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The evaluation of general psychiatric symptoms of medical staffs in the Covid-19 pandemic in Turkey

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Abstract

The present study, it is aimed to evaluate the general psychiatric symptoms of medical staff in the 47th and 49th days of the COVID-19 outbreak in Turkey.This study is a cross-sectional study conducted in 2020. 1308 medical staff were included in the survey. Brief Symptom Inventory, State and Trait Anxiety Scale were used to evaluate general psychiatric symptoms. The prevalence of general psychiatric symptoms on the participants ranges from 36.7% to 51.6%. The frequency of state anxiety is 50%. The frequency of general psychiatric symptoms in nurses ranges from 50.2% to 70.3%, 31.4% to 68.3% in doctors, and 37.5% to 49.7% in other professions. General psychiatric symptoms are 1.50-3.46 times more in medical staffs who experience symptoms of COVID-19 and 1.76-2.74 times more in who diagnosed with COVID-19 and 1.77-2.25 times more in who diagnosed with COVID-19 in their immediate relatives and 1.76-3.15 times more in who have immediate relatives dying of COVID-19. In Turkey, the medical staff was affected psychologically by the COVID-19 epidemic. The two most affected groups are nurses and doctors. Traumatic process and threat perception increased general psychiatric symptoms. Our results suggested that psychological support should be increased to medical staff.

Keywords: COVID-19, brief psychiatric rating scale, medical staffs, mental health

Introduction

TSARS-CoV-2 is a new coronavirus that caused COVID-19, first detected in Wuhan, China in December 2019. According to the data of the World Health Organization (WHO), it is known that since this date, 83,910,386 people have been infected with this disease and 1,839,660 people have died [1]. In Turkey, coronavirus disease was first seen on March 11, 2020, new cases and deaths continue to occur since this date. The Ministry of Health currently noticed the number of people who have suffered from coronavirus and died due to coronavirus. Considering the data on 4 January 2021, it has been reported that COVID-19 was diagnosed in our country since the first appearance of 2,255,607 cases and 21,685 people died due to coronavirus [2].

The medical staff has been at the forefront of the pandemic response process. The active work of medical staff has brought along certain occupational hazards [3]. Some of these dangers are infection, sickness, death, long working hours, psychological distress, fatigue, professional burnout, stigma, physical and psychological violence [3]. When the pandemic occurred, the mental health of medical staff was also reported in studies conducted in the SARS outbreak [49. In the studies on SARS, healthcare professions were afraid of infecting their families, friends, and colleagues and they experienced uncertainty and tagging in this process reported that they are considering resigning their jobs [4,5]. The ever-increasing number of cases, high workload, depletion of protective equipment, the effect of the media, insufficient medication, and insufficient support also contribute to the deterioration of the mental health of medical staff. It has been reported that insomnia, anxiety, depression, somatization, and obsessive-compulsive symptoms increase in health workers during previous pandemic periods [6].

Turkey is one of the most affected countries by the COVID-19 pandemic [1]. In the literature, it has been known that Covid-19 psychological effects on medical staff in Turkey, but general psychopathology assessment of medical staffs have not been studied yet [7,8]. In this context, it is important to describe the psychological effects of the COVID-19 pandemic in medical staff.

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This study, it is aimed to evaluate the general psychiatric symptoms of medical staff during the COVID-19 outbreaks in Turkey.

Material and Methods

Study design

The study was a cross-sectional study conducted in Turkey in 2020. Permission was obtained from the Scientific Research Permission Board of the Ministry of Health and the Ethics Committee of Çukurova University for conducting the study (Ethics committee number: 99). Medical staff is all persons working in healthcare institutions who provide healthcare and other services (primary, secondary and tertiary care). Not only healthcare providers were included in our study, but also other employees (cleaning staff, secretaries, etc.).

Study sample

According to the reference study, the minimum number to be reached was found as 1069 in the sample size analysis by taking 80% power and 95% confidence intervals (p0: 44.6%) [4]. The sampling method is the snowball sampling method, 1308 medical staff were reached from 65 provinces.

Collection of Data

The data were collected through an online questionnaire prepared via google forms. Online forms were sent to the participants via WhatsApp, online professional groups, and other social media accounts and asked to fill them out. At the beginning of the form, the purpose of the study was written to the individuals, and their approvals regarding their wish to participate were obtained with a question stated in the form.

Data collection tools

Data collection tools consist of 3 parts: Information Form, Brief Symptom Inventory and State (STAI FORM TX – I), and Trait Anxiety Scale (STAI FORM TX – 2).

Sociodemographic data form

The information form in the present study consists of age, gender, marital status, occupational and working information, educational status, information determining related to COVID-19.

Brief Symptom Inventory (BSI)

Brief Symptom Inventory provides a general psychopathology assessment. It is a multidimensional symptom screening scale developed to capture some psychological symptoms that may occur in various psychiatric and medical patients as in normal samples. The BSI consists of 9 sub-scales, 3 global indexes, and additional items. The scale was adapted for our country by Nesrin Şahin and Ayşegül Durak [9].

The 9 subscales of the scale are somatization (S), obsessive-compulsive symptom (OCS), interpersonal sensitivity (IS), depression (D), anxiety (A), hostility (H), phobic anxiety (PA), paranoid thought (PT) and psychoticism (P). Additional items (AI) are items related to eating and drinking disorders, sleep disorders, thoughts on death, and feelings of guilt. BSI is a Likert type scale. Each item is calculated by giving points between 0-4 [10].

3 global indexes of the scale.

Disturbance severity index (DSI): It is obtained by dividing the sum of the subscales by 53: (S + OCD + IS + D + A + H + PA + PT + P + AI / 53).

The increase in DSI indicates an increase in distress in the individual from psychiatric symptoms and is the best index of the scale.

The Positive Symptom Total (PST)

It is the total score obtained by accepting all items (all positive values) as 1, except the items marked as 0. A maximum of 53 and a minimum of 0 points can be obtained from the total of symptoms. As ST increases, it shows how many psychiatric symptoms the individual perceives in himself.

The Positive Symptom distress index (PSDI): It is obtained by dividing the sum of the subscales by the sum of the symptom: (S + OCD + IS + D + A + H + PA + PT + P + AI / Symptom Score).

The increase in SDI indicates the weighted average of the distress he felt from the symptoms he perceived to exist in the individual. The height of the total scores obtained from the scale indicates that the individual's mental symptoms have increased. The mean scores of the individuals' responses, which indicate the suitability of each statement in the BSI by choosing one of the five options (0/1/2/3/4), and the additional items are included in the evaluation. The psychiatric symptom score average of each individual is evaluated with the closeness to the scores that are none (0 points), very few (1 point), moderate (2 points), quite high (3 points), and advanced (4 points). It is seen that as these mean scores approach 4, the symptoms are advanced, and the symptoms decrease as it approaches 0. In two global indices except for each subscale, supplement, and symptom total, an individual can get a maximum of 4 points and a minimum of 0 points [11].

Brief Symptom İnventory cut-off values; Somatization (0.54) Obsessive-Compulsive Symptom (1.03) Interpersonal Sensitivity (0.86) Depression (0.93) Anxiety (0.79) Hostility (0.98) Phobic Anxiety (0.49) Paranoid Thought (1.01) Psychotism (0.72) Additional Items (0.88) Disease Severity Index (0.82) Symptom Total (25.00) Symptom Distress Index (1.79) [11].

State-Trait Anxiety Inventory

The State Anxiety Scale describes how the person feels at a certain moment and under a certain condition; requires answering, taking into account the feelings that develop depending on the current situation. The Trait Anxiety Scale requires the person to describe how he feels in general. While the emotions or behaviors expressed in the State Anxiety Scale items are (1) none, (2) a little, (3) very, and (4) completely shaped according to the severity level of these kinds of experiences, the emotions or behaviors in the anxiety items according to the frequency level (1) rarely, (2) sometimes, (3) most of the time, and (4) almost always. The validity and reliability in Turkey Testing were conducted by Öner and Le Compte. There are 20 expressions on both scales, the total score that can be obtained from both scales varies between 20 and 80. High scores indicate a high level of anxiety. There are two expressions in the scales: direct/straight and inverted expressions. While direct expressions are expressions of negative emotions, reversed expressions express positive emotions. Of the reversed statements, 1 weight value is

converted to 4, and 4 weight value is converted to 1 and scored. In direct expressions, responses of 4 indicate high anxiety level, while those in value 1 indicate low anxiety, in reversed expressions, values of 1 indicate high anxiety, and those in value 4 indicate low anxiety. On the State Anxiety Scale, 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20th are reversed statements. Statements that were reversed in the Trait Anxiety Scale are 21, 26, 27, 30, 33, 36, and 39th items. In the scoring phase, It is calculated by subtracting the total weighted score obtained from the direct expressions from the total weighted score of the reverse statements. A pre-determined constant value is added to this number. This value is 50 for the State Anxiety Scale and 35 for the Trait Anxiety Scale. The accepted average score level varies between 36-41. The accepted average score level at the evaluation stage ranges from 36 to 41, and it can be said that the level of anxiety in values of sixty or above has exceeded normal limits [12].

Statistical analysis

SPSS 22 program was used in the analysis of the data. The data are presented as numbers and percentages. Pearson Chi-square test and Yates Chi-square test were used in the analysis. $p < 0.05$ was considered significant.

Results

The average age of 1308 medical staff included in this study is 33.9 ± 7.8. In total, 46% of the medical staff who answered the questionnaire are doctors and 30.9% are nurses. 3.8% of medical staff were diagnosed with COVID-19, 6.9% of nurses, 1.8% of doctors, and 3.7% of other healthcare workers were diagnosed with COVID-19. The information about the sociodemographic characteristics of the medical staff who responded to the questionnaire, their assignment in the COVID-19 outbreak, themselves and their relatives getting infected, and their relatives' deaths in COVID-19 disease are given in Table 1.

Table 1. Sociodemographic characteristics and information about COVID-19

		Profession		
Characteristic	**Total**	**Doctor**	**Nurse**	**Others**
Overall	1308 (100)	608 (46.5)	404 (30.9)	296 (22.6)
Sex				
Male	469 (35.9)	393 (48.2)	48 (11.9)	128 (43.2)
Female	839 (64.1)	315 (51.8)	356 (88.1)	168 (56.8)
Age				
20-29	421 (32.2)	162 (26.6)	171 (42.3)	88 (29.7)
30-39	577 (44.1)	333 (54.8)	115 (28.5)	129 (43.6)
40 and over	310 (23.7)	113 (18.6)	118 (29.2)	79 (26.7)
Marital status				
Married	836 (63.9)	421 (69.2)	221 (54.7)	194 (65.5)
Unmarried	452 (34.6)	181 (29.8)	174 (43.1)	97 (32.8)
Divorced	20 (1.5)	6 (1.0)	9 (2.2)	5 (1.7)
Child				
Yes	684 (52.3)	300 (49.3)	210 (52.0)	174 (58.8)
No	624 (47.7)	308 (50.7)	194 (48.0)	122 (41.2)
Working in COVID-19 units				
Yes	695 (53.1)	326 (53.6)	230 (56.9)	139 (47.0)
No	613 (46.9)	282 (46.4)	174 (43.1)	157 (53.0)
Symptom of COVID-19				
Yes	219 (16.7)	104 (17.1)	86 (21.3)	29 (9.8)
No	1089 (83.3)	504 (82.9)	318 (78.7)	267 (90.2)
Diagnosis of COVID-19				
Yes	50 (3.8)	11 (1.8)	28 (6.9)	11 (3.7)
No	1258 (96.2)	597 (98.2)	376 (93.1)	285 (96.3)
Diagnosis of COVID-19 in the relatives				
Yes	421 (32.2)	177 (29.1)	183 (45.3)	61 (20.6)
No	887 (67.8)	431 (70.9)	221 (54.7)	235 (79.4)
COVID-19 death in the relatives				
Yes	71 (5.4)	25 (4.1)	30 (7.4)	16 (5.4)
No	1237 (94.6)	583 (95.9)	374 (92.6)	280 (94.6)
When does COVID-19 end?				
Within 3 months	382 (29.2)	162 (26.6)	127 (31.4)	93 (31.4)
Within 6 months	374 (28.6)	164 (27.0)	132 (32.7)	78 (26.4)
Within 1 year	552 (42.2)	282 (46.4)	145 (35.9)	125 (42.2)

The prevalence of general psychiatric symptoms in medical staff ranges from 36.7% to 51.6%. When the general psychiatric symptoms are compared according to occupational groups; the prevalence of somatization, obsessive-compulsive symptom, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid thought, psychoticism, eating and drinking disorders, sleep disorders, death on thoughts, feelings of guilt were significantly higher in nurses. After the nurses, general psychiatric symptoms are most common in doctors (Table 2).

It was compared that general psychiatric symptoms frequency in terms of being diagnosed with COVID-19 in the last 1 month, presence of COVID-19 symptoms, and working in an assignment related to COVID-19 (outpatient, service, intensive care, contact tracing), those working in any assignment related to COVID-19. There was no significant difference in terms of psychiatric symptoms between those working and non-working in the COVID-19 units. All general psychiatric symptoms were found to be significantly higher in participants who had symptoms of COVID-19 disease in the past month. General psychiatric symptoms were 1.50 to 3.46 times more common in individuals with COVID-19 related symptoms. The symptoms of somatization, interpersonal sensitivity, hostility, psychoticism, eating and drinking disorders, sleep disorders, thoughts on death were found to be significantly higher in individuals diagnosed with COVID-19. Patients diagnosed with the disease are 2.12 times more likely to suffer from the symptoms they perceive to exist (table 3).

Table 2. Comparison of general psychiatric symptoms by occupation

		Profession			
Psychiatric symptom (%)	**Total**	**Doctor**	**Nurse**	**Others**	**p**
Somatization	583 (44.6)	229 (37.7)	227 (56.2)	127 (42.9)	<0.001
Obsessive-Compulsive Symptom	596 (45.6)	261 (42.9)	214 (53.0)	121 (40.9)	0.001
Interpersonal Sensitivity	566 (43.3)	238 (39.1)	205 (50.7)	123 (41.6)	0.001
Depression	638 (48.8)	285 (46.9)	223 (55.2)	130 (43.9)	0.006
Anxiety	619 (47.3)	266 (43.8)	233 (57.7)	120 (40.5)	<0.001
Hostility	507 (38.8)	206 (33.9)	187 (46.3)	114 (38.5)	<0.001
Phobic Anxiety	880 (67.3)	415 (68.3)	284 (70.3)	181 (61.1)	0.030
Paranoid Thought	561 (42.9)	228 (37.5)	203 (50.2)	130 (43.9)	<0.001
Psychoticism	480 (36.7)	191 (31.4)	178 (44.1)	111 (37.5)	<0.001
Additional Items	675 (51.6)	279 (45.9)	251 (62.1)	145 (49.0)	<0.001
Discomfort Severity Index	626 (47.9)	262 (43.1)	236 (58.4)	128 (43.2)	<0.001
Symptom Total	656 (50.2)	280 (46.1)	243 (60.1)	133 (44.9)	<0.001
Symptom Disturbance Index	582 (44.5)	234 (39.3)	218 (54.8)	130 (45.6)	<0.001
STAI-1	656 (50.2)	287 (47.2)	222 (55.0)	147 (49.7)	0.053
STAI-2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	-

Table 3. Comparison of psychiatric symptoms according to COVID-19 assignment, presence of symptoms, and presence of diagnosis.

		COVID-19						
Psychiatric symptom (present%)	**Working in COVID-19 units (%)**		**Symptoms (%)**			**Diagnosed (%)**		
	Yes/no	**p**	**Yes/no**	**p**	**O.R.**	**Yes/no**	**p**	**O.R.**
Somatization	46.2/42.7	0.211	69.4/39.6	<0.001	3.46	68.0/43.6	0.001	2.74
Obsessive-Compulsive Symptom	46.0/45.0	0.712	61.6/42.3	<0.001	2.18	58.0/45.1	0.098	-
Interpersonal Sensitivity	43.5/43.1	0.888	59.4/40.0	<0.001	2.18	62.0/42.5	0.010	2.20
Depression	50.5/46.8	0.183	60.7/46.4	<0.001	1.78	56.0/48.5	0.369	-
Anxiety	49.6/44.7	0.074	62.6/44.3	<0.001	2.10	60.0/46.8	0.092	-
Hostility	38.7/38.8	0.964	55.3/35.4	<0.001	2.24	56.0/38.1	0.016	2.07
Phobic Anxiety	66.9/67.7	0.760	74.9/65.7	0.009	1.50	62.0/67.5	0.511	-
Paranoid Thought	43.7/41.9	0.508	54.8/40.5	<0.001	1.78	52.0/42.5	0.237	-
Psychoticism	36.3/37.2	0.726	50.7/33.9	<0.001	2.00	50.0/36.2	0.047	1.76
Additional Items	54.0/48.9	0.070	68.0/48.3	<0.001	2.27	68.0/51.0	0.026	2.04
Discomfort Severity Index	48.5/47.1	0.627	65.8/44.3	<0.001	2.41	60.0/47.4	0.108	-
Symptom Total	50.8/49.4	0.623	65.3/47.1	<0.001	2.11	60.0/49.8	0.202	-
Symptom Disturbance Index	46.5/44.4	0.447	58.7/42.8	<0.001	1.90	63.3/44.8	0.016	2.12

Comparing general psychiatric symptoms in terms of being diagnosed with COVID-19 and dying of one of his / her immediate vicinity in the last 1 month due to COVID-19, it was found that all general psychiatric symptoms except for phobic anxiety in both cases were significantly higher in the medical staffs who were diagnosed and died in the immediate vicinity. General psychiatric symptoms: 1.75 to 2.25 times more in medical staffs who have been diagnosed with COVID-19, and 1.76 to 3.15 times more in medical staffs with people who died from COVID-19 (Table 4).

It is stated that when the general psychiatric symptoms were compared according to medical staffs' predictions of the end of the epidemic, all general psychiatric symptoms except phobic anxiety were found to be significantly higher in those who thought that the epidemic would end after 1 year (Table 5).

Table 4. Comparison of psychiatric symptoms according to the presence of COVID-19 diagnosis and death in the immediate environment

	COVID-19 in the immediate environment					
	Diagnosed (%)			Death (%)		
Psychiatric symptom (present%)	**Yes/no**	**p**	**O.R.**	**Yes/no**	**p**	**O.R.**
Somatization	57.5/38.4	<0.001	2.16	67.6/43.2	<0.001	2.73
Obsessive-Compulsive Symptom	57.2/40.0	<0.001	2.00	63.4/44.5	0.002	2.15
Interpersonal Sensitivity	53.0/38.7	<0.001	1.78	60.6/42.3	0.002	2.09
Depression	61.3/42.8	<0.001	2.10	62.0/48.0	0.022	1.76
Anxiety	58.4/42.1	<0.001	1.93	63.4/46.4	0.005	2.00
Hostility	52.0/32.5	<0.001	2.25	60.6/37.5	<0.001	2.55
Phobic Anxiety	70.8/65.6	0.063	-	71.8/67.0	0.477	-
Paranoid Thought	52.5/38.3	<0.001	1.77	57.7/42.0	0.009	1.88
Psychoticism	47.7/31.5	<0.001	1.99	56.3/35.6	<0.001	2.33
Additional Items	60.8/47.2	<0.001	1.73	76.1/50.2	<0.001	3.15
Discomfort Severity Index	58.9/42.6	<0.001	1.93	67.6/46.6	0.001	2.38
Symptom Total	63.7/43.7	<0.001	2.25	66.2/49.2	0.005	2.02
Symptom Disturbance Index	54.2/41.3	<0.001	1.68	63.4/44.5	0.002	2.16

Table 5. Comparison of psychiatric symptoms according to COVID-19 outbreak prediction

	When does the COVID-19 outbreak end?			
Psychiatric symptom (present%)	**3 months**	**6 months**	**1 year**	**p**
Somatization	150 (39.3)	152 (40.6)	281 (50.9)	**<0.001**
Obsessive-Compulsive Symptom	154 (40.3)	167 (44.7)	275 (49.8)	**0.015**
Interpersonal Sensitivity	156 (40.8)	146 (39.0)	264 (47.8)	**0.016**
Depression	168 (44.0)	173 (46.3)	297 (53.8)	**0.007**
Anxiety	161 (42.1)	174 (46.5)	284 (51.4)	**0.019**
Hostility	127 (33.2)	139 (37.2)	241 (43.7)	**0.004**
Phobic Anxiety	236 (61.8)	257 (68.7)	387 (70.1)	**0.022**
Paranoid Thought	148 (38.7)	150 (40.1)	263 (47.6)	**0.011**
Psychoticism	137 (35.9)	127 (34.0)	216 (39.1)	**0.255**
Additional Items	176 (46.1)	183 (48.9)	316 (57.2)	**<0.001**
Discomfort Severity Index	163 (42.7)	175 (46.8)	288 (52.2)	**0.015**
Symptom Total	173 (45.3)	183 (48.9)	300 (54.3)	**0.021**
Symptom Disturbance Index	155 (41.3)	160 (44.4)	267 (49.4)	**0.042**

Discussion

TThe COVID-19 global epidemic is a life-threatening and distressing traumatic experience for everyone, and the effect of this trauma varies according to personal or sociocultural characteristics. The mental reactions of individuals, groups, or social classes to any destructive life experience are at different levels during different periods of the process. In an epidemic with a fatal outcome, such as COVID-19, medical staffs working on the front lines bear the highest risk of contamination, as well as a heavy emotional burden. Therefore, it has been reported that their psychology is affected seriously. Medical staffs who are faced with a large-scale infectious public health problem, are under both physical and psychological pressure [13]. In this study, 46th -49th days after the index case was seen on March 11, 2020, the effects of COVID-19 pandemic on general psychiatric symptoms in medical staffs were investigated. When the results of the study were examined, the prevalence of psychiatric symptoms was found between 36% and 51% in the medical staff participating in the study. In a study researched in the COVID-19 pandemic period in Wuhan, it was found that at least one-third of the medical staff had psychiatric symptoms [14]. In a study researched with 1257 healthcare workers in China, 35.6% of depressive symptoms and 33.2% of anxiety symptoms were observed [15]. The other studies investigating the psychological effects of COVID-19 on health workers; Lai et al. (2020) reported that the mental health of medical staffs was affected, experiencing depression, anxiety, insomnia, and distress [15], Li et al(2020) demonstrated that they're experiencing symptoms of anxiety, anger, and depression, and there is a decrease in positive emotions and life satisfaction scores [16], Zhang et al (2020) reported that insomnia, anxiety, depression, somatization, obsessive-compulsive symptoms were seen in medical staffs [17], Tan et al (2020) reported that medicals staffs experienced depression anxiety and posttraumatic stress disorder [18] in their study. In a systematic review on the subject, it was stated that the medical staff who work in COVID-19 showed stress, anxiety, depression symptoms, and experienced insomnia [19].

When the general psychiatric symptoms are compared according to occupational groups; the prevalence of somatization, obsessive-compulsive symptom, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid thought, psychoticism, eating and drinking disorders, sleep disorders, thoughts on death, and feelings of guilt were significantly higher in nurses. It was observed that the most affected group after the nurses were doctors. In the studies which were researched the psychosocial effects of the SARS outbreak on hospital workers, the most affected occupational group was found to be nurses. [20]. In a study conducted in the COVID-19 unit in China, it was observed that nurses developed more psychological symptoms than doctors and women developed more than men [21]. In a study conducted in Turkey during the pandemic, it was reported that there was no significant difference between the transient and permanent anxiety scores of the physicians and nurses. [22]. One of the possible reasons for the higher psychiatric symptom levels among nurses in our study could be the longer contact of the nurses with the patients during the diagnosis, treatment, and care processes. Furthermore, it was suggested that nurses exhibited higher psychiatric symptom levels when compared to other health professionals due to longer overtime shifts, excessive work hours, and social isolation from their families and friends. Also, females exhibit higher general anxiety levels when compared to males and they focus more on their emotions than males.

For medical staff, being in the same environment as those who are diagnosed with COVID-19 in or outside the hospital may increase psychiatric symptoms. In a study researched in China, the level of trauma between the three groups was examined between the medical staff working on the front line and non-front line in the COVID-19 outbreak and general population. Remarkably, medical staff working on the front line (COVID-19 services) showed lower trauma symptoms than those working on the non-front line [16]. In another study conducted in China – Wuhan, it was seen that 39% of the medical staff working in non-COVID services and 13% of those working in the units associated with COVID experienced burnout symptoms [13]. Also, in our study, while there was no significant increase in psychiatric symptoms compared to those who work and did not working in units related to COVID-19. Moreover, in medical staffs who have COVID-19 disease symptoms -somatization, interpersonal sensitivity, hostility, thoughts on death, psychoticism, eating and drinking disorders, sleep disorders, death, and thoughts on death- were found to be significantly higher in diagnosed with COVID-19. It was observed that general psychiatric symptoms increased 1.77 to 2.25 times more in medical staffs whose relatives had been diagnosed with COVID-19, and 1.76 to 3.15 times more in medical staffs whose relatives died due to COVID-19. Previous studies reported that when medical staffs face their colloquies who were intubated, lose the patients they follow up with, and fear of infecting the disease to their families and relatives harm their feelings of security and this may cause anxiety. These results are reported especially in those working with SARS [23]. The lack of difference between the psychiatric symptoms exhibited by healthcare professionals employed in different departments in our study could be due to more stringent use of protective equipment in higher contamination risk environments. It could be suggested that in the presence of a life-threatening hazard such as COVID-19 symptoms or diagnosis, the individual may feel more vulnerable, increasing the psychiatric symptom levels. However, because psychiatric symptoms could be affected by several factors such as personality traits, mechanisms associated with coping with stress, and past experiences, and the present study was a cross-sectional study that analyzed symptom levels, it could be suggested that the findings may be insufficient to explain the diverse causes of psychiatric symptoms. Thus, the present study could be considered as preliminary research for future studies.

When general psychiatric symptoms are compared according to the predictions of the end of the epidemic of healthcare workers, it was seen that all general psychiatric symptoms except phobic anxiety were significantly higher in those who think that the epidemic will end after one year. The prediction about the duration of the outbreak is associated with factors such as uncertainty in treatment. In a study that examined the effects of the SARS epidemic on 248 medical staff who were working in Toronto (Canada), medical staff had relatively frequent psychological distress and an increasing number of Post-Traumatic Stress Disorder symptoms. Although the variables that increase these factors cannot be fully explained, the effect of uncertainties in treatment protocols has been reported

[24]. In China, a set of psychological intervention medical teams covering mainly three areas to reduce the psychological impact of the outbreak on medical staffs, online courses to guide medical personnel to deal with common psychological problems, a psychological helpline team, and stress that provides guidance and supervision to solve psychological problems and stress psychological interventions that provide a variety of group activities to reduce - a detailed psychological intervention plan has been developed. Although the best approach is uncertain during the outbreak, it is necessary to protect the mental health of the staff and to better control infectious diseases [25].

The limitations of the present study included the employment of an online survey instead of face-to-face interviews, to prevent direct contact during the pandemic, the fact that the participants were not diagnosed by a psychiatrist, the improbable sampling method, and the lack of a non-healthcare professional control group.

Conclusion

According to the results of our study, it is psychologically affected health workers mostly nurses from the COVID-19 outbreak in Turkey. Besides, to reduce psychiatric symptoms, it may be recommended to promote new early psychosocial and psychotherapeutic interventions to these groups that might be beneficial in preventing the development of psychiatric symptoms in medical staff during an outbreak.

Conflict of interests
The authors declare that they have no competing interests.

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Ethical approval
Permission was obtained from the Scientific Research Permission Board of the Ministry of Health and the Ethics Committee of Çukurova University for conducting the study (Ethics committee number: 99).

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