by the pandemic, such as being tired because of the busy work pace, having anxiety about their health, and fear of infecting their relatives, cause burnout.[5,6,15] Besides, one of the important findings of the study is that those who stated that they were psychologically affected by the pandemic had significantly more burnout in the personal achievement dimension. However, in the previous studies, results in the opposite direction were obtained.[6,15] The reason for this difference can be attributed to the use of the recommended positive/optimistic thinking technique

to cope with the pandemic problems psychologically. Moreover, it can be suggested that entering the adaptation period because of the second year of the pandemic and the COVID-19 vaccine studies are also developed can be effective in adopting the positive/optimistic thinking technique.

Conclusion

The results of this study show that the healthcare workers encountered emotional reactions, emotional exhaustion, or loss of energy and consequently burnout during the pandemic. Unfortunately, this process of emotional labor in the uncertainty of healthcare workers and burnout can increase accordingly. Some sociodemographic characteristics, working conditions, and pandemic-specific problems of healthcare workers are effective in experiencing emotional labor behavior and burnout more as psychosocial risk factors. For better healthcare provision, it may be suggested to determine the factors that cause emotional reactions and burnout in healthcare workers and positively support them with in-service training. Group dynamics and planning of awareness practices aimed at reducing stress specific to each occupational group, supporting the motivation sources of healthcare workers (e.g., providing positive feedback, having sufficient knowledge of the disease, and providing compensation support), and regular mental health screenings for healthcare workers are effective interventions to protect them during the pandemic. In this process, the wishes of the healthcare workers should be taken into consideration to improve working conditions while arranging the working hours, periodic rotations should be made in line with the preferences of the healthcare workers, the healthcare workers should be supported with various resources (e.g., additional wages, career, promotion, and motivation days), and personnel employment should be provided. Furthermore, all healthcare workers especially nurses, because of the forefront of combating the pandemic, continue to experience a process that requires the management of emotional labor and through which they experience burnout during the COVID-19 pandemic. Therefore, governments must give priority to traumatic disorders with a high risk of developing healthcare workers, especially nurses, and provide psychological support. In addition, healthcare workers must pay attention to their mental health problems. The psychological health of healthcare workers ensures quality care for the community to identify effective therapeutic strategies to improve outcomes for nurses, and psychologically, it is very important to establish.

Limitations of the Study

The study has some limitations. The emotional labor levels of healthcare workers are limited by the Emotional Labor Inventory developed by Basim and Öğirbaş,[20] and the levels of burnout obtained using the Burnout Inventory developed by Ergün.[22] Another limitation is that the data collection of the inventories was conducted online instead of through face-to-face interviews. Therefore, because of such data collection when the COVID-19 pandemic was actively spreading, challenges were experienced in accessing healthcare workers.

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