JOURNAL OF
CONTEMPORARY MEDICINE

DOI:10.16899/jcm.1094939
J Contemp Med 2022;12(4):509-514

Original Article / Orijinal Araştırma

Relation of Anxiety and Hopelessness Levels of Healthcare Workers with Personality Traits During COVID-19 Period

COVID-19 Sürecinde Sağlık Çalışanlarının Anksiyete ve Umutsuzluk Düzeylerinin Kişilik Özellikleri ile İlişkisi

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Abstract

Aim: Corona Virus Disease-2019 (COVID-19) is an acute respiratory infection that began in Wuhan province in China, and spread to many countries around the world. Many studies were conducted in the literature to evaluate the mental health of healthcare employees during the COVID-19 period. The purpose was to evaluate the relation of the anxiety and hopelessness levels caused by COVID-19 pandemia period with personality traits of healthcare workers.

Material and Method: A total of 451 people participated in our study; including 221 healthcare workers and 230 non-medical community sampling. All participants filled the Coronavirus Anxiety Scale (CAS), Beck Hopelessness Scale (BHS), Revised Eysenck Personality Survey-Shortened Form (EPS-RCF).

Results: All the subscale scores of CAS and BHS were found to be high in healthcare employ healthcare workers ($p<0.05$). The EPS-RCF neurotism subscale was also found to be high in healthcare workers ($p<0.05$). During the COVID-19 period, the anxiety and hopelessness levels of healthcare workers were found to be higher than non-medical community sampling. It was also found that the personality trait of neurotism was dominant in healthcare workers, and that personality traits were associated with both anxiety and hopelessness levels.

Conclusion: Our findings are very important for healthcare workers all over the world to reduce their anxiety, to increase future expectations, motivations and hopes for the future, and to be spiritually good during this pandemia period.

Keywords: COVID-19, healthcare workers, anxiety, hopelessness, personality traits.

Öz

Amaç: Korona virüs hastalığı-2019 (COVID-19); Çin Wuhan eyaletinden başlayıp dünya üzerinde pek çok ülkeye yayılan bir akut solunum yolu enfeksiyonudur. Literatürde COVID-19 sürecinde sağlık çalışanlarının ruh sağlıklarını değerlendirmek için çok sayıda çalışma yapılmıştır. Bu çalışmanın amacı; COVID-19 pandemi döneminin neden olduğu kaygı ve umutsuzluk düzeylerinin sağlık çalışanlarının kişilik özellikleri ile ilişkisini değerlendirmektir.

Gereç ve Yöntem: Çalışmamıza toplam 451 kişi katıldı; 221 sağlık çalışanı ve 230 tıbbi olmayan sağlık çalışanı olamayan kişi dahil edildi. Tüm katılımcılara; sosyodemografik veri formu, Koronavirus Anksiyete Ölçeği (KAÖ), Beck Umutsuzluk Ölçeği (BUÖ), Gözden Geçirilmiş Eysenck Kişilik Anketi-Kısaltılmış Formu (EKA-GGK) uygulandı.

Bulgular: Sağlık çalışanlarının KAÖ ve BUÖ tüm alt ölçek puanları yüksek bulundu ($p<0.05$). EKA-GGK nörotizm alt boyutu sağlık çalışanlarında yüksek olarak bulunmuştur ($p<0.05$). COVID-19 döneminde sağlık çalışanlarının kaygı ve umutsuzluk düzeylerinin sağlık çalışanı olmayan gruptan fazla olduğu görülmüştür. Ayrıca sağlık çalışanlarında nevrotik kişilik özelliğinin baskın olduğu ve kişilik özelliklerinin hem kaygı hem de umutsuzluk düzeyleri ile ilişkili olduğu bulunmuştur.

Sonuç: Bulgularımız; tüm dünyada yaşanan bu salgın döneminde sağlık çalışanlarının anksiyetelerinin azaltılması, gelecek beklentilerinin, motivasyonlarının ve gelecek ile ilgili umutlarının arttırılması, ruhsal olarak iyi olmaları açısından oldukça önemlidir.

Anahtar Kelimeler: COVID-19, sağlık çalışanları, anksiyete, umutsuzluk, kişilik özellikleri.

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Received *(Geliş Tarihi)*: 29.03.2022 **Accepted *(Kabul Tarihi)*:** 18.04.2022

INTRODUCTION

Corona Virus Disease-2019 (COVID-19) is an acute respiratory infection that began in Wuhan province in China, and spread to many countries around the world. COVID-19 was declared a global pandemia causing severe respiratory disease by the World Health Organization (WHO).[1] With the current data, it was been reported that 15.666.671 people were infected, and 636.787 people died worldwide.[2] The disease causes fever, radiological evidence of pneumonia, serious shortness of breath, and physical symptoms, as well as serious damage to the mental health of societies.[3] It was found that there were increases in in negative emotions of people like anxiety, depression, irritability, and decreases in positive emotions like being satisfied with life.[4] A study conducted with the participation of more than 50.000 people in China found that 35% of the participants were psychologically distressed.[5] In addition to the stress and anxiety experienced by societies all over the world, it is possible to argue that healthcare workers who struggle with the disease in the first line, who are busy, working for longer durations to meet the health needs of patients, and who are at risk of being infected every day, are exposed to a source of distress that can override their coping skills. After the stress and distress experienced, it is argued that the mental health of healthcare workers is at risk.[6]

Many studies were conducted in the literature to evaluate the mental health of healthcare employees during the COVID-19 period.[6-10] In a study evaluating 134 healthcare workers, it was found that 12.7% of the participants showed depressive symptoms, and 20.1% showed anxiety symptoms.[7] In another study conducted with hospital anxiety depression scale, it was calculated that 11.7% of the participants exceeded the cut-off score of depression subscale, and 24.7% of the anxiety subscale.[8] In studies included in the literature, it was reported that there might be anxiety and depressive symptoms in healthcare workers,[6-8] and in addition, different psychiatric effects like irritability, stress, loneliness, hopelessness, insomnia, fatigue and hopelessness a with different psychiatric effects.[9] The increased workload, lack of protective equipment, high risk of transmission and working under severe pressure with the epidemic period were shown to have a negative effect on the physical and mental health of healthcare workers.[11] In the light of all these data, the first purpose of the present study was to examine the levels of anxiety and hopelessness of healthcare workers by comparing them with non- healthcare workers community sampling. As the second purpose, it was also aimed to evaluate the relation of anxiety and hopelessness levels with personality traits.

MATERIAL AND METHODS

Ethical Statement

This cross-sectional, descriptive study research was carried out online. The approval of the Local Ethics Board of Clinical Studies of Fırat University Faculty of Medicine was received with number 97132852/050.01.04 to conduct the study. The study was conducted in line with the Helsinki Declaration.

Study Design and Participants

The study was conducted online. People between the ages of 25 and 55 volunteering to participate in the study, who filled out and approved the electronic forms, were included in our study. Those who had chronic diseases that required medical treatment, who reported that they were receiving psychiatric treatments, and those who did not want to participate in the study were excluded from the study. Aside from the group that included healthcare workers, people who were not healthcare workers were also included in the study as the Control Group. All participants filled in the Sociodemographic Data Form, Coronavirus Anxiety Scale (CAS), Beck Hopelessness Scale (BHS), Revised Eysenck Personality Survey-Shortened Form (EPS-RCF).

Data Collection Tools

Sociodemographic Data Form: Considering the purposes of the study, it was prepared by the researchers in line with the literature review. It contains demographic data like age, marital status, place of education, level of education, working status, job position, and economic level. In addition to demographic data, it also has questions on whether the patient required treatment, medical and psychiatric disease, as well as clinical evaluation.

Coronavirus Anxiety Scale (CAS): It was developed by Lee.[12] The scale is in 5-Point Likert style and has one dimension. Each item is rated between 0 and 4. "0" refers to "never", "1" refers to "rarely/less than one or two days", "2" refers to "a few days", "3" refers to "more than seven days", and "4" refers to "almost every day in the last two weeks". The reliability study of the scale was conducted for Turkish by Evren et al.[13]

B**eck Hopelessness Scale (BHS):** It was developed by Beck et al.[14] The scale is a 20-point self-notification scale. Feelings about the future, loss of motivation, total hopelessness scores are calculated. The higher the scores, the higher the person's level of hopelessness. Seber et al. conducted the Turkish validity and reliability study.[15]

Revised Eysenck Personality Survey-Shortened Form (EPS-RCF): It has 24 items, each question is answered as "yes" or "no" with 3 subscales, which are "Extroversion", "Narcissism" and "Psychoticism". In addition to these subscales, the purpose with the "Lie" subscale is to prevent and control bias in the implementation of the scale.[16,17]

Statistical Analysis

Statistical Package for Community Sciences (SPSS Inc., Chicago, IL) version 20 program was used to evaluate the data obtained from the participants. The distributions of the data were analyzed with the Kolmogorov-Smirnov Test. Categorical data were shown as number and percentage, and numerical data were shown as mean and standard deviation. Mann-Whitney U-test was used in the comparisons on numerical data. In the evaluation of the categorical data, the Chi-Square Test or Fisher's Exact Test were used. The relations between the scales scores with each other was examined with the Pearson Correlation Analysis. Statistical significance was taken as $p<0.05$ in all analyses.

RESULTS

Online forms were sent to a total of 300 healthcare workers for the study; however, 50 people refused to participate in the study, 16 people could not be included in the study because they did not fill the forms sent online. As the Control Group, online forms were sent to 280 people who were not healthcare workers; however, 35 people refused to participate in the study, and 8 people could not be included in the study because they did not fill the forms. A total of 221 healthcare workers and 230 non-healthcare workers who met the inclusion criteria were included in our study as the community sampling (i.e. the Control Group). No statistically significant differences were detected between the mean age of the participants, the marital status, and the education levels. However, the gender, professions and economic status were statistically different between groups (**Table 1**).

Table 1. Distribution of demographic data of the participants

	Healthcare workers group (n= 221)	Non-healthcare community sampling; control group (n=230)	P
Age (Mean±SD)	33.78±12.16	34.86±12.01	>0.05
Gender (Female/Male)	160/61 (72.4/27.6%)	130/100 (56.52/43.29%)	<0.05
Marital Status			
Married	142 (64.3%)	158 (68.7%)	
Single	69 (31.2%)	64 (27.8%)	>0.05
Separated	10 (4.5%)	8 (3.5%)	
Educational Status			
High School Graduate	8 (3.61%)	31 (13.5%)	
University Graduate	199 (90%)	176 (76.5%)	
Still Studying	14 (6.3%)	23 (10%)	
Occupation			
Academician	15 (6.8%)	-	
Specialist Doctor	70 (31.7%)	-	
Practicing Physician	37 (16.7%)	-	
Dentist	10 (4.5%)	-	
Pharmacist	4 (1.8%)	-	
Nurse/Healthcare Officer	70 (31.7%)	-	
Medical Secretary	15 (6.8%)	-	
Employee	-	67 (29.13%)	
Civil Servant	-	99 (43%)	
Military personnel	-	16 (7%)	
Housewife	-	48 (20.9%)	
Income Status			
Below ₺2.000	-	29 (12.6%)	
₺2-5.000	62 (28.1%)	74 (32.7%)	<0.05
₺5-10.000	71 (32.1%)	73 (31.7%)	
Above ₺10.000	88 (39.8%)	54 (23.5%)	
Smoking Status	50/162/9	66/146/18	
Yes/No/Quit	22.6/73.3/4.1%	28.7/63.5/7.8%	
Alcohol Use	16/201/4	25/198/7	
Yes/No/Quit	7.2/91/1.8%	10.9/86.1/3%	

No participants had medical or psychiatric disease requiring treatment. The Chi-Square Test and the Fisher-exact Test was used in the calculations. The values given in the "Age" line are presented as Mean±Standard Deviation, while other values are given as n (%).

The number of people who were actively working in their own businesses during the pandemic period were 164 people (74.2%) in healthcare workers, and 66 (28.7%) in non-healthcare sampling. Detailed data on working status and location of healthcare workers during the pandemic period is given in the **Figure 1**.

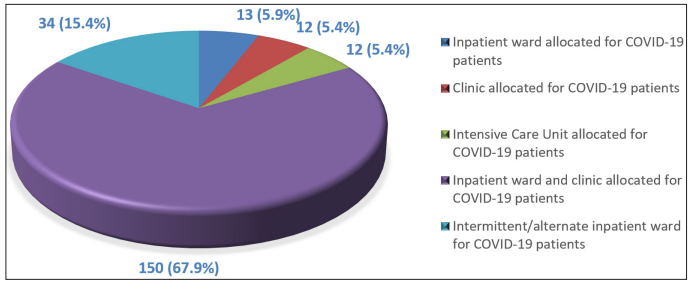

Figure 1. Workplace during pandemia period healthcare workers group

When the distribution of the quantitative variables of the participants was examined, it was determined that the healthcare worker group received a higher score ($p<0.05$). For Beck Hopelessness Scale, the scores of healthcare workers from all subscales were calculated to be higher than the other group (**Figure 2**). For Eysenck Personality Inventory, the scores received from the subscale of Neurotism was determined to be high in healthcare workers (**Figure 3**). When the relations between some demographic characteristics of healthcare workers and quantitative variables were examined, it was found that women's CAS scores were higher than those of men ($p=0.000$). Similarly, the scores of women in the subscale of EPS-RCF "Neurotism" and the subscale of "Hope" were higher (the p values were 0.001, 0.003, respectively). No relations were detected between marital status and age. When healthcare workers were divided into professions like specialist doctors, general practitioners, and nurses, no differences were found between the scale scores of the groups. Only the BHS Feelings about the Future subscale was higher in specialist doctors than in other professions. In this subscale, the ranking of the scores was listed as specialist doctors, general practitioners, dentists, pharmacists and nurses. The scores of healthcare workers who worked actively in pandemia period were much higher in all the scales applied. This result was independent of the unit worked. In other words, the scores of the healthcare workers who worked actively in pandemia period in pandemia ward, pandemia emergency department, pandemia intensive care unit were much higher in all scales. The scores of smokers were much higher in all subscales of BHS. Similarly, the scores of healthcare workers who used alcohol in all subscales of the BHS were higher than the group that did not drink alcohol. No relations were detected between smoking and alcohol and the CAS and EPS-RCF. The correlation analysis results of healthcare workers are presented in **Table 2**.

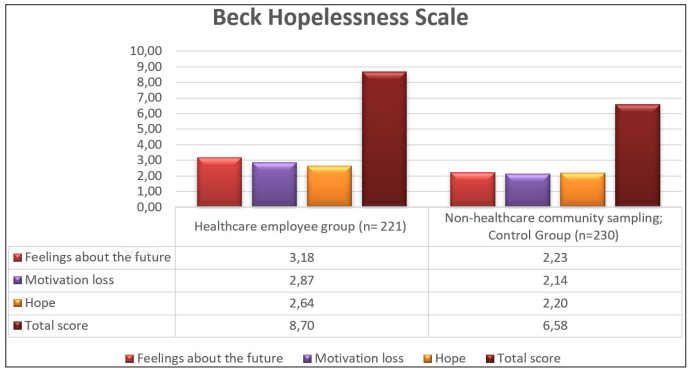

Figure 2. Distribution of quantitative variables of the participants-1

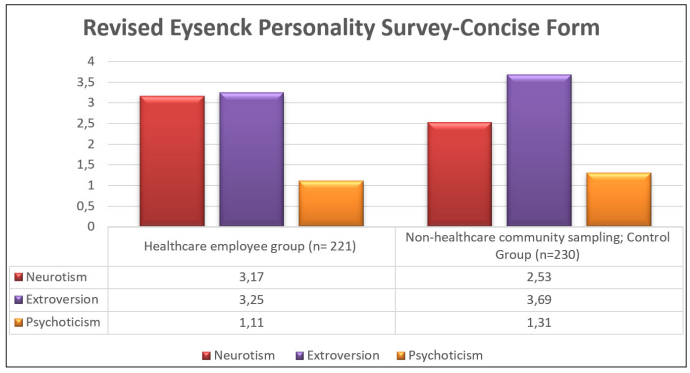

Figure 3. Distribution of quantitative variables of the participants-2

Table 2. Pearson Correlation Analysis results of healthcare workers

		Beck Hopelessness Scale			
	CAS	Feelings about the future	Motivation loss	Hope	Total score
Beck Hopelessness Scale					
Feelings about the future	.321*	-	.748*	.742*	.921*
Motivation loss	.383*	.748*	-	.683*	.946*
Hope	.381*	.742*	.683*	-	.869*
Total score	.392*	.921*	.946*	.869*	-
EPS-RCF					
Neurotism	.330*	.538*	.517*	.563*	.592*
Extroversion	-.020	-.222*	-.196*	-.241*	-.239*
Lie	.028	-.004	.023	.029	.017
Psychoticism	.068	-.077	.043	-.113	-.043

Abbreviation given in the table: CAS: Coronavirus Anxiety Scale, EPS-RCF: Revised Eysenck Personality Survey-Concise Form. The values given in the table are the "r" values. Pearson Correlation Analysis was used in the calculations.

DISCUSSION

In our study, we examined the anxiety and hopelessness levels experienced by healthcare workers during the COVID-19 period by comparing them to community sampling that consisted of non- healthcare workers. We also evaluated the relation of anxiety and hopelessness levels with personality traits.

Emergency plans were put into practice in our country and around the world during the COVID-19 pandemia period. Measures like protecting social distance, wearing masks, the concept of flexible working hours for employees, and less out-of-the-house and postponing non-urgent healthcare applications were taken.[18] These measures, together with new living and working conditions, increased the stress and pressure on all communities and healthcare workers. People being under psychiatric pressure during epidemic periods, feeling intense stress and some psychiatric symptoms are considered as expected conditions.[19] Studies were conducted to examine the effect of the pandemic period on the psychiatric health of healthcare workers. Studies in which only healthcare workers were evaluated were intense.[7-9,18] Comparative studies, like our study, were limited.[6,20] In a study that was conducted with 59 doctors and nurses, some healthcare workers were found to show severe depressive symptoms.[21] In a broader study conducted with healthcare workers working in twenty different hospitals, the employees had depressed symptoms with a rate of 50.4%, anxiety symptoms with 44.6%, insomnia at 34%, and stress with a 71.5%.[22] In a study conducted with 442 healthcare workers in our country, 41.2% of the participants were under intense stress, 64.7% had depressive symptoms, and 51.6% showed anxiety symptoms. It was reported that participants with female gender, being single, and low work experience had higher depression, anxiety and stress scores.[18] In a study that anxiety and hopelessness levels were found to be high in healthcare workers. State anxiety is usually associated with stressful events. Anxiety in the face of ongoing events with uncertainty like the pandemia can be described as state anxiety. In this study, the state anxiety levels of healthcare workers were found to be as high as expected.[20] Similarly, in our study, healthcare workers were compared with non-medical community sampling. Corona virus anxiety scale is a state anxiety measuring tool that evaluates the extent of the corona virus-related anxiety. The scores of this scale were found to be high in healthcare workers when compared with non-medical community sampling. Also, the hopelessness levels of healthcare workers were found to be high. It was reported in the literature that the anxiety and hopelessness levels were associated with increased anxiety levels, which means that hopelessness has increased.[23] Similarly, the anxiety levels of participants increased, and their hopelessness levels increased.

Our study is the first one in the literature that examines the relation of anxiety and hopelessness levels of healthcare workers with personality traits during the COVID-19 period. When the general personality characteristics of groups were compared, it was found that the Neurotism scores of healthcare workers were higher than non-medical community sampling. EPS-RCF, other subscales, psychoticism and extroversion were found to be higher in non-medicine community. In a study that examined the personality characteristics of healthcare workers with Eysenck Personality Survey, the dominant personality trait of the healthcare group was found to be Neurotism, which is similar to our results.[24] In another study, it was found that extroversion and psychoticism were higher

among clinical psychologists, and Neurotism was dominant in general medical doctors.[25] In addition to the fact that Neurotism was dominant in healthcare workers, which is similar to the literature, it was also found that Neurotism scores showed a positive correlation with all subscales of corona virus anxiety and hopelessness scale. The extroversion personality trait was found to be negatively related with all subscales of the BHS. This result was similar to the literature data. In many studies conducted on different groups in the literature, the sub- dimension of Eysenck Personality Scale was positively associated with the anxiety and hopelessness scale scores; however, the extroversion and hopelessness scales were determined to be negatively associated with all subscales.[26,27]

Women's anxiety scores were calculated as more than men in many studies conducted during the COVID-19 pandemic period.[11,20,28] In our results, similarly, the CAS scores of women were higher than men. However, some studies found that women had higher hopelessness levels similar to anxiety. [20] In our study, no relations were detected between the marital status of the participants and the scales applied. The data obtained about the marital status in the literature were contradictory. Some studies reported high anxiety levels in married people,[20] and no relation with marital status, which is similar to our results.[18] Although a study in the literature found that the anxiety levels of nurse and specialist doctor were similar,[20] another study found that the anxiety levels of nurses were higher than other healthcare workers.[29] Our results did not differ in anxiety or hopelessness levels between the nurse/medical officer and doctors.

Limitation

Our results should be evaluated by considering some limitations. The first of these limitations is that the study was of a cross-sectional nature. Other limitations were the relatively inadequate number of sampling and people's being evaluated with self-notification scales. These limit the generalization and interpretation of the results obtained here. Further studies are needed with larger sample groups in order for our findings to become important.

CONCLUSION

As a result, it was found in our study that the anxiety and hopelessness levels of healthcare workers during the COVID-19 period were higher than non-medical community sampling. It was also found that the personality trait of Neurotism was dominant in healthcare workers. Finally, personality traits were found to be associated with anxiety and hopelessness levels. In the light of our findings, it is very important to reduce the anxiety of healthcare workers during the unexpected and unpredictable pandemia period to increase future expectations, motivations and hopes for the future, to be spiritually healthy, and indirectly, for the healthcare workers to become beneficial to patients.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was approved by Fırat University Non-Invasive Local Ethical Board and Provincial Health Management, and was implemented in accordance with Helsinki Declaration (Ethical approval number: 97132852/050.01.04).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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