Araştırma Makalesi – Original Article

Determination of the Correlation between Fear of COVID-19 and Health Anxiety in Emergency Health Personnel*

Acil Sağlık Hizmetleri Çalışanlarında COVID-19 Korkusu ile Sağlık Anksiyetesi Arasındaki İlişkinin Belirlenmesi

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ABSTRACT

Aim: To determine the relationship between fear of Covid-19 and health anxiety in emergency health personnel.

Method: This research was conducted in descriptive type. Research data were collected from 123 participants between March and May 2021 using the descriptive characteristics form, the COVID-19 fear scale, and the Health anxiety scale. Data analysis was done with SPSS 26 Statistical Package Program.

Results: The mean age, fear of COVID-19, and health anxiety of the participants were 27.27±6.23, 18.80±8.26, 31.45±9.82, respectively. A statistically significant relationship was found in the correlation analysis between fear of COVID-19 and health anxiety ($r=0.350$, $p < 0.01$). A positive and significant relationship was found between age and fear of COVID-19 ($r=0.189$, $p < 0.05$).

Conclusion: Considering the results of this study, it is seen that the fear of COVID-19 and health anxiety of emergency health personnels are moderate and positively and significantly correlated with each other. In this case, it shows that as the COVID-19 fears of emergency health personnel increase, their anxiety about their health also increases.

Keywords: COVID-19, Fear, Health anxiety, Emergency health services, Health personnel

ÖZ

Amaç: Acil sağlık hizmetleri çalışanlarında COVID-19 korkusu ile sağlık anksiyetesi arasındaki ilişkinin belirlenmedir.

Yöntem: Bu araştırma tanımlayıcı tipte yürütüldü. Araştırma verileri Mart-Mayıs 2021 tarihleri arasında 123 katılımcıdan tanımlayıcı özellikler formu, COVID-19 korkusu ölçeği ve Sağlık anksiyetesi ölçeğiyle toplandı. Veri analizi SPSS 26 İstatistik Paket Programı ile yapıldı.

Bulgular: Katılımcıların yaş, COVID-19 korkusu ve sağlık anksiyetesi ortalaması sırasıyla 27.27±6.23, 18,80±8,26, 31,45±9,82 olarak saptandı. COVID-19 korkusu ile sağlık anksiyetesi arasındaki korelasyon analizinde istatistiksel olarak anlamlı bir ilişki olduğu tespit edildi ($r=0,350$, $p < 0,01$). Yaş ile COVID-19 korkusu arasında pozitif yönlü anlamlı bir ilişki olduğu saptandı ($r=0,189$, $p < 0,05$).

Sonuçlar: Bu çalışmanın sonuçlarına bakıldığında acil sağlık hizmetleri çalışanlarının COVID-19 korkusu ve sağlık anksiyetesinin orta düzeyde olduğu ve birbiriyle pozitif yönde anlamlı düzeyde ilişkili olduğu görülmektedir. Bu durum acil sağlık hizmetleri çalışanlarının COVID-19 korkuları arttıkça sağlıklarıyla ilgili anksiyetelerinin de arttığını göstermektedir.

Anahtar Kelimeler: COVID-19, Korku, Sağlık anksiyetesi, Acil sağlık servisleri, Sağlık çalışanı

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Introduction

Coronavirus disease 2019 (COVID-19) that contagious in China/Wuhan at the end of 2019 is an acute infectious disease of the respiratory system. The coronavirus spread at a rapid pace, resulting in millions of infections and deaths worldwide. The virus can be deadly, particularly for the elderly and people with other health problems (chronic diseases and immunodeficiency).[1–3] By May 2021, 153,954,491 confirmed cases of COVID-19 have been reported, including deaths.[4] Turkey announced its first confirmed case of COVID-19 on March 11, 2020. As of 05.05.2021, there have been 4.955.594 confirmed cases, including 41.883 deaths.[5]

The signs and symptoms of coronavirus vary from patient to patient. The most common symptoms are fever, fatigue, headache, cough, difficulty breathing, and sore throat, while the less common symptoms are diarrhea, vomiting, and nasal congestion. The coronavirus is transmitted through droplets or direct contact. Infection can occur when a person is in close contact within a one-meter distance with an infected person. Endotracheal intubation, bronchoscopy, aspiration, and nebulized therapy also increase the risk of infection for healthcare workers.[1–3,6]

Most coronavirus patients present with mild to moderate symptoms (cold and upper respiratory tract infection) and recover in two weeks. However, it can take severe cases anywhere from two to six weeks to recover. Such cases generally present with pneumonia, abnormal clotting, sepsis, and kidney, liver, and heart damage. Antiviral drugs (Remdesivir, favipiravir, etc.), antibodies, anti-inflammatory agents, immunomodulatory agents, anticoagulants, and antifibrinolytics are prescribed for its treatment. Some severe cases are intubated and require mechanical ventilation.[2,3,7] There are several COVID-19 vaccines available, and many more are under different stages of development. In Turkey, first healthcare workers and then the elderly were vaccinated. The vaccination program in Turkey is making significant progress.[8,9] Vaccines and safety measures (face masks, personal hygiene, and social distancing) are of paramount significance for protection against COVID-19.[2,3,9]

Healthcare professionals have been working day and night since the onset of the pandemic. However, despite numerous developments in treatment and vaccination, there is still too much uncertainty surrounding medications and vaccines.[10,11] Healthcare workers experience fear, anxiety, demotivation, exhaustion, depression, sleep deprivation, and post-traumatic stress disorder because they are at the frontline of the fight against COVID-19.[12–16] Moreover, healthcare workers experience low life satisfaction and burnout and consider leaving their profession because they are shunned and discriminated against by the public as they are in close contact with COVID-19 cases.[10,17]

Healthcare workers feel pressured to stay in the profession as they do not want to lose their job, succumb to national sentiment, and want to be a part of the healthcare team. However, this takes a toll on them, causing high levels of anxiety.[18,19]

This paper research the correlation between fear of COVID-19 and health anxiety in emergency health personnel.

Research Questions:

1. What levels of COVID-19 fear and health anxiety do emergency health personnel have?

2. Is there a correlation between COVID-19 fear and health anxiety in emergency health personnel?

Methods

Design

This was a descriptive, and correlation study conducted with emergency health personnel in a province in northeastern Turkey between March and May 2021.

Sample and Setting

The study population consisted of 159 healthcare workers [doctors, paramedics, emergency medical technicians (EMTs), and drivers] providing emergency healthcare services under the Ardahan Provincial Health Directorate. Ardahan has 11 Emergency Healthcare Service Stations and a Command-and-Control Center (CCC) that coordinates those stations. Five stations are in the city center, while the rest are in districts. The city center has a healthcare team with a doctor. The Command-and-Control Center has four doctors, ten EMTs, and a paramedic. Besides, one doctor, one paramedic, and two EMTs are responsible for personnel coordination, maintenance and repair of ambulances, and material supply. A total of 19 healthcare workers in the CCC and Head Physician Department are not on active duty.

The sample size was calculated using a program.[20] The results showed that a sample size of 113 would be large enough to detect significant differences (95% power and 0.05 margin of error). The sample consisted of 123 paramedics, EMTs, and drivers. Participation was voluntary. Only four doctors were eligible for the study, and therefore, we did not include them in the sample.

Inclusion criteria:

- Volunteering

- Working at stations dealing with COVID-19 cases

Exclusion criteria:

- Communication problems

- Declining to participate

The data were gathered through an online survey (Google Forms) due to the pandemic.

Data Collection

All potential participants were contacted via WhatsApp or phone. They were informed of the research purpose and procedure. The forms of the study were sent to those who accepted to participate.

The data were gathered using a descriptive characteristics form, the Fear of COVID-19 Scale (FCV-19S), and the Short Health Anxiety Inventory (SHAI).

The descriptive features form is a form consisting of 15 items related to sociodemographic characteristics and COVID-19 experience.

The Fear of COVID-19 Scale (FCV-19S)

It was developed by Ahorsu in 2020 to assess the COVID-19 fear level.[13] The Turkish validity and reliability was done by Satıcı et al.[21] The reliability coefficient in the validity and reliability study was found to be 0.82.[21] The instrument consists of seven items scored on a five-item Likert-type scale. A score of 7-35 can be obtained from the scale, and an increase in scores indicates an increased fear of COVID-19.[7,13,21] The reliability coefficient for this study is 0.95.

The Short Health Anxiety Inventory (SHAI)

The Scale developed by Salkovskis et al. consists of 18 items.[22] Each of fourteen items has four statements on mental state. The remaining four items elicit information on what kind of mental state the respondent would be in if he/she had a serious illness. Ömer et al. adapted the scale into Turkish. The highest score is 54. Higher scores indicate higher health anxiety.[6,12,23] The scale has a Cronbach's alpha of 0.91 [12], which was the same in this study.

Data analysis

The data were evaluated the SPSS 26 package program. Number, percentage, mean, and standard deviation were used for categorical variables. Skewness and Kurtosis values (±2) were used for normality testing.[24] The relationship between scale scores was determined using Pearson and Spearman correlation analysis. The effect of sociodemographic variables on scale scores was analyzed using independent samples t-test and One Way ANOVA. A value of $p < 0.05$ was taken as the reference for the statistical significance level.

Ethical Considerations

The ethics committee approval dated 04.03.2021 and numbered E-67796128-000-2100006238 was obtained from Ardahan University Scientific Publication and Ethics Committee for the study. Verbal and written consent was obtained from the participants.

Results

This paper addressed the correlation between fear of COVID-19 and health anxiety in emergency health personnel. This section presented the results.

Participants had a mean age of 27.27±6.231. They worked 173.56±19.083 hours a month before the pandemic. They had been working 185.33±21.627 hours a month since the pandemic. More than half the participants were men (62.6%), paramedics (55.3%), and single (61.8%). Seventy-nine participants had an associate degree (64.2%). Seventy-six participants had 0 to 5 years of work experience (61.8%). The majority of the participants had no children (79.7%). Less than half the participants had one or two family members (42.3%). A quarter of the participants were smokers (25.2%). Twenty-six participants (21.1%) had tested positive for COVID-19 before **(*Table 1*)**.

Table 1. Descriptive characteristics of the participants (N=123)

Variables	Min-Max	M±SD	
Age	19-55	27.27±6.231	
Pre-pandemic working	160-280	173.56±19.083	
Working time during the pandemic(monthly)	160-280	185.33±21.627	
Variables	**Categories**	**n**	**%**
Gender	Woman	46	37.4
	Man	77	62.6
Job position	EMT	40	32.5
	Paramedic	68	55.3
	Driver	15	12.2
Marital status	Married	47	38.2
	Single	76	61.8
Education (degree)	Primary school	7	5.7
	High school	23	18.7
	Associate	79	64.2
	Bachelor's	12	9.8
	Master's	2	1.6
	6-10	31	25.2

	11-15	14	11.4
	16-20	2	1.6
The number of children	None	98	79.7
	1	13	10.6
	2	8	6.5
	≥3	4	3.2
The number of family members?	Living alone	40	32.5
	1-2	52	42.3
	≥3	31	25.2
Tobacco use	Yes	31	25.2
	No	92	74.8
Suffering from COVID-19		26	21.1
COVID-19 free		97	78.9

EMT= Emergency medical technicians

Table 2 shows the comparison of the participants' FCV-19S and SHAI scores by sociodemographic variables. Gender, job position, marital status, education, work experience, tobacco use, and COVID-19 experience did not affect participants' FCV-19S and SHAI scores ($p > 0.05$). There was a positive relationship between age and FCV-19S scores ($p < 0.05$). There was a positive relationship between monthly average working hours and SHAI scores ($p < 0.01$).

Table 2. Comparison of FCV-19S and SHAI Scores by sociodemographic variables

Variables	**n**	**%**	**FCV-19S M±SD**	**SHAI M±SD**
Gender				
Woman	46	37.4	20.43±8.34	31.82±9.70
Man	77	62.6	17.83±8.11	31.23±9.95
Test and p			t:1.704 p=0.521	t:0.322 p=0.961
Job position				
EMT	40	32.5	17.50±8.47	31.55±10.21
Paramedic	68	55.3	19.58±8.19	31.17±9.68
Driver	15	12.2	18.73±8.10	32.46±10.01
Test and p			F:0.802 p=0.451	F:0.107 p=0.898
Marital status				
Married	47	38.2	19.76±8.05	32.87±9.38
Single	76	61.8	18.08±8.36	30.42±10.01
Test and p			t:-1.099 p=0.274	t:-1.343 p=0.176
Education (degree)				
Primary school	7	5.7	21.57±6.27	32.45±9.82
High school	23	18.7	17.60±8.21	29.91±10.41
Associate	79	64.2	18.65±8.21	31.51±10.10
Bachelor's	12	9.8	19.50±8.21	33.75±9.17
Master's	2	1.6	24.50±10.60	28.50±10.60
Test and p			F:0.573 p=0.683	F:0.372 p=0.828
Work experience (year)				
0-5	76	61.8	18.47±8.18	29.78±9.78
6-10	31	25.2	17.45±8.70	34.93±10.24
11-15	14	11.4	22.50±7.04	32.78±7.98
16-20	2	1.6	26.50±3.53	31.50±2.12
Test and p			F:1.868 p=.139	F:2.172 p=0.095
Tobacco use				
Yes	24	25.2	19.62±7.27	30.58±10.57
No	92	74.8	18.66±8.67	32.21±10.57
Test and p			t:0.499 p=0.619	t:-0.723 p=0.471
Suffering from COVID-19	26	21.1	18.34±7.32	32.11±8.18
COVID-19 free	97	78.9	18.92±8.52	31.27±10.24
Test and p			t:-0.318 p=0.751	t:0.384 p=0.664
Age	27.27±6.23		18.80±8.26	31.45±9.82
Test and p			r:0.189* **p=0.031**	r:0.092 p=0.311

Pre-pandemic working time(monthly)	173.56±19.08	18.80±8.26	31.45±9.82
Test and p		r:-0.041 p=0.327	r:0.228** **p=0.006**
Working time during the pandemic(monthly)	185.33±21.627	18.80±8.26	31.45±9.82
Test and p		r:-0.070 p=0.222	r:-0.237** **p=0.004**

*p<0.05,**p<0.01. t= independent samples t-test, F= One Way ANOVA.

Discussion

The incubation period of the coronavirus is 2 to 14 days. It is highly contagious and has high mortality and morbidity. In addition, there is too much uncertainty and misinformation surrounding the safety of the treatments and vaccines. Therefore, it is an important health issue that affects the public and healthcare workers physically and psychosocially.[11,19] Simple yet effective preventive measures have been implemented to reduce the workload of healthcare workers, such as social distancing, personal hygiene, and masks. The lockdowns also slow down the spread of the virus.[11] The pandemic has dramatic impacts on healthcare workers. They experience high levels of anxiety and face domestic, professional, and health-related problems. The pandemic also causes helplessness and loss of control.

Participants had a mean FCV-19S and SHAI score of 18.80±8.26 and 31.45±9.82, respectively. Both scores indicated a moderate level of fear of COVID-19 and health anxiety. Labraque et al. also found that frontline nurses had a mean FCV-19S score of 19.92. They concluded that nurses with a greater fear of COVID-19 were less satisfied with their job and considered leaving the profession more often.[25] Duman reported that undergraduate students (n=100) had a moderate level of FCV-19S (16.87±6.69). They also found a positive relationship between fear of COVID-19 and intolerance to uncertainty.[7]

Gender, education, job position, work experience, marital status, tobacco use, and COVID-19 experience had no effect on our participants' FCV-19S and SHAI scores ($p > 0.05$). This is probably because they have been used to living with the pandemic.

Gender had no effect on our participants' FCV-19S scores, which has also been reported by earlier studies.[7,13] However, Bakioğlu, Korkmaz, and Ercan reported that women had a greater fear of COVID-19 than men. The researchers attributed it to the fact that men are less sensitive than women because they are socially expected to be stronger and more fearless.[14]

Our participants had a moderate level of anxiety, regardless of gender. Özdelikara, Alkan, and Mumcu also reported moderate levels of anxiety in nursing students.[23] However, Ekiz, Ilıman, and Dönmez found that healthcare professionals had high levels of health anxiety and that women had higher levels of health anxiety than men.[6]

There was a positive correlation between age and fear of COVID-19 ($p < 0.01$), suggesting that older emergency healthcare workers have a greater fear of COVID-19 than younger ones. This may have two reasons. First, the coronavirus affects the elderly more. Second, Turkey had introduced age-based curfew restrictions to people over 65 years of age.

There was a positive correlation between average working hours in a month and health anxiety ($p < 0.01$), indicating that more working hours cause more health anxiety in emergency healthcare workers.

Bostan et al. found that three out of every ten healthcare workers (n = 736) were in contact with COVID-19 patients. They also reported that almost half the nurses were in contact with COVID-19 patients (42%). The researchers determined that the healthcare workers had high levels of anxiety.[10]

According to studies, fear of COVID-19 has been associated with depression, anxiety and stress. Moreover, people with a greater fear of COVID-19 are less satisfied with life.[14,21] Depression and anxiety are also associated with perceived infectability and germ aversion.[13] Healthcare workers experience high stress during the pandemic because they are worried about themselves and their families. This makes them less motivated and less productive, resulting in reduced quality of care.[26]

Some studies show that the grim news about the pandemic is responsible for negative thoughts, stress, fear, and depression. Both healthcare workers and the public get into panic and succumb to anxiety amidst the abundance of false and conflicting news about the pandemic.[18,26,27] This takes a mental, social, and emotional toll on everybody.[18]

In a study conducted with 1422 healthcare professionals in Spain, it was determined that 56.6% of the participants showed post-traumatic stress disorder syndrome, 58.6% had anxiety disorder, 46% had depressive disorder and 41.1% had symptoms of emotional exhaustion.[15] They concluded that resilient and optimist healthcare workers who received social support were better at managing their emotions and coping with pandemic-related problems. They added that the lack of resilience and optimism led to burnout, poor performance, and increased sensitivity.[15]

Conclusion

Participants had moderate COVID-19 fear and health anxiety. There was a positive relationship middle level between COVID-19 fear and health anxiety. Gender, job position, marital status, education, work experience, tobacco use, and COVID-19 experience had no effect on participants' fear of COVID-19 and health anxiety. Health anxiety was positively correlated with age and monthly average working hours.

The pandemic takes the greatest toll on healthcare workers. Optimism, social support, effective communication, and a heightened sense of control can help them cope with the adverse impacts of the pandemic. They should also avoid the bombardment of information to protect their mental health. We need further research to better understand the adverse effects of the pandemic on healthcare workers. We also need interventional studies to help them cope with the pandemic. They should be provided with regular in-service training to help them focus on the moment and accept their experiences for what they are. They should also be offered psychological counselling to motivate them and encourage them to support each other. In addition to the results of the study, the pandemic has not only been a cause of anxiety and anxiety in the working environment for health workers, but also a cause of isolation and anxiety in the society. It is thought that studies aimed at addressing and eliminating the anxiety and fear caused by social isolation will be beneficial.

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There is no conflict of interest.

Ethical Approval

Ardahan University Ethics Committee (Ethics Committee Date: 04.03.2021, No: E-67796128-000-2100006238) was obtained to conduct the study.

Author Contributions

Derya Şimşekli Bakırhan: Study conception and design, data collection, data analysis and interpretation, drafting of the article, critical revision of the article.

Mehtap Tan: Study conception and design, data collection, data analysis and interpretation, drafting of the article, critical revision of the article.

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