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Health Workers' Depression, Anxiety, Stress, and Compassion Levels During the COVID-19 Outbreak

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Abstract

BACKGROUND/AIMS: Healthcare professionals should be evaluated for depression, anxiety and stress during and after the epidemic, and the necessary education, training and psychological support should be provided so that they can provide quality health care and maintain their compassion. This study examined health workers' depression, anxiety, stress, and compassion levels during the coronavirus disease-2019 (COVID-19) outbreak.

MATERIAL AND METHODS: This descriptive and cross-sectional study was conducted using 234 health personnel who provided care to COVID-19 patients. The data were gathered using the Information Request Form, Depression, Anxiety and Stress Scale - 21 Items (DASS-21), and Compassion Scale (CS).

RESULTS: The participants' average total score of DASS-21 was 38.28±13.95 and their average CS score was 93.34±11.77. There was a strong, negative, and significant correlation between the DASS-21 sub-dimensions of depression, anxiety, and stress and the CS sub-dimensions of indifference, separation, and disengagement (p=0.000).

CONCLUSION: This study determined that health workers experienced depression, anxiety, and stress during the COVID-19 outbreak and their CS remained high.

Keywords: COVID-19, health worker, depression, anxiety, stress, compassion

INTRODUCTION

There have been many pandemics in the world over the last twenty years.[1,2] Having first appeared in the Wuhan-Hubei Province, China in December 2019, coronavirus disease-2019 (COVID-19) spread all over the world. It quickly threatened people's lives and caused a huge panic.[3,4] The World Health Organization (WHO) named this coronavirus, which was identified on January 12, 2020, 2019-nCoV.[5] On February 11, 2020, the WHO concluded that COVID-19 is a virus which causes serious acute respiratory disease, and declared a pandemic status.[6] Since that declaration, it is estimated that the world has seen more than 122,992,844 million confirmed COVID-19 cases, with more than 2,711,071 deaths.[7] There have been a total of 3,035,338 cases, 30,178

deaths, and 1644 serious patients in Turkey to date since March 10, 2020 when the first case was seen here.[8] Health workers represent the most at-risk group during pandemics.[9] Health workers are motivated to be compassionate when witnessing the physical and emotional suffering of their patients. However, prolonged exposure to such situations can cause compassion fatigue, leading to desensitization toward patients who are in serious emotional and physical pain.[10] In the literature, compassion fatigue is also described as the physical, emotional, and psychological impact of helping others — often through experiences of stress or trauma.[10-12] When examining the literature, it is evident that health personnel slowly start to exhibit adverse psychological signs from having to risk their lives and show compassion towards their

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patients constantly. However, due to the overwhelming trauma during pandemics, these effects manifest rapidly and can evolve into symptoms of anxiety, depression, and stress that can have life-long effects.[11-13]

The fact that COVID-19 spreads easily from person to person, and shows high morbidity and mortality rates maximizes an individual's danger perceptions.[14,15] The increasing number of cases and lack of equipment leads to pressure and anxiety in health workers.[16] In addition to facing these critical situations, health workers who are directly dealing with COVID-19 patients' diagnoses, treatment, and care are at greater risk of psychological distress.[17,18] Health workers are at risk of infection despite employing the necessary protective measures against the spread of COVID-19, such as wearing masks, face shields, goggles, glasses, protective clothing, proper handwashing techniques, and maintaining social distancing.[3,4] The established literature emphasizes that mental and physical burnout in health workers may result from an increasing number of suspected cases, the high risk of infection, increased workloads, the lack of medicines and vaccines to combat COVID-19, a lack of sufficient social and psychological support, fatigue, psychological disorders, and obsessions.[17-20] Moreover, it is reported that the fear and anxiety levels of health workers are higher due to the infectious and fatal nature of COVID-19, especially when treatment is delayed.[17,21] During the COVID-19 pandemic period, the psychological status of healthcare professionals who have to work more and are under more stress has been investigated in various studies.[4,17,18,21] However, in the literature, there are a limited number of studies on the depression, anxiety and stress levels of healthcare workers regarding the COVID-19 epidemic.[11-13] No studies have been found that examine depression, anxiety, stress and compassion levels together. This study was conducted to determine the levels of depression, anxiety, stress and compassion of healthcare professionals during the COVID-19 pandemic process. It is thought that it will contribute to the literature in maintaining their physical and psychological health and in taking the necessary precautions in high-risk environments by strengthening preparations.

Study Questions

1. What are health workers' depression, anxiety, stress, and compassion levels?

2. What are the factors which affect health workers' depression, anxiety, stress, ancompassion levels?

3. Is there a correlation between health workers' compassion levels and their depression, anxiety, and stress levels?

MATERIALS AND METHODS

Study Type

This is a cross-sectional and descriptive study.

Study Population and Sample

The population of the study consisted of health personnel who provided care to COVID-19 patients in a state hospital in the interior of Anatolia region. The sample of this study consisted of 234 health workers who agreed to join the study between June 10 and July 10, 2020.

Data Collection

The data were collected using the Information Request Form which was designed by the researchers to be in line with the relevant literature, the

Depression Anxiety Stress Scale-21 (DASS-21), and the Compassion Scale (CS). Before starting this study, pre-implementation was conducted with five health personnel and the questionnaire form was also finalized. Due to the COVID-19 outbreak, the questionnaire form was shared and completed online on three different health platforms after contacting healthcare personnel managers. Before we initiated this study, the health personnel were informed about the study aim and their informed consent was obtained. Data collection for each participant took approximately 10–15 minutes.

Information Request Form

The Information Request Form was designed by reviewing the relevant literature[4,17-19,21] and includes 15 questions: eight regarding the health personnel's socio-demographic characteristics (age, gender, employment duration, educational level, marital status, department where they work, position at the hospital, and number of children), and seven regarding the changes which occur as a result of contact with COVID-19 patients.

Depression Anxiety Stress Scale-21 (DASS-21)

The Depression Anxiety Stress Scale-21 (DASS-21), developed by Lovibond and Lovibond[22], contains 42 items. Subsequently, Henry and Crawford[23] developed a 21-item shorter version. The Turkish adaptation of the scale was designed by Yılmaz et al.[24]. The DASS-21 which was used in this study included a total of 21 items: seven items each for the depression, anxiety and stress subscales. The responses were rated on a 4-point Likert scale as follows: (0) Did not apply to me at all; (1) Applied to me to some degree, or some of the time; (2) Applied to me to a considerable degree, or a good part of the time; (3) Applied to me very much, or most of the time. The higher the total scores are, the higher the levels of depression, anxiety, and stress experienced by the participants are. In this study, the Cronbach's alpha value was 0.94.

Compassion Scale (CS)

The CS was developed by Pommier[25] and the Turkish validity and reliability tests were performed by Akdeniz and Deniz Engin[26]. It contains 24 items. It is rated on a 5-point Likert scale with the following ratings: 1=Never, 2=Rarely, 3=Sometimes, 4=Often, and 5=Always. There are six subscales of the CS: kindness (items 6, 8, 16, 24), indifference (items 2, 12, 14, 18), common humanity (items 11, 15, 17, 20), disengagement (items 1, 7, 19, 23), mindfulness (items 4, 9, 13, 21), and separation (items 3, 5, 10, 22). The indifference, separation, and disengagement sub-dimensions of the scale are scored reversely. The average total score is calculated with this scoring. However, when the subscales are scored separately, it is not necessary to reverse the score. The lowest possible score is 24, while the highest is 120; higher total scores indicate higher compassion levels. In the study by Akdeniz and Deniz Engin[26], the Cronbach's alpha value was found to be 0.85. In this study, the Cronbach's alpha value was 0.88.

Statistical Analysis

The data were processed using the IBM SPSS Statistics for Windows version 24.0 (IBM Corp., Armonk, NY, USA) program. Descriptive statistics were calculated and the Kolmogorov–Smirnov test was performed to determine whether the data followed a normal distribution. In the statistical analysis, the numbers, percentages, standard deviation, frequency, average, minimum, and maximum values were analyzed to assess the health workers' socio-demographic

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characteristics. For paired comparisons, the Independent t-test was used; while for the comparisons of more than two groups, the One-Way ANOVA test was used. For correlation analyses, if the data did not follow a normal distribution, the Pearson correlation analysis was used. Results were considered significant for p<0.05.

Ethical Consideration

The ethical suitability of the research was approved by the Medicine Faculty Non-Interventional Ethics Council of Selçuk University (protocol number: 2020/255) and the Scientific Research Platform of the Ministry of Health of Turkey (protocol number: 2020-05-07T11_53_50). Additionally, verbal approval was obtained from the health platforms on which the study was carried out. The participants were informed of the study-aim, study-length, and questionnaire forms via the link and their informed consent was obtained after it was explained that participation was voluntary.

Limitations of the Study

Among the limitations of this study; only those healthcare professionals who were providing care for COVID-19 patients participates. Also, there are a limited number of online platforms to reach out to individuals on. Therefore, the findings may not be generalizable to all health workers in Turkey. The lack of face-to-face interviews with the healthcare workers is another study limitation as it can reduce the effective answering of the questions.

RESULTS

It was found that 70.5% of the participant health workers were aged ≥26 years, 84.2% of them were female, 45.3% of them had an employment duration of 1–5 years, 28.6% of them worked in emergency rooms, and 79.1% of them were employed as nurses/medical assistants **(**Table 1).

When the distribution of the health workers in our study was investigated according to changes during the COVID-19 period, it was seen that 70.9% of the participants had close and/or direct contact with COVID-19 diagnosed patients. We found that those health workers' who came into close and/or direct contact with COVID-19 diagnosed patients exhibited the most physiological symptoms such as fatigue (41.9%), sleeplessness (33.8%), weakness and sweating (26.1%). Furthermore, these health workers experienced the most psychological symptoms, such as worry (56.4%), stress (48.3%) and fear (43.2%). Among the most important social changes experienced by the healthcare professionals were agreeing with the following: social life is becoming more important (53.8%), and nature is important (46.6%). 64.1% of the health workers who came into close and/or direct contact with COVID-19 diagnosed patients were worried that they may spread the disease to their family members; 60.7% of them often prayed; and 59.0% of them realized that good health is the most important thing in life (Table 2).

The health workers' average total score on the DASS-21 scale was 38.28±13.95 and the stress subscale average score was 13.79±5.63. The average CS total score was found to be 93.34±11.77 and the disengagement subscale average score was 16.76±2.58. The DASS-21 and the CS sub-dimensions are listed in Table 3.

The participant health workers' depression, anxiety, and stress levels were investigated. We found that 34.7% of the participants experienced moderate levels of anxiety, 38.4% of the participants exhibited normal levels of depression, and 62.4% of the participants experienced normal levels of stress (Table 4).

The average total scores obtained from the DASS-21 Scale, the depression subscale, and the stress subscale from those aged between 18 and 21 years (14.00±8.90) were found to be higher than those aged ≥26 years (11.92±4.52). The average scores on the CS-separation subscale differed in terms of age, gender, experience, and the department where they were employed. The average scores on the CS-separation subscale was detected to be higher in women (16.31±2.80). As the health workers' experience increased, the average scores on the CS-separation subscale decreased (15.83±3.25) (Table 5).

We found that the health workers' average scores on the CS-mindfulness subscale differed according to the department where they worked, and their average score on the CS-disengagement subscale differed according to their professional experience. In Table 5, the comparison

Table 1. Distribution of health workers in terms of socio-demographic characteristics (n=234)		
Socio-demographic characteristics	**n**	**%**
Age		
18–21 years	4	1.7
22–25 years	65	27.8
≥26 years	165	70.5
Gender		
Female	197	84.2
Male	37	15.8
Educational status		
Medical vocational high school	20	8.6
Associate degree	19	8.1
Graduate degree	164	70.1
Master/doctorate degree	31	13.2
Marital status		
Married	131	56.0
Single	103	44.0
Number of children		
0	123	52.6
1–2 children	98	41.9
≥3 children	13	5.5
Employment duration		
1–5 years	106	45.3
6–10 years	41	17.5
≥11 years	87	37.2
Department where they worked		
Emergency room	67	28.6
Intensive care	32	13.7
Polyclinics	20	8.6
Service	53	22.6
Operation room/delivery room	27	11.5
Radiology	10	4.3
Others	25	10.7
Position at hospital		
Doctor/dentist	10	4.2
Hospital manager	3	1.3
Nurse/medical assistant	185	79.1
Technician/technical personnel	36	15.4
n: number.		

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Table 2. Distribution of health workers according to changes during the COVID-19 pandemic period (n=234)		
Changes during COVID-19 Pandemics	n	%
Being in close and/or direct contact with COVID-19 diagnosed patients		
Yes	166	70.9
No	68	29.1
Physiological changes due to being in close and/or direct contact with COVID-19 diagnosed patients*		
Sleeplessness	79	33.8
Fatigue	98	41.9
Weakness	61	26.1
Lack of appetite	34	14.5
Increased appetite	11	4.7
Palpitation	30	12.8
Chest tightness	29	12.4
Pain	29	12.4
Sweating	61	26.1
Psychological changes due to being in close and/or direct contact with COVID-19 diagnosed patients COVID-19*		
Anxiety	132	56.4
Fear	101	43.2
Helplessness	36	15.4
Hopelessness	40	17.1
Depression	30	12.8
Worry	66	28.2
Stress	113	48.3
Feeling of security	36	15.4
Anger	33	14.1
Compassion	58	24.8
Social changes due to being in close and/or direct contact with COVID-19 diagnosed patients COVID-19*		
I understood and appreciated more and more that		
Social life is important.	126	53.8
Friendship and sincerity are valuable.		
Team mentality is significant.	103	44.0
Nature is important.	102	43.6
	109	46.6
Domestic and familial changes due to being in close and/or direct contact with COVID-19 diagnosed patients COVID-19*		
I feared that I may spread the disease to my family members.	150	64.1
Family members feared that I may get infected.	110	47.0
My love and passion for my family members increased.	98	41.9
I contacted my spouse and children only on phone calls.	21	9.0
I felt that family was important and valuable.	95	40.6
Spiritual changes due to being in close and/or direct contact with COVID-19 diagnosed patients COVID-19*		
I often prayed.	142	60.7
I read the Koran.	35	15.0
I often gave thanks.	121	51.7
I performed ritual prayers.	44	18.8

Table 2. Continued		
Changes during COVID-19 Pandemics	n	%
Changes in professional life due to being in close and/or direct contact with COVID-19 diagnosed patients COVID-19*		
I understood that my job is important.	80	34.2
I understood that good health is the most important thing in life.	138	59.0
I felt stronger in my job.	73	31.2
I felt weaker in my job.	20	8.6

*Percentages were calculated over "n" value since more than one option was selected.
COVID-19: coronavirus disease-2019, n: number.

of the health workers' scores between the DASS-21 and CS are shown in terms of some descriptive characteristics. There was a significant difference between the DASS-21 (depression and stress subscales) and sociodemographic characteristics (age), respectively (p=0.025; p=0.007). There was also a significant difference between the DASS-21 Scale total scores and age (p=0.035). As for CS, a statistically significant difference was found between the separation subscale and socio-demographic characteristics of age (p=0.000), professional experience (p=0.000) and the department they work in (p=0.086). In addition, while there was a positive and strong relationship between the CS-mindfulness subscale and the department they worked in (p=0.042), a significant difference (p=0.026) was found between the CS-separation subscale and professional experience. A statistically significant difference was found between gender and the CS-well-being subscale and the separation subscale (p=0.042; p=0.023) (Table 5).

When the health workers' DASS-21 and CS scores were assessed using correlation analysis, it was noted that there was a significant, negative, and strong correlation between the DASS-21-depression subscale and the CS-indifference, CS-separation and CS-disengagement subscales (p<0.01). A significant, negative, and strong correlation was found between the DASS-21 anxiety subscale and the CS-indifference, CS-separation, and CS-disengagement subscales (p<0.01). A significant, negative, and strong correlation was detected between the DASS-21 stress subscale and the CS-indifference, CS-separation, and CS-disengagement subscales (p<0.01) (Table 6).

DISCUSSION

When health workers are combatting global pandemics, they experience anxiety, fear/worry, stress, and depression. Psycho-physiological symptoms and post-traumatic stress symptoms are also seen during these periods. It is known that factors such as being isolated and being in contact with high risk/sick people are common causes of trauma; this trauma negatively affects the health workers' psychological health.[19]

Our study results revealed that the health workers' compassion levels were very high and they experienced depression, anxiety, and stress during the pandemic. In a study by Guo et al.[3] regarding the psychological effects of COVID-19 on health workers in China, it was identified that 4%–98% of the health workers had moderate to high levels of anxiety, 13%–47% of them had depression, and 10%–57% of them experienced recurrent worry/panic. In a study by Lai et al.[21], where psychologically correlated factors among 1257 health workers exposed to coronavirus were investigated, it was seen that the majority of the health workers suffered from depression (50.4%), anxiety (44.6%),

Table 3. Descriptive characteristics related to the DASS-21 and CS scores (n=234)

DASS-21 subscales	Min-max/n	X ± SD	Cronbach Alpha
Depression	7–28	12.39±4.88	0.86
Anxiety	7–28	12.09±5.28	0.90
Stress	7–28	13.79±5.63	0.92
DASS-21 Total	**21-84**	**38.28±13.95**	**0.94**
CA and subscales			
Kindness	4–20	16.18±3.69	0.89
Indifference	4–20	16.46±2.67	0.61
Common humanity	4–20	15.35±3.40	0.75
Separation	4–20	16.24±2.81	0.66
Mindfulness	4–20	16.24±3.52	0.84
Disengagement	4–20	16.76±2.58	0.58
CS total	**49–112**	**93.34±11.77**	**0.88**
Min: minimum, Max: maximum, X: arithmetic mean, SD: standard deviation, n: number.			

Table 4. Distribution of health workers' depression, anxiety, and stress levels (n=234)

DASS-21						
	Depression		**Anxiety**		**Stress**	
Level	**n**	**%**	**n**	**%**	**n**	**%**
Normal	90	38.4	56	23.9	146	62.4
Mild	57	20.6	38	16.2	37	15.8
Moderate	73	31.3	81	34.7	40	17.1
High	12	8.8	32	13.6	11	4.7
Excessive	2	0.9	27	11.6	0	0.0
DASS-21: Depression, Anxiety and Stress Scale - 21 Items (DASS-21), n: number.						

sleeplessness (34%), and distress (34.0%). A study by Tan et al.[27] aimed to understand the psychological effects of the COVID-19 pandemic on 470 health workers in Singapore using the DASS-21. They reported that the scores varied from 2.45 to 3.82. According to their results, 14.5% of these workers were anxious, 8.9% of them were depressed, 6.6% of them were stressed, and 7.7% of them suffered from clinical anxiety; doctors and nurses experienced depression, stress, and anxiety the most. It is known that the perceived risks associated with pandemics are dependent on the individuals' awareness and knowledge regarding pandemics.[3] In line with this study's results, we are of the opinion that poor access to psychological support, insufficient medical information, lack of knowledge regarding pandemics, low levels of personal protective measures, and poor education on infection control played a critical role in elevating the trauma level of clinical nurses. Consequently, we believe that it will be beneficial if health workers' stress, anxiety, and depression levels are determined; it will also assist health workers if people's awareness and knowledge regarding health workers' anxiety, depression, stress, and correlating factors are raised.

In the current study, we discovered that as the health workers' age increased, the level of their DASS-21-depression and stress subscales decreased. In previous studies carried out during pandemics, it was reported that stress levels are higher among younger health workers.[3,19] This is in line with the findings of our study. Therefore, we believe that younger health workers may experience higher levels of fear, anxiety, and stress because factors such as their family responsibilities may be more pressing; they may be afraid of spreading the disease to their spouses, children, or to those with whom they live. They may also experience higher levels of fear, anxiety, and stress because they may be professionally less experienced. Moreover, the long and arduous working-hours of health personnel during pandemic periods may make their immune systems vulnerable, and consequently, increase their anxiety and stress levels. Therefore, psychological intervention teams should be established in hospitals and other pandemic settings to support health workers. Health workers actively working in the field should be encouraged to receive help from these teams.

According to the relevant literature, there are results that indicate high compassion levels in health workers.[28,29] It is emphasized that health workers exhibiting high compassion levels are unable to maintain these levels for a long time. Compassion fatigue symptoms as well as physical, psychological, and social symptoms such as depression, anxiety, stress, headaches, anger, and discomfort may occur as a result.[10,28,30] Our results led us to conclude that the working conditions of our participants must have been arranged very well, as the participant health workers did not display compassion fatigue. Even when subjected to difficult and intense working conditions, they revealed high compassion levels. Measures taken for health workers by the Turkish government during this pandemic include the provision of protective equipment (gloves, masks, face shields, goggles, glasses, disinfectants, gowns), education aimed at maintaining social distance, health protocols, social isolation and facilities to achieve this (hostels, hotels, apartment accommodation), the rearrangement of working-hours, increased salaries, and assistance in maintaining domestic/familial communication. These measures also

Table 5. Comparison of health workers' scores obtained from DASS-21 and CS in terms of some descriptive characteristics

Variables	DASS-21				CS subscales						CS total
	Depression	Anxiety	Stress	DASS-21 total	Kindness	Indifference	Common humanity	Disengagement	Mindfulness	Separation	
Age											
18–21 years	14.00±8.90	16.75±7.45	19.25±2.87	50.00±14.89	18.50±1.73	16.50±2.51	17.25±2.21	15.50±2.38	18.00±2.30	15.75±3.50	99.25±9.94
22–25 years	13.47±5.33	11.92±5.23	14.89±6.41	40.29±14.98	16.06±3.76	16.58±2.59	15.47±3.46	16.72±2.80	15.64±3.55	17.15±2.59	93.93±12.59
≥26 years	11.92±4.52	12.05±5.23	13.22±5.23	37.20±13.36	16.17±3.69	16.41±2.72	15.26±3.40	16.07±2.81	15.81±3.52	16.63±2.55	92.96±11.50
Test statistics p^{**}	0.190 **0.025** a>b>c	0.511 0.523	0.082 **0.007 a>b>c**	0.213 **0.035** a>b>c	0.244 0.708	0.623 0.685	0.367 0.382	0.903 **0.000** b>c>a	0.455 0.785	0.349 0.386	0.769 0.341
Gender											
Female	12.63±5.04	12.14±5.40	13.96±5.72	38.74±14.30	16.39±3.55	16.43±2.74	15.47±3.35	16.31±2.80	15.98±3.43	16.78±2.65	93.85±11.37
Male	11.10±3.70	11.86±4.63	12.86±5.11	35.83±11.76	15.05±4.24	16.59±2.30	14.72±3.65	15.83±2.87	14.83±3.84	16.64±2.21	90.62±13.60
Test statistics p^{*}	0.049 0.080	0.508 0.070	0.207 0.277	0.286 0.246	0.268 **0.042***	0.842 0.742	0.386 0.221	0.218 **0.023** a>b	0.346 0.069	0.732 0.766	0.630 0.125
Professional experience											
1–5 years	12.89±5.17	12.46±5.32	14.66±6.07	40.01±14.33	16.04±3.69	16.55±2.68	15.43±3.36	16.54±2.54	15.72±3.57	17.03±2.52	93.83±12.15
6–10 years	11.63±4.13	11.85±4.73	12.90±4.60	36.39±11.56	16.85±2.88	16.56±2.43	15.75±2.73	16.29±2.41	16.36±2.53	17.29±2.07	95.97±9.19
≥11 years	12.13±4.82	11.77±5.50	13.14±5.42	37.05±14.39	16.03±4.01	16.29±2.79	15.08±3.73	15.85±3.25	15.63±3.85	16.18±2.78	91.50±12.21
Test statistics p^{**}	0.629 0.264	0.956 0.360	0.101 0.058	0.734 0.132	0.014 0.977	0.676 0.514	0.037 0.496	0.107 **0.000** a>b>c	0.001 0.890	0.154 **0.026** b>a>c	0.035 0.193
Department where they worked											
Emergency room	12.39±4.88	13.62±5.88	15.28±5.70	42.77±14.69	16.34±3.56	16.80±2.13	15.85±2.97	16.55±2.64	16.17±3.24	16.58±2.75	94.41±11.72
Intensive care	12.56±4.58	11.56±4.68	13.37±5.41	37.50±13.31	16.71±2.95	16.50±2.72	15.09±2.92	15.68±3.45	15.93±2.68	17.15±2.37	94.41±11.72
Polyclinics	12.40±5.56	11.90±6.16	13.15±6.12	37.45±16.28	15.85±4.06	15.50±3.54	15.05±3.17	15.80±3.53	15.25±3.72	16.30±3.71	90.15±11.05
Clinics	11.40±4.45	11.73±4.68	13.49±4.62	36.71±11.86	15.81±3.75	16.67±2.57	14.81±3.62	15.96±2.65	15.09±3.91	16.90±2.21	92.39±12.80
Operation room	13.07±5.04	10.81±4.50	14.18±6.59	38.07±14.63	16.33±4.35	16.33±2.77	14.85±3.89	16.51±2.72	15.92±3.81	16.88±2.25	93.14±12.05
Radiology	10.56±4.02	11.04±4.89	11.48±5.10	33.08±12.07	16.50±3.71	16.80±2.09	16.30±2.79	17.00±1.82	16.40±3.30	17.01±1.91	95.60±9.46
Test statistics p^{**}	0.650 0.504	0.183 0.800	0.123 0.964	0.957 0.876	0.284 0.070	0.026 0.888	0.927 0.105	0.188 **0.086** f>a>e>d>c>b	0.290 **0.042** f>a>b>e>c>d	0.394 0.658	0.194 0.105

*Independent t-test, **One-Way ANOVA test.
DASS-21: Depression, Anxiety and Stress Scale - 21 Items (DASS-21), CS: Compassion Scale, n: number.

Table 6. Correlation analyses of health workers' scores of DASS-21 and CS								
	DASS-21							
Compassion Scale	Depression		Anxiety		Stress		DASS-21 total	
	r	p	r	p	r	p	r	p
Kindness	-0.009	0.894	0.061	0.351	0.018	0.790	-0.033	0.612
Indifference	-0.181	**0.005****	0.238	**0.000****	0.194	**0.003****	-0.232	**0.000****
Common humanity	-0.032	0.632	0.027	0.681	0.006	0.923	-0.024	0.717
Disengagement	-0.245	**0.000****	0.286	**0.000****	0.238	**0.000****	-0.290	0.000**
Mindfulness	-0.006	0.925	0.062	0.342	0.054	0.415	-0.047	0.470
Separation	-0.231	**0.000****	0.282	**0.000****	0.240	**0.000****	-0.284	0.000**
CS total	-0.056	0.391	0.125	0.055	0.078	0.234	-0.099	0.132

**p<0.01, significant values are shown in bold.
DASS-21: Depression, Anxiety and Stress Scale - 21 Items (DASS-21), CS: Compassion Scale, n: number.

included psychological support, guidance, and counseling against fear and anxiety.[8]

Education and training aimed at combatting compassion fatigue is essential to achieve high quality care in hospitals, to promote patient and employee satisfaction, to maintain professional commitment, and to enhance team collaboration. Similar to our results, a study by Polat and Erdem[28] investigating the correlation between compassion fatigue and the quality of life among health workers found a significant difference between compassion fatigue and the socio-demographic characteristics of age, gender, position, administrative function, employment duration, and the institution where the participants worked. The study by Kılıç et al.[29] regarding nurses also reported that CS scores were statistically significant and high among those who worked in the same department, were in the profession for 1–5 years, and those who thought of quitting the nursing profession. From these findings, we inferred that higher age, longer employment duration, and more experience may cause compassion fatigue. It was identified that a positive correlation existed between the CS-mindfulness subscale and the department where the health workers worked; a negative correlation was found between the CS-separation subscale and professional experience. Furthermore, a negative correlation existed between the CS-kindness and CS-disengagement subscale and gender.[29] The study by Kişmir and İrge[31] concurred with our study. Therefore, we concluded that the health workers who displayed high levels of awareness and consciousness, were pleased to work at their relevant departments, worked peacefully, and had high levels of empathy may suffer compassion fatigue if the current pandemic conditions continue.

Similar to our findings, Çınar and Aslan[32] argued that compassion driven behaviors produced positive health outcomes. There was a negative correlation for compassion with regards to depression and stress. It is essential to manage the factors which affect compassion levels so that professional burnout does not lead to undesired disorders such as anxiety, stress, and depression. The close correlation between compassion and well-being generates an expectation that compassionate people should show low levels of anxiety and stress. These results lead us to conclude that as health workers' stress, anxiety, and depression levels decrease, their indifference, disengagement, and separation issues increase.

Healthcare workers were found to exhibit high levels of affection, moderate depression, and suffer from anxiety and stress. The constant empathy of healthcare professionals for the trauma, pain, stress,

anxiety, and depression of their patients resulted in compassion fatigue. In order to increase the quality of care and professional satisfaction of healthcare professionals, it is necessary to protect their physical and psychological health and to prevent compassion fatigue. Therefore, there is a clear need for ancillary clinical and political strategies to be planned to support healthcare professionals throughout the COVID-19 pandemic. The necessary education, training and psychological support should be given to alleviate their anxiety and stress; this will also improve their health physically, psychologically and socially.

Implications for Nursing Practice

This study discussed the depression, anxiety, stress and compassion levels of health workers who work closely with COVID-19 patients in Turkey. According to our findings, these health workers exhibited depression, anxiety, stress and showed high levels of compassion. In light of these results, (i) health workers who risk their lives to the detriment of their health at clinics during pandemics should be supported physically, psychologically and; (ii) their stress, anxiety, depression and compassion levels should be periodically assessed and any necessary precautions should be taken; (iii) the difficulties, stress, anxiety, and worry that health workers face during pandemics should be evaluated so that they can be supported by psychological support experts; (iv) all necessary protective measures and equipment must be provided to health workers who are a high risk group during the pandemic period in our country; and education and training via mass media should be held.

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MAIN POINTS

- Healthcare professionals are among the occupational groups that experienced the most difficulties during the COVID-19 pandemic.

- Healthcare workers experience anxiety, depression and stress during the pandemic.

- During the pandemic, it could be seen that the healthcare workers' compassion levels are quite high, but if precautions are not taken, it may cause compassion fatigue.

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ETHICS

Ethics Committee Approval: Ethics committee approval was obtained from the Medicine Faculty Non-Interventional Ethics Council of Selçuk University (protocol number: 2020/255) and Scientific Research Platform of Ministry of Health of Turkey (protocol number: 2020-05-07T11_53_50).

Informed Consent: Informed consent was obtained after it was explained that participation was voluntary.

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Authorship Contributions

Concept: A.Y.K., S.Ş., Design: A.Y.K., S.Ş., Supervision: A.Y.K., S.Ş., Data Collection and/or Processing: A.Y.K., S.Ş., Analysis and/or Interpretation: A.Y.K., S.Ş., Literature Search: A.Y.K., S.Ş., Writing: A.Y.K., S.Ş., Critical Review: A.Y.K., S.Ş.

DISCLOSURES

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