



ORIGINAL ARTICLE

Healthcare workers' burn-out, hopelessness, fear of COVID-19 and perceived social support levels

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Abstract

Background and objectives: During the pandemic, all healthcare workers have tried to cope with mental challenges. This study evaluated the healthcare workers' levels of burn-out, hopelessness, fear of COVID-19 and perceived social support, the relation between these factors, and other possible related components.

Methods: Four hundred and fifty-one HCW (healthcare workers) all across Turkey were included in the study. Sociodemographic information form, Maslach Burn-out Inventory, Beck Hopelessness Scale, Multidimensional Scale of Perceived Social Support, and the Fear of COVID-19 Scale were given to the participants. This was a cross-sectional study via various online platforms.

Results: The participants who were on duty in the COVID-19 clinic, complaining about the low salary or not having enough time for themselves or their own family, had significantly higher scores on three subscales of burn-out scale, and hopelessness scale. Working at governmental hospitals, working at departments containing a high risk of COVID-19 infection, and having a history of COVID-19 infection were found to be significantly associated with emotional exhaustion, depersonalization, and hopelessness. Feeling control of your profession and getting social support from others were the two factors that tackle burnout in HCW. Family support is the only support that tackles all 3 subscales of burn-out and hopelessness.

Conclusion: The findings emphasized that to tackle the burn-out and hopelessness of HCW, it is important for HCW to receive financial compensation for their hard work, to work under improved conditions, and to receive adequate social support.

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Introduction

During the pandemic, all healthcare workers have tried to cope with challenges such as being exposed to a heavy workload, facing the risk of getting infected or dying. Besides, they were seriously prevented by both restrictions and social isolation measures from getting “social support” while

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struggling against the psychological effects of those challenges.¹ Burn-out is a psychological syndrome that develops against negative conditions in the workplace and progresses with emotional exhaustion, a sense of helplessness, depersonalization, a negative attitude toward work and life, and low personal achievement.² Despite the high number of studies conducted on such concepts as depression and burn-out in HCW, there exist few studies investigating the frequency of hopelessness and burn-out during the COVID-19 pandemic in this group, and the correlation between those two concepts, as well. Studies have clearly shown that hopelessness is correlated with adverse outcomes such as anxiety, depression, low quality of life, self-harming behaviours, suicidal ideation and suicidal tendencies.³⁻⁶ This study evaluates the HCW levels of burn-out, hopelessness, fear of COVID-19 and perceived social support during the pandemic, and reveal the relationship between these factors, and other possible related components.

Materials and methods

Design and participants

The study was conducted with 451 HCW from various provinces of Turkey. The sociodemographic characteristics of the participants and their experiences during the pandemic period are presented in detail in the results section (Table 1). Study inclusion criteria were being a healthcare worker (doctor, nurse or assistant healthcare personnel) and having consented to participate in the study. The data collection process was performed employing the snowball method over the Internet, through the online questionnaire program (Google Forms) from January 28 to February 18, 2021.

Data collection tools

Sociodemographic information form

The sociodemographic information form was prepared by the researchers to collect the sociodemographic data of the participants.

Maslach burn-out scale

Maslach Burn-Out Scale is a 5-point Likert-type scale, consisting of 22 items. The scale has 3 dimensions. The dimensions include emotional exhaustion, depersonalization and personal achievement.⁷ The Turkish reliability and validity study of the scale was performed by Ergin, the original 7-point Likert-type scale being transformed into a 5-point scale (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Always) per Turkish culture.⁸ In this study, the items measuring “personal achievement” were reversed to be in line with other factors, and this factor was interpreted as “personal nonachievement” while evaluating the results. In this study, the Cronbach's alpha internal consistency coefficient of the scale was calculated as 0.91 for the whole scale.

Beck hopelessness scale

Beck Hopelessness Scale consists of 20 items. The maximum total score is 20, where an increase in the score indicates an increase in hopelessness and suicidal tendencies.⁹ The

Table 1 Sociodemographic characteristics of the participants.

		(N = 451)	%
Gender	Female	317	70.3
	Male	134	29.7
Marital Status	Married	301	66.7
	Single	112	24.8
	Divorced	35	7.8
	Widowed	3	0.7
Regular alcohol use	Yes	50	11.1
	No	401	88.9
Regular cigarette use	Yes	116	25.7
	No	335	74.3
Occupation	Physician	273	60.5
	Nurse	99	22
Healthcare Institutions where HCW work	Other HCW	79	17.6
	Foundation	133	29.5
	University		
	Training and Research	105	23.3
	Hospital		
	Governmental	61	13.5
	Hospital		
COVID-19 Risk at Work	Private Hospital	54	12
	State University	46	10.2
	Private Practice	7	1.6
	Other	45	10
	Departments at High Risk*	184	40.8
	Departments at Low Risk*	267	59.2

* Departments at High Risk = Surgical departments, emergency department, infectious diseases, anesthesiology clinic, intensive care unit, dental clinic. Departments at Low Risk = Other departments.

Cronbach's alpha internal consistency coefficient of the scale in this study was calculated as 0.90.

Multidimensional scale of perceived social support (revised version)

This 7-point Likert-type (1 = Definitely No, 7 = Definitely Yes) scale consisting of 12 items were developed to measure the perceived social support levels of individuals for the dimensions of family, friends and a specific person.¹⁰ The Cronbach's alpha internal consistency coefficient of the scale in this study was found to be 0.93 for the whole scale, 0.91 for the family factor, 0.94 for the friend factor, and 0.95 for the specific person factor.

Fear of COVID-19 scale

The one-dimensional scale consisting of 7 items was developed by Ahorsu et al. in 2020.¹¹ The scale is based on a 5-point Likert-type scale (1 = Strongly disagree, 5 = Strongly agree). An increase in the total score signifies an increase in fear of COVID-19. The Cronbach's alpha internal consistency coefficient of the scale in this study was calculated as 0.90.

Table 2 Correlations between hopelessness, fear of COVID-19, burn-out, and social support scales.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Hopelessness	-								
2. Fear of COVID-19	.18**	-							
3. Burn-out (Total Score)	.592**	.122**	-						
4. Emotional Exhaustion	.598**	.204**	.895**	-					
5. Depersonalization	.428**	.022	.804**	.598**	-				
6. Nonachievement	.341**	-.015	.710**	.388**	.493**	-			
7. Social Support (Total Score)	-.437***	-.026	-.337**	-.309**	-.258**	-.238**	-		
8. Friends	-.370**	-.067	-.267**	-.251**	-.205	-.176**	.830**	-	
9. Family	-.396**	-.023	-.305**	-.279**	-.234**	-.215**	.737**	.486**	-
10. Specific Person	-.326**	.015	-.266**	-.239**	-.203	-.197**	.867**	.565**	.437**

** $p < .01$, $N = 451$.

Statistical analysis

Within the study, independent groups t-test and one-way analysis of variance (ANOVA) were used to compare the groups according to their total scores from the scale, and multivariate analysis of variance (MANOVA) to compare the scales according to their sub-dimensions. An analysis comparing more than two groups, the results were evaluated according to the Tukey post hoc analysis. All analyzes were performed using IBM SPSS Statistics 20 software.

Results

The 451 HCW' sociodemographic data are presented in Table 1.

The comparison of participants in terms of scale score correlations revealed that the subscale with the highest correlation of hopelessness was emotional exhaustion ($r = 0.598$). The highest level of negative correlation of social support was, on the other hand, with hopelessness ($r = -0.437$) (Table 2).

According to the total score of the social support scale, married participants were found having significantly higher scores compared to unmarried participants ($p = 0.011$).

It was also noted that those participants with children had significantly higher "COVID-19 fear" ($p = 0.045$) and lower "hopelessness" levels ($p = 0.038$) compared to those without children. Also, the participants with children were

found to have significantly lower mean scores of "depersonalization" and "personal nonachievement" compared to those without children ($p < 0.01$ and $p < 0.01$, respectively) (Table 3).

Upon comparison of the physician by their titles, it was noted that those with the highest mean score in terms of emotional exhaustion were "specialists", whereas those with the highest mean score of "depersonalization" and "personal nonachievement" were residents. Besides, the group with the lowest mean scores in all three sub-dimensions of the burn-out scale and the hopelessness scale was found to include professors (Table 4).

As the participants' scale scores were compared in terms of the institutions they work, it was found that there were significant differences between institutions in terms of their levels of sub-dimensions of the burn-out scale ($F(18, 1250) = 3,109$, $p < 0,01$; Wilk's $\lambda = 0,884$, partial $\eta^2 = 0,040$) and hopelessness ($F(6, 444) = 4,295$, $p < 0,01$, partial $\eta^2 = 0,055$). Accordingly, among participants, those with the highest mean scores on "emotional exhaustion" were found to be governmental hospital workers and training and research hospital workers, respectively, with the lowest ones being private practice workers, and state university workers, between which there were significant differences ($F(6, 444) = 7,513$, $p < 0,01$, partial $\eta^2 = 0,092$).

Among the participants, those with the highest mean scores of "depersonalization" were found to work in training and research hospitals and governmental hospitals, respectively, with the lowest mean scores of "depersonalization"

Table 3 Comparison of the participants with and without children by their total scores of hopelessness, fear of COVID-19, social support and burn-out subscales.

	With children (n=287) Mean \pm SD	Without children (n=164) Mean \pm SD	<i>p</i>
Hopelessness	7.31 \pm 5.3	8.42 \pm 5.58	0.038
Fear of COVID-19	17.25 \pm 6.9	15.89 \pm 6.95	0.045
Perceived Social Support	64.72 \pm 16.49	65.53 \pm 15.08	0.604
Emotional Exhaustion	16.78 \pm 7.08	17.11 \pm 8.08	0.653
Personal Nonachievement	10.24 \pm 3.88	11.73 \pm 4.75	0.000
Depersonalization	5.11 \pm 3.45	6.08 \pm 3.55	0.000

Table 4 Comparison of physicians' total scores of the burn-out subscales and the hopelessness, social support and fear of COVID-19 scales by their titles.

Professional Title	Emotional Exhaustion Mean \pm SD	<i>p</i>	Depersonalization Mean \pm SD	<i>p</i>	Personal Nonachievement Mean \pm SD	<i>p</i>	Hopelessness Mean \pm SD	<i>p</i>	Social Support (Total Score) Mean \pm SD	<i>p</i>	Fear of COVID-19 Mean \pm SD	<i>p</i>
Practitioner (n=27)	17.18 \pm 6.25	0.006	5 \pm 2.81	0.00	10.55 \pm 2.7	0.00	7.96 \pm 1.04	>0.05	62.77 \pm 16.93	>0.05	17.18 \pm 7.66	>0.05
Resident (n=59)	17.25 \pm 7.41		7.13 \pm 3.53		12.57 \pm 4.27		7.81 \pm 0.7		68.77 \pm 13.6		15.89 \pm 6.65	
Specialist (n=103)	18.45 \pm 7.11		6.33 \pm 3.63		11.45 \pm 3.7		8.14 \pm 0.53		63.51 \pm 16.76		16.57 \pm 6.98	
Assistant Professor (n=19)	14 \pm 7.18		5.57 \pm 2.67		11.1 \pm 3.01		6 \pm 1.24		65.57 \pm 16.11		14.21 \pm 5.42	
Associate Professor (n=36)	14.91 \pm 7.88		4.61 \pm 3.25		9.5 \pm 3.92		6.47 \pm 0.9		69 \pm 14.56		15.88 \pm 6.45	
Professor (n=27)	13.59 \pm 6.05		3.29 \pm 1.95		8.03 \pm 2.6		5.18 \pm 1.04		66.88 \pm 13.89		17.44 \pm 6.45	
Total (n=271)	16.8 \pm 7.27		5.79 \pm 3.46		10.98 \pm 3.85		7.38 \pm 5.46		65.79 \pm 15.59		16.31 \pm 6.75	

being in private practice workers and state university workers, respectively. The results of the post hoc analysis showed that the “depersonalization” levels of the training and research hospital workers were significantly higher than those of the foundation and state university workers ($F(6, 444) = 4,585$, $p < 0,01$, partial $\eta^2 = 0,058$).

It was found that those with the lowest scores for personal nonachievement were private practice workers, and those with the highest scores were governmental hospital workers, however, the results of post hoc analysis showed no significant difference between the groups ($p > 0.05$).

Besides, the HCW with the highest hopelessness scores was found to be those working in governmental hospitals and in training and research hospitals, whereas those working in private practice were found to be the most “hopeful” group ($p < 0.01$). When the participants are divided into two groups, including those who were never on duty in the COVID-19 clinic and those who were, at least once, on duty, it was observed that HCW on duty had significantly higher scores than those who were never on duty ($p < 0.01$).

It was noteworthy in all three dimensions of the burn-out scale (emotional exhaustion, depersonalization and personal nonachievement) that the participants who were on duty had significantly higher scores than those who were never on duty ($p < 0.05$, $p = 0.00$, $p < 0.01$, respectively).

The comparison of the departments where HCW work by the risk they pose for COVID-19 transmission showed that, in terms of “hopelessness” levels, the participants working in high-risk departments had significantly higher scores than those working in lower-risk departments ($p = 0.001$). Likewise, it was noted that, in the dimensions of “emotional exhaustion” and “depersonalization”, the participants working in high-risk departments had significantly higher scores than those in low-risk departments (Table 5).

The examination of participants' level of satisfaction with their professions showed that the HCW complaining about excessive workload and low salaries was found to have significantly higher scores on all 3 burn-out dimensions and hopelessness, compared to the others.

Lastly, it was found that, among the HCW, the hopelessness levels of smokers were significantly higher than non-smokers ($p < 0.05$), and those who use alcohol having a significantly higher depersonalization level compared to those who do not use alcohol ($p < 0.01$).

Discussion

This study aimed to evaluate HCW' levels of burn-out, hopelessness, fear of COVID-19 and perceived social support during the COVID-19 pandemic. It was remarkable that conditions increasing the risk of “emotional exhaustion” in HCW included being a woman, being a nurse or a specialist doctor, working in a governmental or training and research hospital, being on duty in the COVID-19 clinic, working at the departments containing a high risk of COVID-19 infection, having a history of COVID-19 infection, feeling at risk of COVID-19 due to the work, working for low salaries, working under insensitive supervisors, being exposed to excessive workload, not sparing time for oneself and family, and feeling uncomfortable for putting the loved ones at risk of COVID-19. However, being satisfied with the workplace,

Table 5 Comparison of the scale scores of the departments where HCWs work by the risk of COVID-19 infection.

	Those working at the departments at low risk of COVID-19 infection (n = 267)Mean ± SD	Those working at the departments at high risk of COVID-19 infection (n = 184)Mean ± SD	p
Hopelessness	7.08±5.18	8.64± 5.64	0.001
Fear of COVID-19	16.53±6.60	17.08±7.41	0.413
Perceived Social Support	65.87±15.57	63.77±16.51	0.171
Emotional exhaustion	15.59±7.17	18.8±7.45	0.000
Depersonalization	5.00±3.40	6.13±3.59	0.001
Personal nonachievement	10.74±4.11	10.84±4.5	0.820

working in private practice and having the title of professor were found to come to the forefront as protective factors mitigating emotional exhaustion.

The results showed that working conditions have a direct effect on HCW mental health. In both governmental and training and research hospitals affiliated with the Ministry of Health, the factors that increase “emotional exhaustion” especially in specialist physicians and nurses included providing care for a large number of patients, being exposed to excessive workload and not receiving financial compensation for their hard work although the increased high vital risks after the pandemic. It was also noted that having control of one's profession and perceived social support from loved ones are the two factors that protect HCW against emotional exhaustion.

In the present study, the factors that increase the risk of “depersonalization”, a sub-dimension of the burn-out, were found to include having children, being a physician, being a resident, working in a governmental or training and research hospital, having been on duty in the COVID-19 clinic, working at the departments containing a high risk of COVID-19 infection, working with insensitive supervisors, receiving low salaries, not having enough time for oneself or one's own family, feeling uncomfortable for putting the loved ones at risk of COVID-19, and drinking alcohol. However, the factors that significantly mitigate depersonalization and protect the HCW thereagainst were found to include having children, being a professor, working in private practice and being satisfied with the workplace. In the participants who have children, it was noted that the higher the number of children, the lower the depersonalization (i.e. the better the HCW be protected against burn-out).

At this point, it was unfortunately noteworthy that the HCW working under high risk, heavy conditions and excessive workload in institutions directly affiliated to the Ministry of Health had significantly higher depersonalization scores.

However, the factors that increase the scores of the “personal nonachievement” sub-dimension of the burn-out in HCW were found to include being a resident, being on duty in the COVID-19 clinic, having a history of COVID-19 infection, working with insensitive supervisors, complaining about not having enough time for oneself or one's own family, with having a child being a protective factor against “personal nonachievement” and the increased number of children supporting such protectiveness. Also being a professor and being satisfied with the workplace were found to serve as other protective factors in terms of personal nonachievement.

It was noted that factors associated with an increase in hopelessness scores included smoking, working in a

governmental or training and research hospital, being a specialist physician, being on duty in the COVID-19 clinic, working at the departments containing a high risk of COVID-19 infection, having a history of COVID-19 infection, working with insensitive supervisors, feeling at risk of COVID-19 due to work, being exposed to excessive workload, working for low salaries, not having enough time for oneself or one's own family and feeling uncomfortable for putting the loved ones at risk of COVID-19. Besides, having children and being satisfied with the workplace were found to be protective factors against hopelessness. Moreover, this study showed that private practice workers and professors constituted the groups with the lowest scores for all sub-dimensions of burn-out and hopelessness. Having a superior academic title and having control of the profession stand out as protective factors for mental health.

Perceived social support correlates negatively with hopelessness, emotional exhaustion, depersonalization, and non-achievement, which, in other words, are protective against all these conditions. This finding is associated with the fact that receiving social support serves as a buffer in reducing the negative effects of stress.¹² It was also remarkable that only “family support”, a sub-dimension of social support, was protective against all sub-dimensions of hopelessness and burn-out.

Whereas the fear of COVID-19 is positively correlated with hopelessness and emotional exhaustion, being a woman and having children also are factors that increase the fear of COVID-19. Hence, this is correlated with the motive of being a mother and protecting the child. It has been quite challenging for mothers in this period to inform their children of the COVID-19 pandemic and try to comfort them emotionally, while they could not even cope with their anxiety and fears.¹³ In addition, the isolation measures taken during the pandemic and the distance education process have caused children to stay at home, which has also been emotionally challenging for mothers who continue to go to work in the healthcare sector. Moreover, as an outcome of gender roles, women's increasing domestic workload¹⁴ and their less ability to distinguish between home and work responsibilities compared to men, may have caused women to feel burned out about being a parent.¹⁵

In a comparison of HCW in terms of COVID-19 risk of the departments they work, it was noted that the mean scores of “hopelessness, emotional exhaustion and depersonalization” of the participants working at the departments containing a high risk of COVID-19 infection were significantly higher than those of HCW in departments at low risk. This

result more clearly reveals the negative and compelling effects of the pandemic and the risks arising from the pandemic on the mental health of HCW. This is also supported by the studies in the literature.^{16–20}

Smoking and using alcohol was associated with hopelessness and depersonalization, respectively. Those results are compatible with the literature.^{21–23} The average levels of the hopelessness of the HCW in this study were found to be higher compared to the studies conducted in the early stages of the pandemic or the pre-pandemic period.^{24–28} This is an indication of the negative effects of the pandemic process on the mental health of HCW.

It is noteworthy that HCW reporting not having enough time for themselves or their own family had higher average scores in all sub-dimensions of burn-out and hopelessness, and lower mean scores of perceived social support. This is related to working in departments with an extensive workload and suggests how important it is for a person to “have time for oneself or one's own family” for mental health. Excessive workload and not having enough time for oneself or one's own family have also been correlated with hopelessness and burn-out in various previous studies.^{20–25}

The press release on February 25, 2021, of the Turkish Thoracic Society reports that 1 out of every 74 people who died due to COVID -19 in Turkey is a healthcare worker.²⁹

Strengths and limitations

This is the first study that evaluates the HCW levels of burn-out, hopelessness, fear of COVID-19 and perceived social support during the pandemic and reveals the relationship between these factors, and other possible related components. Our sample consists of HCW from all across the country. On the other hand, we have a relatively small sample size. For future studies, larger sample sizes are needed. Secondly, our study has a cross-sectional design so to clear the causative relationship of the associations we have found, prospective studies are needed. Finally, our results are limited via “participant bias” just as every questionnaire-based study.

Conclusions

HCW, who have been working under harsh conditions in every respect for many years in our country, now with an added risk of death after the pandemic. To protect them against burn-out and hopelessness, and to improve their mental health, it seems important that, given their heavy and risky working conditions, they should receive financial compensation for their hard work, their working conditions should be normalized and improved, and they should be provided with adequate social support.^{30,31} All this may be possible in the future through policies that also consider the HCW.

Ethical considerations

The study has received ethics approval from the Medicine and Health Sciences Research and Ethics Committee of Başkent University Hospital (Project no: KA 19/375).

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Conflict of interest

The authors declare that they have no conflict of interest.

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