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Depression, traumatic cognition, and death anxiety in pre-hospital and emergency staff depending on prior COVID-19 infection – a Turkish example

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Abstract

Introduction. Pre-hospital emergency health staff (PHEHS) and emergency service staff (ESS) who were directly involved in the fight against COVID-19, have been the most affected group among health service units. The aim of the study is to evaluate the traumatic cognition, depression and death anxiety according to having had the COVID-19 disease.

Materials and Method. A cross-sectional study was conducted between 15 December 2021–1 April 2022 in Gümüşhane, Turkey, with the participation of PHEHS and ESS (N=304. The Post-Traumatic Cognition Scale (PTCI), Beck Depression Scale (BDI) and Turkish Death Anxiety Inventory (TDAI) were used.

Results. Based on the scoring ranges of the instruments used, the study found that participants exhibited moderate levels of depression (BDI scores between 17–29), high levels of death anxiety (TDAI scores approaching the upper limit of 80), and elevated trauma-related cognitions (PTCI scores within the higher range of 36–252, indicating increased negative cognitions related to the traumatic event). The mean scores of the PTCI and BDI were significantly higher among employees diagnosed with COVID-19 compared to those who were not ($p < 0.05$). Conversely, the mean scores of the TDAI were significantly higher among participants who had not been diagnosed with COVID-19 ($p < 0.05$). A gender-based analysis revealed that female participants scored significantly higher on the PTCI than male participants ($t = –8.634$, $p < 0.05$). Furthermore, a strong positive correlation was observed between BDI and PTCI scores ($r = 0.822$), indicating that increased depressive symptoms were associated with intensified trauma-related cognitions.

Conclusions. Participants had moderate depression, moderate traumatic findings and moderate death anxiety; whereas participants diagnosed with COVID-19 had higher average of trauma and depression findings, lower death anxiety. It is important to take psycho-social measures for PHEHS and ESS providing health services, to take special precautions especially for women and employees diagnosed with COVID-19 who are more affected by the process, to supply and inspect equipment such as personal protective equipment.

Key words

Depression, Traumatic Cognition, Death Anxiety, Pre-Hospital, Emergency

INTRODUCTION

The world is faced with the danger of a virus that was allegedly first seen in 2019 in Wuhan, China [1]. In Turkey, the first case was seen in March 2020 [2]. Along with the increased risks of transmission, serious increases have occurred in case and death rates. Countries had to take quarantine measures in order to minimize the risks of transmission. Healthcare professionals found themselves on the front line of the fight against COVID-19, having to make important decisions under psychological pressure [3–6].

COVID-19 disease affected individuals psychologically and mentally, as well as the medical process. The isolation measures taken increased the risk of anxiety and depression by confining people to their homes [7–9]. It was determined that during the period of the epidemic healthcare workers developed acute stress disorder and anxiety complaints [10, 11]. Among the healthcare workers, pre-hospital emergency medical staff (PHEHS) and emergency services staff (ESS) who encountered cases for the first time and made the first intervention, were undoubtedly the most affected by the pandemic process [12]. In addition, PHEHS and ESS were risk groups in terms of mental trauma because they are faced with severely damaged bodies and life-threatening events [12, 13]. This situation can make employees diagnosed with COVID-19 risky in terms of many mental illnesses, such as traumatic stress and depression [14].

Emergency care personnel are front-line medical service providers in emergencies. In Turkey, this refers to pre-hospital medical personnel such as doctors, nurses and paramedics, and emergency medical technicians. Although the psychological distress of medical personnel hsas been extensively investigated worldwide, there are very few studies on the risk of exposure to the disease and the psychological effects of the disease in healthcare workers, nor is there any study that comparatively evaluates the mental state of healthcare personnel who have and have not contracted the disease [12, 13]. Recent studies published between

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2022–2024 have increasingly focused on the mental health outcomes of healthcare workers following the COVID-19 pandemic [9, 11, 12]. Elevated rates of depression, trauma-related cognition, and death anxiety have been consistently reported, particularly among frontline staff exposed to infected individuals. These findings underscore the urgency for assessing psychological responses in emergency medical personnel, a need which is directly addresses by the presented study [13, 14]. Unlike previous research that primarily investigated the general psychological distress during the pandemic, the current study uniquely compares mental health outcomes between emergency staff who have and have not been diagnosed with COVID-19. This approach provides a more nuanced understanding of the psychological burden associated with infection history, and contributes novel insights to the literature on occupational health.

OBJECTIVE

The aim of the study is to evaluate traumatic cognition, depression, and death anxiety according to the situation of having COVID-19 disease, and to raise awareness about this negative process in terms of mental health, especially during the COVID-19 epidemic, to guide the personnel in the process of taking protective measures in terms of mental health in the case of similar disasters that may occur in the future, and to contribute to the literature.

MATERIALS AND METHOD

Study design and participants. This descriptive and comparative study aimed to assess depression, trauma, and death anxiety levels among Pre-Hospital Emergency Health Staff (PHEHS) and Emergency Service Staff (ESS) based on their history of COVID-19 infection.

The study population (N = 357) consisted of healthcare professionals working in the following settings under the Gümüşhane Provincial Health Directorate: hospital emergency services, 112 emergency stations operating under the Office of the Chief Physician, and the Command and Control Centre (CCC). The population data were obtained directly from official records provided by the provincial health directorate. To determine the minimum required sample size, the sample formula for a finite population was used:

$$n = N \times t^2 \times p \times q / [d^2 \times (N–1) + t^2 \times p \times q]$$

Assuming a 95% confidence level ($t = 1.96$), a 5% margin of error ($d = 0.05$), and a response distribution of $p = 0.5$ and $q = 0.5$ (to reflect maximum variability), the minimum required sample size was calculated as 185. Data were collected between 15 December 2021–1 April 2022, via online surveys administered through the SurveyMonkey platform (www.surveymonkey) with distribution support from WhatsApp groups. A total of 315 individuals initially consented to participate by clicking the 'I agree to participate in the research' button. After excluding 6 participants due to incomplete responses, the final analytic sample comprised 304 participants**,** thereby achieving 85.15% of the total target population.

To verify the adequacy of the sample size, a *post-hoc* statistical power analysis was conducted using G*Power version 3.1.9.2. With an effect size of 0.479, an alpha level of 0.05, and the final sample size of 304, the calculated statistical power was 1.00, which exceeds the commonly accepted threshold of 0.95**,** thus confirming the methodological robustness of the sample.

Demographic information, including age, gender, marital status, occupation, and years of professional experience, was collected via a structured self-report questionnaire. Participants' history of COVID-19 infection was initially assessed based on their self-reported responses to the question 'Have you ever been diagnosed with COVID-19?'. Reported cases were then clinically confirmed through official test results provided by the participants, thereby ensuring diagnostic accuracy.

Inclusion criteria: Participants who agreed to participate in the study had to be actively working during the COVID-19 process in the pre-hospital emergency health service and emergency department.

Exclusion criteria: Participants who were being treated for a chronic serious mental problem before the COVID-19 pandemic and did not complete the scales were excluded from the study.

Data collection tools. COVID-19 clinical – socio-demographic Information Form. Included COVID-19 clinical findings and demographic data such as age, gender, profession, area of work, professional experience, marital status, loss of close relative due to COVID-19, and psychiatric.

Post-Traumatic Cognition Scale (PTCI). A 36-item self-assessment scale developed to determine trauma-related cognitions that are thought to have an impact on the development of PTCI [15]. The Turkish adaptation of the scale was first made by Yetkiner [16]. The Cronbach's alpha of the scale is α=0.89. The scale is divided into 3 subscales containing 36 items. These are: the negative cognitions about oneself subscale (NCO), the negative cognitions about the world subscale (NCW), and the self-blame subscale (SB). The score that an individual can schieve from the scale varies between 36–252. A high score indicates a high level of false cognitions about the traumatic event.

Beck Depression Inventory (BDI). A 21-item scale that measures 4 symptoms (somatic, emotional, cognitive, and impulsive) that develop as a result of depression [17]. As a result of the total score – between 10–16 – indicates mild depression, a score between 17–29 – moderate, and a score between 30–63 indicates severe depression. The aim of the scale is to objectively score the severity of the symptoms rather than the diagnosis of depression [33]. The scale has a Cronbach alpha value of α=0.80. In the current study, the most recent 1978 adaptation of the scale by Nesrin Hisli, was used [18].

Turkish Death Anxiety Inventory (TDAI). First prepared as a result of the studies of Thorson and Powell and adapted for Turkish use with the study of Sarıkaya [19]. The scoring system is between 0–80, with achieving a high score indicating high death anxiety. The distribution of the scale's Cronbach's

alpha value α=0.86 to the factors is as follows. It is stated that it shows a high level of death anxiety. There are 3 subscales in the scale: Uncertainty of Death (UD), Exposure (E), and Suffering (S).

Data Analysis. Continuous variables were described as mean (standard deviation), and categorical variables as frequency and percentage. In addition, normal distribution analyzes were used to determine the distribution of the data, such as t-test, one-way Anova test, and Pearson correlation.

RESULTS

Socio-demographic and clinical data of the participants are shown in Table 1. The total scores of the participants from the scales are shown in Table 2.

Table 1. Distribution of participants according to demographic characteristics

Demographic	Group	n	Percentage %
Gender	Male	164	53.9
	Female	140	46.1
Age	20–25 years	61	20.1
	26–30 years	131	43.1
	31–35 years	71	23.4
	36–40 years	19	6.3
	41 years and more	22	7.2
Marital status	Married	151	49.7
	Single	153	50.3
Educational Status	High School	32	10.5
	Associate Degree	116	38.2
	Undergraduate and Graduate	156	51.3
Occupation	Paramedic	77	25.3
	EMT	40	13.2
	Driver	16	5.3
	Nurse	83	27.3
	Doctor	14	4.6
	Other	74	24.3
Employer Institution	Hospital	160	52.6
	KKM	59	19.4
	112 Station	85	28.0
Professional Seniority	1–3 years	81	26.6
	4–6 years	97	32.0
	6–9 years	61	20.1
	10 years and more	65	21.4
Received Psychiatric Support	Yes	17	5.6
	No	287	94.4
İnfected or Uninfected With COVID-19	İnfected	157	51.6
	Uninfected	147	48.4
Loss of Taste and Smell (Infected)	Yes	116	74.2
	No	41	25.8
Severity of Symptoms (Infected)	Normal	89	56.6
	Severity	68	43.4
Hospitalization (Infected)	Yes	50	32.1
	No	107	67.9
Involvement in the Lungs (Infected)	Yes	69	44.0
	No	88	56.0

Table 2. Evaluation of difference between PTCI,BDI and TDAI scale scores according to participants' COVID-19 survival status

Scale and Sub-Dimensions	n	$\bar{x}$	s.s	t/F Value	p
Negative on Self-Cognitions Subscale					
Infected with COVID-19	157	51.38	18.10	5.543	**0.000***
Not infected with COVID-19	147	40.57	15.70		
Negative Cognitions About the World Subscale					
Infected with COVID-19	157	25.59	6.65	4.957	**0.000***
Not infected with COVID-19	147	21.59	7.42		
Self Blame Subscale					
Infected with COVID-19	157	11.97	4.30	5.615	**0.000***
Not infected with COVID-19	147	9.35	3.78		
Post-Traumatic Cognitions Scale (PTCI)					
İnfected with COVID-19	157	94.38	28.23	5.898	**0.000***
Not infected wth COVID-19	147	75.86	26.38		
Beck Depression Scale (BDI)					
Infected with COVID-19	157	17.39	10.97	5.673	**0.000***
Not infected with COVID-19	147	10.48	10.23		
Uncertainty of Death					
Infected with COVID-19	157	15.94	8.64	-3.102	**0.002***
Not infected With COVID-19	147	19.62	11.84		
Exposure					
Infected with COVID-19	157	10.04	6.17	-1.926	0.055
Not infected with COVID-19	147	11.58	7.73		
Suffering					
Infected with COVID-19	157	6.97	2.76	-0.362	0.717
Not infected with COVID-19	147	7.10	3.65		
TDAI					
Infected with COVID-19	157	32.96	16.49	-2.430	**0.016***
Not infected with COVID-19	147	38.31	21.70		

p<0.05 Being Diagnosed with COVID-19

PTCI, BDI, TDAI scores according to participants' surviving COVID-19. It was determined that the PTCI total, NCO, NCW and SB scores of those diagnosed with COVID-19 were higher than those who were not diagnosed ($p<0.05$). The average BDI score of those diagnosed with COVID-19 was higher than those who were not diagnosed ($p<0.05$). It was determined that the participants who were not diagnosed with COVID-19 had higher TDAI overall scores and TDAI Uncertainty of Death subscale scores than those who were not diagnosed with COVID-19 ($p<0.05$) (Tab. 2).

PTCI, BDI, TDAI scores of participants by demographic variables. It was found that the PTCI total average score of female participants was higher than that of males ($p>0.05$). The mean BDI scores of female participants were also higher than those of men (Tab. 3).

No statistically significant difference was detected between the average BDI and PTCI scores of the participants

Table 3. Traumatic Cognition, Depression, and Death Anxiety Scores of participants according to demographic variables

Variables(Gender)	n	$\bar{x}$	s.s	t/F Value	p
Traumatic Cognition(PTCI)					
Male	164	73.59	24.63	-8.634	**0.000***
Female	140	99.29	27.26		
Depression (BDI)					
Male	164	10.18	9.36	-7.058	**0.000***
Female	140	18.59	11.39		
Death Anxiety (TDAI)					
Male	164	10.30	7.05	-1.308	0.192
Female	140	11.36	6.93		

*p<0.05

according to their marital status, age group, level of education, profession, institution and professional seniority (p>0.05). There was no statistically significant difference between the TDAI total score averages of the participants according to their gender, marital status, age group, level of education, profession, institution and professional seniority (p>0.05) (Tab. 3).

Correlation analysis of scales according to the status of being diagnosed with COVID-19. When the correlation of the participants' PTCI, BDI and TDAI scores with each other is evaluated, a high level of positive correlation was found between BDI and PTCI total score (p<0.05), and between BDI and NCO subscale (p<0.05), BDI and PTCI NCW subscales of PTCI (p <0.05), and between BDI and SB subscales of PTCI (p<0.05). No statistically significant correlation was found between the scale and subscales of TDAI, BDI and PTCI (p>0.05) (Tab. education 4).

DISCUSSION

The study revealed the levels of depression, traumatic cognition, and death anxiety experienced by PHEHS and ESS, according to the status of having COVID-19, and the relationship between these parameters. Accordingly, participants who were not diagnosed with COVID-19 had higher TDAI general score and TDAI 'UD' subscale score averages, than those who were diagnosed with COVID-19. Participants diagnosed with COVID-19 had higher PTCI general score, and PTCI 'NCO', 'NCW' and 'SB' subscale scores; It was determined that as post-traumatic stress scores increased, depressive symptom levels also increased.

Depression. In the current study, depressive symptom levels were stratified according to COVID-19 diagnosis status using the Beck Depression Inventory (BDI). Mild depressive symptoms were observed among participants without a COVID-19 diagnosis, while those who had contracted the virus exhibited moderate levels of depression. This suggests that experiencing COVID-19 may have intensified depressive symptoms among healthcare workers. The protracted nature of the pandemic likely exacerbated emotional exhaustion, contributing to increased burnout and chronic fatigue – factors strongly linked with depressive states in the healthcare workforce [20]. Recent empirical evidence has confirmed patterns consistent with the present study, highlighting the psychological toll of the COVID-19 pandemic on healthcare workers [21, 22, 23]. For instance, Moreno Mendoza et al. (2024) reported significantly elevated levels of depressive symptoms among healthcare personnel with a history of COVID-19 infection [21]. From the onset of the pandemic, healthcare professionals faced heightened risks of exposure, insufficient access to personal protective equipment (PPE), increased workload, and prolonged shifts, all of which contributed to a sustained psychological burden [24]. Numerous studies have documented a range of mental health challenges experienced by healthcare workers during this period, including overstimulation, irritability, sleep disturbances, anxiety, and depressive symptoms, particularly in the early stages of the crisis [25].

The current study further revealed that a substantial proportion (94.4%) of Pre-Hospital Emergency Health Staff (PHEHS) and Emergency Service Staff (ESS) reported not receiving any psychological support throughout the pandemic. This lack of support is consistent with earlier outbreaks – during the SARS epidemic, healthcare workers in Toronto, Canada, experienced a rise in mental health symptoms, such as fear, stigma, and frustration [26]. Similarly, Brooks et al. (2020) found that among healthcare workers treating COVID-19 patients, 71.5% experienced concern, 50% suffered from depression, and 44.6% reported anxiety, yet the majority did not receive psychological assistance [27].

Table 4. Relationship between the means obtained from the variables of participants diagnosed with COVID-19

Scale and Sub-Dimensions	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Negative Cognitions About Oneself[1]	1								
Negative Cognitions About the World[2]	.677*	1							
Self Blame[3]	.858*	.498*	1						
Post-Traumatic Cognitions[4]	.981*	.789*	.863*	1					
Beck Depression[5]	.805*	.555*	.649*	.781*	1				
Uncertainty about Death[6]	0.016	-0.023	-0.016	-0.002	-0.006	1			
Exposure[7]	0.022	0.042	0.038	0.027	-0.018	.827*	1		
Suffering[8]	0.06	0.015	0.066	0.051	0.034	.797*	.743*	1	
Turkish Death Anxiety[9]	0.026	0.006	0.017	0.018	-0.004	.967*	.932*	.863*	1

p<0.05 Being Diagnosed with COVID-19*

Traumatic Cognition. Kanstrup et al. (2024) demonstrated that intrusive memories stemming from occupational trauma were widespread among healthcare providers, emphasizing the persistent psychological strain experienced by this group during health crises. Importantly, their findings also indicated that brief and targeted interventions could significantly reduce the frequency and intensity of these trauma-related symptoms [22]. In parallel, Rizzi et al. (2024) reported that female healthcare workers exhibited markedly higher levels of trauma-related symptoms than their male counterparts, a finding that aligns with the gender-based differences in post-traumatic cognition observed in the current study [24]. Also consistent with the results of the study, women scored significantly higher on measures of trauma-related cognitions. This may be attributed to the dual burden that female healthcare workers often carry during pandemics – increased responsibilities at work together with caregiving roles at home. During the COVID-19 crisis, many female health personnel reported feeling torn between the professional duty to care for patients and the emotional responsibility to protect their families from infection. This conflict appeared to amplify feelings of guilt and helplessness, both in the workplace and at home, contributing to elevated post-traumatic cognitive distortions. Such guilt is often compounded by social expectations placed on women as caregivers and health professionals [8, 28, 29].

Moreover, there is growing evidence that epidemics and pandemics often result in significant psychological consequences for both survivors and healthcare personnel, including heightened levels of anxiety, depressive symptoms, and dysfunctional trauma-related cognitions, such as those measured by the Post-Traumatic Cognition Inventory (PTCI) [30]. For example, Lee et al. (2010), in their study on healthcare providers during the swine flu epidemic, identified elevated levels of post-traumatic stress among those involved in direct patient care [31].

Cognitive distortions – particularly self-blame, catastrophic thinking, and negative self-appraisals – are closely associated with traumatic experiences [15] which not only trigger these maladaptive thought patterns, but are also perpetuated by them, creating a feedback loop that can intensify psychological symptoms. Such distortions can deepen emotional distress, potentially leading to feelings of hopelessness, worthlessness, and, in extreme cases – suicidal ideation [11, 23, 31].

In the current study, while post-traumatic cognition scores were significantly higher in participants with a history of COVID-19 infection, these scores did not meet diagnostic thresholds for post-traumatic stress disorder (PTSD). This suggests that although participants exhibited intensified trauma-related cognitions, they may not have subjectively interpreted their experiences as psychologically traumatic in a clinical sense. This nuanced distinction is critical, as it highlights the possibility of subclinical trauma responses that still carry mental health implications, even in the absence of full PTSD symptomatology.

Death Anxiety. Dehbozorgi et al. (2023) emphasized the prevalence of death anxiety among emergency medical personnel, highlighting the emotional vulnerability and psychological strain experienced by frontline healthcare workers [22]. Similarly, in the presented study, the overall death anxiety levels of Pre-Hospital Emergency Health Staff (PHEHS) and Emergency Service Staff (ESS) were found to be moderate. This finding aligns with previous research: Şiraz et al. (2021) who reported moderate anxiety levels among healthcare workers during the pandemic, while studies by Doğan and Karaca (2021) and others also observed moderate death anxiety in nurses, physicians, and other frontline health professionals actively engaged in pandemic response efforts [32, 33, 34].

A noteworthy finding from the current study is that death anxiety was significantly higher among participants who had *not* been diagnosed with COVID-19, compared to those who had. Although at first glance this may appear counter-intuitive, it is supported by psychological theory and empirical evidence. According to the Terror Management Theory (TMT), heightened death anxiety is often triggered by reminders of mortality in the absence of direct confrontation with life-threatening situations [35, 36]. In other words, individuals who have not experienced the illness firsthand may harbour greater fear and uncertainty about its potential consequences, leading to increased anxiety surrounding death [36].

Death anxiety is also strongly associated with anticipatory stress and perceived lack of control, factors that are particularly salient for those who have *not yet* contracted a potentially fatal illness. These individuals may experience ongoing fear about becoming infected, transmitting the virus to loved ones, or suffering severe symptoms, all of which amplify the psychological burden [33, 37]. In contrast, those who have already survived COVID-19 may undergo a psychological recalibration, experiencing a form of post-threat desensitization. Surviving the illness could reduce uncertainty and fear, thereby lowering death anxiety. This phenomenon is consistent with literature suggesting that direct exposure to a traumatic or threatening event can, in some cases, diminish anticipatory anxiety through increased cognitive familiarity and reduced ambiguity [38].

Furthermore, the existential dimension of death anxiety cannot be overlooked. The fear of death often stems not only from concern for physical suffering or mortality itself, but also from such existential concerns as the unknown nature of death, fear of non-existence, or concern for unfulfilled responsibilities. These fears are magnified in high-stress environments like healthcare settings during a pandemic. As suggested by studies in death psychology, healthcare workers not infected by COVID-19 may struggle more with these existential fears because they remain in a heightened state of vigilance and uncertainty [39, 40, 41].

Taken together, both the findings of the current study and the broader literature suggest that healthcare workers who have not contracted COVID-19 may be more vulnerable to death anxiety due to the chronic anticipation of infection, fear of severe outcomes, and heightened existential threat perception. These insights underscore the importance of developing targeted psychological support strategies for both infected and non-infected frontline workers to mitigate death-related distress and its broader mental health implications.

Limitations of the study. Since the study only covers pre-hospital emergency health and emergency service workers in one province, its ability to be generalized to pre-hospital emergency health and emergency service workers in other provinces is limited. Another limitation is that the scales are based on self-report and the answers provided by the

participants may not be precise. People can make different notifications as a result of their external environment and other cultural factors. In addition to these limitations, the research is a cross-sectional study.

Practical implications. The findings of this study underscore the urgent need for structured systems of psychological support tailored specifically for frontline healthcare workers, particularly those in pre-hospital and emergency services. Given the elevated levels of depression, trauma-related cognitions, and death anxiety – especially among female staff and those without a COVID-19 diagnosis – healthcare institutions should prioritize the development of accessible, stigma-free mental health resources. Brief, targeted interventions, such as cognitive restructuring programmes, resilience training, and death education workshops may be especially effective in reducing psychological distress. Additionally, integrating routine mental health screenings into occupational health protocols could facilitate early identification of at-risk personnel.

These measures are not only essential for safeguarding the mental well-being of healthcare workers but are also critical for maintaining a resilient and effective emergency health system in the face of ongoing or future public health crises.

CONCLUSİONS

This study highlights the moderate levels of depression, trauma-related cognition, and death anxiety experienced by emergency healthcare workers during the COVID-19 pandemic. Notably, individuals previously diagnosed with COVID-19 exhibited higher depressive and post-traumatic cognition scores, yet paradoxically reported lower death anxiety. Female staff demonstrated increased vulnerability to trauma-related beliefs and depressive symptoms. The strong correlation between depressive symptoms and trauma-related cognition underscores the reciprocal nature of psychological distress in this population. Based on these findings, it is crucial to implement routine mental health screenings and develop tailored psychological interventions specifically targeting healthcare workers with prior COVID-19 exposure and female staff. Moreover, integrating trauma-informed cognitive behavioural therapy (CBT), gender-sensitive support modules, and resilience-building programmes into occupational health services, can substantially alleviate psychological distress and improve workforce well-being. In addition, organizational policies should be revised to reduce workload and provide adequate social and supervisory support to healthcare professionals.

Future longitudinal studies should evaluate the long-term trajectory of depression, trauma-related cognition, and death anxiety among healthcare workers to better understand symptom persistence and recovery patterns. Furthermore, research focusing on organizational determinants, such as staffing ratios, shift length, and institutional support mechanisms, is essential to identify modifiable factors that may buffer against psychological distress. Qualitative studies exploring experiences of healthcare workers during pandemics could provide deeper insights into personal and systemic challenges.

Abbreviations

COVID-19 – Coronavirus Disease
PHEHS – Pre-hospital emergency health staff
ESS – Emergency Services Staff
EMT – Emergency Medical Technician
PTCI – Post-Traumatic Cognition Inventory
BDI – Beck Depression Inventory
TDAI – Turkish Death Anxiety Inventory
SPSS-24 – Statistical Package for the Social Sciences

Ethics approval and consent to participate. The study was approved by the Ethics Committee of the Gumushane University (Approval No. 2021–8, dated 29.12.2021). Informed consent was obtained from all individual participants included in the study who were informed that voluntarily completion the questionnaire was considered consent to participate. The study was conducted in alignment with the Declaration of Helsinki for medical research with human participants.

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Questionnaire/Interview/Survey. The COVID-19 Clinical Information Form, developed by the researcher to determine the clinical findings of the participants, was used only for this study. This article has not been accepted or published elsewhere published before.

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