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Research Article

EVALUATION OF ANXIETY, FEAR, STRESS, DEPRESSION, AND BURNOUT LEVELS OF HEALTHCARE PROFESSIONALS DURING THE COVID-19 PANDEMIC PROCESS

SAĞLIK PROFESYONELLERİNİN COVİD-19 PANDEMİSİ SÜRECİNDE ANKSİYETE, KORKU, STRES, DEPRESYON VE TÜKENMİŞLİK DÜZEYLERİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

In the present study it is aimed to evaluate the anxiety, fear, stress, depression, and burnout levels of healthcare professionals during the COVID-19 pandemic. Participants were 228 (151 females, 77 males) healthcare workers at Dokuz Eylül University Research and Application Hospital in İzmir, Turkey. The study protocol was approved by the Ethics Committee of Dokuz Eylül University. Sociodemographic information of the participants was collected, and the Fear of Covid-19 Scale, Depression Anxiety Stress Scale-21 (DASS-21), Maslach Burnout Inventory (MBI) were administered. All statistical analyzes were performed using IBM SPSS Statistics (Statistical Package for the Social Sciences) 24.0 for Windows (SPSS Inc., Chicago, IL, USA). All variables were screened for accuracy of data entry, missing values, and homoscedasticity. Our findings revealed that fear of Covid-19 scores of female participants were higher than the scores of male participants. Participants working in pandemic units revealed a significant difference in terms of stress [$t(198.72) = 3.38$, $p < .001$], anxiety [$t(207.11) = 2.82$, $p = .005$], depression [$t(201.08) = 2.50$, $p = .013$], emotional exhaustion [$t(213.23) = 3.60$, $p < .001$] and depersonalization [$t(203.47) = 3.83$, $p < .001$]. Moreover, there were significant differences in total FCV-19S among different professions [$F(6, 221) = 5.88$, $p < .001$]. It is crucial to support healthcare professionals through a series of psychological interventions, including counseling and psychotherapy, to reduce the psychological damage experienced by healthcare professionals in the front line in crises such as the Covid-19 outbreak.

ÖZ

Bu çalışmada sağlık çalışanlarının COVID-19 salgını sırasındaki kaygı, korku, stres, depresyon ve tükenmişlik düzeylerinin değerlendirilmesi amaçlanmıştır. Araştırmaya İzmir ilinde bulunan Dokuz Eylül Üniversitesi Araştırma ve Uygulama Hastanesi'nden 228 sağlık çalışanı katılmıştır (151 kadın, 77 erkek). Çalışma için Dokuz Eylül Üniversitesi etik kurulundan onay alınmıştır. Araştırma verileri katılımcıların sosyodemografik bilgileri toplama formu ile Covid-19 Korku Ölçeği, Depresyon Anksiyete Stres Ölçeği-21 (DASS-21) ve Maslach Tükenmişlik Ölçekleri (MBI) kullanılmıştır. Tüm istatistiksel analizler, IBM SPSS Statistics (Statistical Package for the Social Sciences) 24.0 for Windows (SPSS Inc., Chicago, IL, ABD) kullanılarak yapılmıştır. Tüm değişkenler, veri girişinin doğruluğu, eksik değerler ve eşvaryanslık açısından taranmıştır. Bulgularımız, kadın katılımcıların Covid-19 korkusu puanlarının erkek katılımcılardan daha yüksek olduğunu ortaya koymaktadır. Pandemi birimlerinde çalışan katılımcıların stres [$t(198.72) = 3.38$, $p < .001$], kaygı [$t(207.11) = 2.82$, $p = .005$], depresyon [$t(201.08) = 2.50$, $p = .013$], duygusal tükenme [$t(213.23) = 3.60$, $p < .001$] ve duyarsızlaşma [$t(203.47) = 3.83$, $p < .001$] skorları açısından anlamlı bir farklılık saptanmıştır. Ayrıca, farklı meslekler arasında toplam korku düzeylerinde (FCV-19S) de önemli farklılıklar sözkonusudur [$F(6, 221) = 5.88$, $p < .001$]. Sağlık çalışanlarının Covid-19 salgını gibi krizlerde ön saflarda yaşadıkları psikolojik tahribatı azaltmak için danışmanlık ve psikoterapi dahil bir dizi psikolojik müdahale ile sağlık çalışanlarının desteklenmesi büyük önem arz etmektedir.

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1 | INTRODUCTION

In December 2019, cases of pneumonia associated with the seafood and animal market in Wuhan, China's Hubei province, occurred. The existence of a new type of coronavirus has been announced after the increase of these cases and the presence of evidence of human-to-human transmission (Bogoch et al. 2020, Lu et al. 2020, Li et al. 2020). It was later named Coronavirus disease (Covid-19) by the World Health Organization (WHO 2020a). As a result of the rapid spread of the disease globally outside of China, it has been declared a global pandemic (WHO 2020b). Since the date the virus was thought to appear (Jul 26, 2020), the COVID-19 epidemic has affected more than 15 million people worldwide and caused the death of approximately 640 thousand people (WHO 2020c).

This pandemic process has seriously affected the health systems of countries. Healthcare workers, especially those dealing with Covid-19, have been under more physical and psychological pressure as in similar outbreaks (Styra et al. 2008). In addition to personal safety concerns, healthcare professionals are also concerned about passing the infection to their families (Lo 2020). Besides, they are exposed to long work shifts (Zhang et al. 2020). Occupational risks faced by healthcare professionals in this process, excessive stress, intense fear, and fatigue can lead to burnout in many healthcare professionals (Lam et al. 2009, Nezlek et al. 2015, Troyer et al. 2020).

Limitations on leaving home and other issues, having to leave certain routines, reduced social and physical contact with others have caused stress and frustration that cause psychological and physical problems in people (Blendon et al. 2004, Braunack-Mayer et al. 2013). The Covid-19 outbreak caused both death risk and unbearable psychological pressure in humans worldwide (Xiao et al. 2020, Duan & Zhu 2020). When the threat of epidemic increased, the cancellation of travel plans, social isolation, media news, and people flocking to markets to meet their needs created an atmosphere of anxiety and depression all over the world (Ho et al. 2020).

The uncertainties that followed the emergence of Covid-19 and accepting it as a severe epidemic by countries caused people to worry and be anxious about the situation (Duan & Zhu 2020). This anxiety in society is triggered by the limited knowledge of individuals and the disaster scenarios put forward regarding the epidemic (Shigemura et al. 2020, Bao et al. 2020). According to the results of the study conducted by Rajkumar, 16-28% of the participants reported symptoms of depression and anxiety (Rajkumar 2020). In the study of Liu et al. with healthcare workers in China, the results revealed that almost one in two respondents had a high level of anxiety (Liu et al. 2020b). Similarly, in a study by Shevlin et al. in the UK, it was reported that the participants showed high levels of anxiety, depression, and trauma symptoms, and the presence of children at home, low income, job loss in the epidemic process and chronic diseases were important predictors of anxiety (Shevlin et al. 2020). Moreover, Wang et al. reported that there was no improvement in individuals; stress, anxiety, and depression levels at the beginning of the Covid-19 epidemic and four weeks later (Wang et al. 2020). The findings from the above studies support the study of Huang and Zhao, who stated that when a severe infectious disease occurs, anxiety-related symptoms occur in individuals (Huang and Zhao 2020).

In the present study, it is aimed to evaluate the anxiety, fear, stress, depression, and burnout levels of healthcare professionals during the COVID-19 outbreak.

2. SUBJECTS and METHODS

2.1 Participants

Participants were 228 healthcare workers at the Dokuz Eylül University Research and Application Hospital in İzmir, Turkey. The study protocol was approved by the Ethics Committee of Dokuz Eylül University on Jun 12, 2020.

The average age of 228 participants in the study was 37.84, with a standard deviation of 7.83, and it ranged from 24-60. The sample consisted of 151 females (66.2 %) and 77 males (42.5 %). The 8.8 % of the sample was Doctor, 11.8% was nurse, 8.8% was health technician/technician, 11.0 % was allied health personnel, 23.7% was support services employee, 21.1% was administrative personnel, 14.9 % was cleaning staff. Moreover, 48.2 % of the participants were working in pandemic units. The demographic information of the participants is summarized in Table 1. A statistically significant difference was found between male and female participants regarding Fear of Covid-19 scores [$t\ (226) = 3.71$, $p < 0.001$]. The fear of Covid-19 scores of female participants was higher than the scores of male participants. In terms of having relatives infected by Covid-19, there was no statistically

significant difference between the total FCV-19 scores of the participants [t (226) = 0.17, p = 0.864].

Table 1. Demographic Characteristics of the Sample

	Mean ± SD	
Age	37.84 ± 7.83	
Working experience (year)	12.68 ± 7.55	
Number of people living with	3.33 ± 1.27	
	n	%
Gender		
Female	151	66.2
Male	77	33.8
Marital Status		
Single	44	19.3
Married	163	71.5
Divorced/Separated	21	9.2
Job		
Doctor	20	8.8
Nurse	27	11.8
Health Technician	20	8.8
Allied Health Personnel	25	11.0
Support Services Employee	54	23.7
Administrative Personnel	48	21.1
Cleaning Staff	34	14.9
Working Unit		
Pandemic	110	48.2
Other	118	51.8
Covid-19 Diagnosis		
No	223	97.8
Yes	5	2.2
Relatives infected by COVID-19		
No	145	63.6
Yes	83	36.4

2.2 Instruments

Sociodemographic data form prepared by researchers, includes demographic variables including gender, age, marital status, working status in pandemic units, Covid-19 diagnosis status, etc.

Fear of Covid-19 It is a 7-item scale developed to measure individuals' levels of fear of Covid-19 (Ahorsu et al. 2020). The total score obtained from the scale varies between 7 and 35, and the higher the scores obtained from the scale means the increase in the level of fear accordingly. Cronbach's alpha value, which is the internal consistency coefficient of the scale, was reported as α = .82, and the test-retest reliability value was reported as ICC = .72 (Ahorsu et al. 2020). The adaptation of the scale to Turkish was conducted by Satici et al. on a sample of 1304 people. Satisfactory coefficients regarding Cronbach's alpha (α = .85) and composite reliability (CR = .842) of the scale were reported in the study (Satici et al. 2020).

Depression Anxiety Stress Scale-21 (DASS-21) was created by Lovibond and Lovibond by selecting items from DASS-42 in order to shorten the administration period. The scale consists of items that include the main symptoms of anxiety and depression and tension, irritability, and hypersensitivity symptoms of stress. The scale consists of anxiety, depression, and stress dimensions, each of which is measured with seven items (Lovibond & Lovibond 1995). The validity and reliability of the scale have been tested in many studies (Antony et al. 1998, Clara et al. 2001, Crawford & Henry 2003). Antony et al. reported the Cronbach α coefficient as 0.94 for the depression subscale, 0.87 for the anxiety subscale, and 0.91 for the stress subscale (Antony et al. 1998). The psychometric properties of the Turkish version of the scale were tested in clinical and non-clinical samples by Sarıçam. In the clinical sample, the Cronbach alpha coefficient was 0.87 for the depression subscale, 0.85 for the anxiety subscale, and 0.81 for the stress subscale. In the non-clinical sample, Test-retest correlation coefficients were found to be r = 0.68 for the depression subscale, r = 0.66 for the anxiety subscale, and r = 0.61 for the stress subscale (Sarıçam, 2018).

Maslach Burnout Inventory (MBI) developed by Maslach and Jackson is a 7-point Likert-type scale and composed of 22 items (Maslach & Jackson 1981). Maslach Burnout Inventory assesses three components of burnout syndrome as emotional exhaustion, depersonalization, and personal accomplishment. The Turkish version, translated by Ergin, is organized as a five-point Likert-type scale with options from "0-never" to "4- always." Its validity and reliability have been done, and the three factors in the original form are also found to be valid for Turkish Form [16]. In the scale, 9 items (1, 2, 3, 6, 8, 13, 14, 16, 20) are used to evaluate emotional exhaustion, 5 items (5, 10, 11, 15, 22) are for depersonalization, and 8 items (4, 7, 9, 12, 17, 18, 19, 21) are for personal accomplishment. In emotional exhaustion and depersonalization subscales, items are scored in the same way, but the personal accomplishment subscale items are reverse scored and collected (Ergin 1995). By this method, different points are collected for each subscale. Scale and subscale have no cut-off points. The total score of the emotional exhaustion subscale varies from 0 to 36; depersonalization from 0 to 24; and personal accomplishment's total score ranges from 0 to 32. The score of each subscale is not combined in one single total score. Therefore, for each respondent, three subscale scores are computed. Individuals who experience burnout are expected to be high in emotional exhaustion and depersonalization and to be low in personal accomplishment.

2.3 Statitical Analysis

All statistical analyzes were performed using IBM SPSS Statistics (Statistical Package for the Social Sciences) 24.0 for Windows (SPSS Inc., Chicago, IL, USA). All variables were screened for accuracy of data entry, missing values, and homoscedasticity. The data had less than 5% of missing items, and no pattern was detected. Descriptive statistics were reported using means and standard deviations for continuous variables and frequencies and percentages for categorical variables. Independent samples t-test was used for comparison of two groups, one-way analysis of variance (ANOVA) was used for comparison of three or more groups, Multiple Linear Regression Analysis was used to reveal the relationship between the dependent variable (Fear of Covid-19) and independent variables. Statistical significance was accepted as $p < 0.05$ in this study.

Participants working in pandemic units revealed a significant difference in terms of stress [$t(198.72) = 3.38$, $p < 0.001$], anxiety [$t(207.11) = 2.82$, $p = 0.005$], depression [$t(201.08) = 2.50$, $p = .013$], emotional exhaustion [$t(213.23) = 3.60$, $p < .001$], and depersonalization [$t(203.47) = 3.83$, $p < .001$]. In terms of stress, anxiety, depression, emotional exhaustion and depersonalization, the scores of participants working in pandemic units were higher than the scores of participants working in other units. However, there were not statistically significant differences between participants work in pandemic units and other units in terms of total score of FCV-19 [$t(207.11) = 1.02$, $p = .307$] and personal accomplishment [$t(207.11) = -0.53$, $p = .603$]. The results of independent sample t-test and mean scores of the scales were presented in Table 2, Table 3 and Table 4.

3. RESULTS

Table 2. Independent Samples t-Test Results for Total FCV-19S Scores by working units

Variable	Pandemic		Other				
	M	*SD*	*M*	*SD*	*t*	*p*	Cohen's *d*
Total FCV-19S	23.11	7.92	22.14	6.29	1.02	.307	0.14
Stress	8.29	5.33	6.19	3.90	3.38	< .001	0.45
Anxiety	6.00	5.06	4.29	3.99	2.82	.005	0.38
Depression	6.83	5.60	5.18	4.18	2.50	.013	0.33
Emotional Exhaustion	18.89	8.50	15.14	7.12	3.60	< .001	0.48
Depersonalization	6.34	4.41	4.34	3.36	3.83	< .001	0.51
Personal Accomplishment	10.95	4.73	11.25	3.92	-0.52	.603	0.07

Table 3. Independent Samples t-Test Results for Total FCV-19S by Gender

Variable	Female		Male				
	M	*SD*	*M*	*SD*	*t*	*p*	Cohen's *d*
Total FCV-19S	23.82	6.63	20.22	7.48	3.71	< 0.001	0.51

Note. FCV-19S: Fear of Covid-19 Scale

Table 4. Two-Tailed Independent Samples t-Test for Total FCV-19S Scores in terms of relatives infected by Covid-19

Variable	No		Yes		*t*	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Total FCV-19S	22.67	6.74	22.49	7.79	0.17	0.864	0.02

Note. FCV-19S: Fear of Covid-19 Scale

As table 5 indicates, there were significant differences in total FCV-19S among different professions [F (6, 221) = 5.88, p < .001]. Paired t-tests were calculated between each pair of measurements to further examine the differences among the variables. For the main effect of Job, the mean of total FCV-19S for support services employee (M = 23.09, SD = 6.24), cleaning staff (M = 23.47, SD = 7.86), nurse (M = 27.22, SD = 6.41), health technician (M = 25.45, SD = 7.40) was significantly larger than for doctor (M = 17.45, SD = 5.76). The mean of total FCV-19S for administrative personnel (M = 20.29, SD = 6.51) and allied health personnel (M = 21.68, SD = 6.77) was significantly smaller than for nurse (M = 27.22, SD = 6.41).

Table 5. Analysis of Variance Results for Total FCV-19S Scores in terms of Job

Group	*n*	*M*	*SD*	*F (6,221)*	*p*	η_p^2	*difference*
Doctor[a]	20	17.45	5.76				
Nurse[b]	27	27.22	6.41				
Health Technician[c]	20	25.45	7.40				
Allied Health Personnel[d]	25	21.68	6.77	5.88	< 0.001	0.14	b, c, e, g
Support Services Employee[e]	54	23.09	6.24				
Administrative Personnel[f]	48	20.29	6.51				
Cleaning Staff[g]	34	23.47	7.86				

The results of the linear regression model were significant, F (10,217) = 10.10, p < .001, R2 = 0.32, indicating that approximately 32% of the variance in total FCV-19S scores is predicted by anxiety and gender/female. Anxiety significantly predicted TotalFCV-19S scores, B = 0.81, t (217) = 4.54, p < 0.001. Gender/Female significantly predicted total FCV-19S scores, B = 2.98, t (217) = 3.35, p < .001. Age, working experience, number of people living with, stress, depression, emotional exhaustion, depersonalization, and personal accomplishment did not significantly predict total FCV-19S scores. Table 6 summarizes the results of the regression model.

Table 6. Results for Linear Regression with age, working experience, number of people living with, stress, anxiety, depression, emotional exhaustion, depersonalization, personal accomplishment predicting Total FCV-19

Variable	*B*	*SE*	β	*t*	*p*	95% CI
(Intercept)	14.49	3.56	0.00	4.07	< .001	[7.47, 21.51]
Age	0.06	0.09	0.07	0.70	.483	[-0.11, 0.23]
Working experience (year)	-0.08	0.08	-0.09	-0.95	.341	[-0.25, 0.09]
Number of people living with	0.20	0.33	0.04	0.61	.540	[-0.45, 0.85]
Gender/Female	2.98	0.89	0.20	3.35	< .001	[1.23, 4.73]
Stress	0.15	0.19	0.10	0.78	.436	[-0.22, 0.52]
Anxiety	0.81	0.18	0.52	4.54	< .001	[0.46, 1.16]
Depression	-0.34	0.18	-0.24	-1.89	.060	[-0.70, 0.01]
Emotional Exhaustion	0.05	0.08	0.06	0.68	.498	[-0.10, 0.21]
Depersonalization	0.24	0.13	0.13	1.77	.078	[-0.03, 0.50]
Personal Accomplishment	-0.10	0.11	-0.06	-0.94	.347	[-0.31, 0.11]

4. DISCUSSION

In the present study, we found that Depression, Anxiety, and Stress Scale scores and Emotional Exhaustion and Depersonalization subscales scores of Maslach Burnout Inventory of the healthcare professionals working in the pandemic unit were found to be significantly higher compared to the healthcare professionals not working in this unit. These results may be interpreted as healthcare professionals working in pandemic units are more anxious, stressed, depressed, and exhausted than those working in other units. The findings obtained in this study support the findings of the studies in the literature. For example, the first studies on the frequency of mental health problems seen in the population after the outbreak revealed that anxiety is the most common mental health problem (Wang et al. 2020, Li et al. 2020, Xiao et al. 2020). Many studies have reported psychological outcomes of COVID-19 among healthcare workers as they are the ones who are in the closest contact with individuals who have coronavirus (Chew et al. 2020, Ornell et al. 2020). In the study with 906 healthcare workers conducted by Chew et al., it is reported that moderate to very-severe depression, anxiety, stress, and psychological distress is common among healthcare workers (Chew et al. 2020). In the Russia it was reported that the healthcare workers reported high rates of stress and anxiety and female gender were associated with higher level (Mosolova et al. 2020). In the study with 402 healthcare workers conducted by Usul et al. in Turkey, it is reported anxiety scores were higher in females and those who had family members at risk of COVID-19 (Uslu et al. 2020).

Moreover, they have reported that these adverse psychological outcomes cause psychical symptoms. Similarly, studies during the SARS pandemic have reported that healthcare workers suffer from acute stress problems (Tam et al. 2004). Moreover, Tan et al. have reported that healthcare professionals with medical training have less prevalence of psychological problems, especially anxiety and anxiety caused by COVID-19, compared to healthcare professionals who have not received medical training (Tan et al. 2020). The results of a study by Wu et al. that has compared frequency among oncology physicians and nurses working on the frontline and usual wards during the COVID-19 epidemic in China revealed that professionals working the frontline have lower burnout rates compared to professionals working on the usual wards (Wu et al. 2020). These results may mean that close burnout level was observed in both groups, and both groups should be supported in this regard. It is useful to screen healthcare professionals working in pandemic units that are in constant contact with infected individuals, especially in terms of depression, anxiety, and suicidal thoughts (Orwell et al. 2020). Therefore, it can be said that the obligation of healthcare professionals working in pandemic units of hospitals to be together with infected people regularly, being deprived of the protective restrictions imposed by the government can cause various sources of stress,

which can cause various psychological problems such as hopelessness, loneliness, helplessness, irritability, physical, mental fatigue, and burnout.

Another finding of the present study was that the total FCV-19S scores of female healthcare workers were significantly higher than the scores of male healthcare workers. Similar to our study findings, most of the studies using the Fear of Covid-19 scale developed by Ahorsu et al. found that women experienced more fear than men (Soraci et al. 2020, Reznik et al. 2020, Doshi et al. 2020, Tzur Bitan et al. 2020, Sakib et al. 2020, Broche-Perez et al. 2020, Tsipropoulou et al. 2020, Ahorsu et al. 2020). Accordingly, the psychological effects of the epidemic on women are greater, and stress, anxiety, insomnia, perceived stress, adjustment disorder, and depression are associated with fear of COVID-19 in women (Rossi et al. 2020, Wang et al. 2020). This finding can be explained by the fact that women are more sensitive to stress and are more affected by stressful life events. On the other hand, gender roles are another factor that may be effective in making women more afraid.

Furthermore, the study results revealed that the scores of doctors' fear of Covid-19 were significantly lower than the scores of other professions working in the hospital (Nurse, health technician/technician, allied health personnel, etc.). Doctors are more educated about what to pay attention to when performing tests for the diagnosis of COVID-19, how to protect from infectious diseases, how to wear protective clothing, and to wear necessary personal protective equipment such as respirators, goggles, face protection, disposable waterproof long sleeve gowns, and gloves (Doctor's News 2020, Jin et al. 2020, Huh 2020). In addition, increasing the awareness of doctors about intervention during the epidemic process plays an essential role in reducing the risk of infection (Wang et al. 2020). The results of the study conducted by Tan et al. with healthcare professionals, it was found that doctors suffer less from psychological problems associated with COVID-19 than other healthcare professionals (Tan et al. 2020). Therefore, it is expected that doctors who are at the forefront of dealing with the pandemic are less afraid.

In this study, it was observed that gender and anxiety significantly predicted total FCV-19S scores. However, it was determined that other variables such as age, duration of work, how many people live at home, stress, depression, emotional exhaustion, depersonalization, and personal accomplishment did not significantly predict total FCV-19S scores. When the literature is reviewed, it has been observed that fear of coronavirus is associated with generalized anxiety, depression, functional impairment, perceived lack of social support, and suicidal ideas (Lee et al. 2020). Du et al. found that healthcare professionals working in the front line were under moderate to severe stress, and many reported high anxiety and depression (Du et al. 2020). Also, Liu et al. in the study conducted with 1563 health personnel in China, it was determined that almost one out of every two healthcare workers had a high level of anxiety (Liu et al. 2020b). Uncertainty about how the coronavirus epidemic will evolve, the seriousness of the pandemic, the concerns of healthcare professionals about transmitting the virus to family members, and the lack of sufficient information about the epidemic can affect fear levels (Duan & Zhu 2020, Liu et al. 2020a, Lo 2020). These results show that people with coronavirus fear suffer from a variety of psychological difficulties and that being in teams that intervene in coronavirus is a significant risk factor for psychopathology. Hence, it is essential to support healthcare professionals through a series of psychological interventions, including counseling and psychotherapy, to reduce the psychological damage experienced by healthcare professionals in the front line in crises such as the Covid-19 outbreak (Kang et al. 2020).

The results reported in this study should be considered in light of certain limitations. First, the data for this study was collected from healthcare professionals working in the same hospital. Another limitation is that there are not sufficient number of studies in the literature conducted with healthcare professionals to determine the level of COVID-19 fear. So, discussing our finding may be also insufficient. The most important strength of our study is being one of the rare studies that compare COVID-19 fear among healthcare workers in terms of working in a pandemic unit or not.

5. CONCLUSION

It is crucial to support healthcare professionals through a series of psychological interventions, including counseling and psychotherapy, to reduce the psychological damage experienced by healthcare professionals in the front line in crises such as the Covid-19 outbreak.

REFERENCES

Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD & Pakpour AH: The fear of covid-19 scale: development and initial validation. Int J Ment Health Addict 2020; 1–9. doi: 10.1007/s11469-020-00270-8

Antony MM, Bieling PJ, Cox BJ, Enns MW & Swinson RP: Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. Psychological Assessment 1998; 10: 176-181. doi:10.1037/1040-3590.10.2.176

Bao Y, Sun Y, Meng S, Shi J & Lu L: 2019-nCoV epidemic: address mental health care to empower society. Lancet 2020; 395: 37–38. doi: 10.1016/S0140-6736(20)30309-3

Blendon RJ, Benson JM, DesRoches CM, Raleigh E & Taylor-Clark K: The public's response to severe acute respiratory syndrome in Toronto and the United States. Clin Infect Dis 2004; 38: 925–931. doi: 10.1086/382355

Bogoch II, Watts A, Thomas-Bachli A, Huber C, Kraemer M & Khan K: Pneumonia of unknown aetiology in Wuhan, China: potential for international spread via commercial air travel. J Travel Med 2020; 27: 1-3. doi: 10.1093/jtm/taaa008

Braunack-Mayer A, Tooher R, Collins JE, Street JM & Marshall H: Understanding the school community's response to school closures during the H1N1 2009 influenza pandemic. BMC Public Health 2013; 13: 1-15. doi: 10.1186/1471-2458-13-344

Broche-Pérez Y, Fernández-Fleites Z, Jiménez-Puig E, Fernández-Castillo E & Rodríguez-Martin BC: Gender and fear of covid-19 in a Cuban population sample. Int J Ment Health Addict 2020; 1–9. doi: 10.1007/s11469-020-00343-8

Chew N, Lee G, Tan B, Jing M, Goh Y, Ngiam N et al.: A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. Brain, Brain Behav Immun 2020; 88: 559–565. doi: 10.1016/j.bbi.2020.04.049

Clara IP, Cox BJ & Enns MW: Confirmatory factor analysis of the Depression–Anxiety–Stress Scales in depressed and anxious patients. J Psychopathol Behav Assess 2001; 23: 61-67.

Crawford JR & Henry JD: The depression anxiety stress scales (DASS): normative data and latent structure in a large non-clinical sample. Br J Clin Psychol 2003; 42: 111–131. doi: 10.1348/014466503321903544

Doshi D, Karunakar P, Sukhabogi JR, Prasanna JS & Mahajan SV: Assessing Coronavirus Fear in Indian Population Using the Fear of COVID-19 Scale. Int J Ment Health Addict 2020; 1–9. Advance online publication. doi: 10.1007/s11469-020-00332-x

Doctor's News: Emergency commitment of 742 public health physicians to novel coronavirus (COVID-19) epidemic area 2020. http://www.doctorsnews.co.kr/news/articleView.html ?idxno=133714.

Du J, Dong L, Wang T, Yuan C, Fu R, Zhang L et al.: Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. Gen Hosp Psychiatry 2020; 1-3. Advance online publication. doi: 10.1016/j.genhosppsych.2020.03.011

Duan L, & Zhu G: Psychological interventions for people affected by the COVID-19 epidemic. Lancet Psychiatry 2020; 7: 300–302. doi: 10.1016/S2215-0366(20)30073-0

Ergin C: Examination of burnout and various sources of stress in academics. Hacettepe University Journal of Faculty of Letters 1995; 12: 37-50.

Ho CS, Chee CY & Ho RC: Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. Ann Acad Med Singap 2020; 49: 155–160.

Huang Y & Zhao N: Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. Psychiatry Res 2020; 288: 112954. doi:10.1016/j.psychres.2020.112954

Huh S: How to train health personnel to protect themselves from SARS-CoV-2 (novel coronavirus) infection when caring for a patient or suspected case. J Educ Eval Health Prof 2020; 17: 10. doi:10.3352/jeehp.2020.17.10

Jin YH, Cai L, Cheng ZS, Cheng H, Deng T, Fan YP et al.: A rapid advice guideline for the diagnosis and treatment of 2019 novel coronavirus (2019-nCoV) infected pneumonia (standard version). Mil Med Res 2020; 7 :4. doi:10.1186/s40779-020-0233-6

Kang L, Ma S, Chen M, Yang J, Wang Y, Li, R et al.: Impact on mental health and perceptions of psychological care among medical and nursing staff in Wuhan during the 2019 novel coronavirus disease outbreak: A cross-sectional study. Brain Behav Immun 2020; 87: 11-17. doi:10.1016/j.bbi.2020.03.028

Lam MH, Wing YK, Yu MW, Leung CM, Ma RC, Kong AP et al.: Mental morbidities and chronic fatigue in severe acute respiratory syndrome survivors: long-term follow-up. Arch Intern Med 2009; 169: 2142-2147. doi:10.1001/archinternmed.2009.384

Lee SA, Jobe MC & Mathis AA: Mental health characteristics associated with dysfunctional

coronavirus anxiety. Psychol Med 2020; 1-2. doi:10.1017/S003329172000121X

Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y et al.: Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. N Engl J Med 2020; 382: 1199-1207. doi:10.1056/NEJMoa2001316

Liu N, Zhang F, Wei C, Jia Y, Shang Z, Sun L et al.: Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. Psychiatry Res 2020a; 287: 112921. doi:10.1016/j.psychres.2020.112921

Liu S, Yang L, Zhang C, Xiang YT, Liu Z, Hu S et al.: Online mental health services in China during the COVID-19 outbreak. Lancet Psychiatry 2020b; 7:17-18. doi:10.1016/S2215-0366(20)30077-8

Lo D: COVID-19: protecting health-care workers. Lancet 2020; 395: 922. doi:10.1016/S0140-6736(20)30644-9

Lovibond PF, Lovibond SH: The structure of negative emotional states: comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Ther Behav Res 1995; 33: 335-343. doi:10.1016/0005-7967(94)00075-u

Lu R, Zhao X, Li J, Niu P, Yang B, Wu H et al.: Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. Lancet 2020; 395: 565-574. doi:10.1016/S0140-6736(20)30251-8

Maslach C, & Jackson SE: The measurement of experienced burnout. J Organ Behav 1981; 2: 99-113. doi:10.1002/job.4030020205

Mosolova E, Chung S, Sosin D & Mosolov S: Stress and anxiety among healthcare workers associated with covid-19 pandemic in Russia. Psychiatria Danubina, 2020; 32, 3-4: 549-556 https://doi.org/10.24869/psyd.2020.549

Nezlek JB, Wesselmann ED, Wheeler L & Williams KD: Ostracism in Everyday Life: The Effects of Ostracism on Those Who Ostracize. J Soc Psychol 2015; 155: 432-451. doi:10.1080/00224545.2015.1062351

Braquehais MD, Vargas-Cáceres S, Gómez-Durán E & Narvaez J: The impact of the COVID-19 pandemic on the mental health of healthcare professionals. QJM. 2020; 1-5. doi:10.1093/qjmed/hcaa207

Ornell F, Halpern SC, Kessler FHP & Narvaez JCM: The impact of the COVID-19 pandemic on the mental health of healthcare professionals. Cad Saude Publica 2020; 36: e00063520. Published 2020 Apr 30. doi:10.1590/0102-311X00063520

Rajkumar RP: COVID-19 and mental health: A review of the existing literature. Asian J Psychiatr 2020; 52: 102066. doi:10.1016/j.ajp.2020.102066

Reznik A, Gritsenko V, Konstantinov V, Khamenka & Nsralowitz R: COVID-19 Fear in Eastern Europe: Validation of the Fear of COVID-19 Scale. Int J Ment Health Addict 2020; 1-6. doi:10.1007/s11469-020-00283-3

Rossi R, Socci V, Talevi D, Mensi S, Niolu C, Pacitti F et al.: COVID-19 Pandemic and Lockdown Measures Impact on Mental Health Among the General Population in Italy. Front Psychiatry 2020; 11: 790. doi:10.3389/fpsyt.2020.00790

Sakib N, Bhuiyan AKMI, Hossain S, Al Mamun F, Hosen I, Abdullah AH et al.: Psychometric Validation of the Bangla Fear of COVID-19 Scale: Confirmatory Factor Analysis and Rasch Analysis. Int J Ment Health Addict 2020; 1-12. doi:10.1007/s11469-020-00289-x

Sarıçam H: The psychometric properties of Turkish version of Depression Anxiety Stress Scale-21 (DASS-21) in community and clinical samples. Journal of Cognitive-Behavioral Psychotherapy and Research 2018; 7: 19-30. doi:10.5455/jcbpr.274847

Satici B, Gocet-Tekin E, Deniz ME & Satici SA: Adaptation of the Fear of COVID-19 Scale: its association with psychological distress and life satisfaction in Turkey. Int J Ment Health Addict 2020; 1-9. doi:10.1007/s11469-020-00294-0

Shevlin M, McBride O, Murphy J, Shevlin M, Gibson Miller J, Hartman TK et al.: Anxiety, depression, traumatic stress, and COVID-19 related anxiety in the UK general population during the COVID-19 pandemic. In preparation 2020; Available from: https://psyarxiv.com/hb6nq

Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M & Benedek DM: Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. Psychiatry Clin Neurosci 2020; 74:281-282. doi:10.1111/pcn.12988

Soraci P, Ferrari A, Abbiati FA, Del Fante E, De Pace R, Urso A et al.: Validation and Psychometric Evaluation of the Italian Version of the Fear of COVID-19 Scale [published online ahead of print, 2020 May 4]. Int J Ment Health Addict 2020; 1-10. doi:10.1007/s11469-020-00277-1

Styra R, Hawryluck L, Robinson S, Kasapinovic S, Fones C & Gold WL: Impact on health care workers employed

in high-risk areas during the Toronto SARS outbreak. J Psychosom Res 2008; 64:177-183. doi:10.1016/j.jpsychores.2007.07.015

Tan BYQ, Chew NWS, Lee GKH, Jing M, Goh Y, Yeo LLL et al.: Psychological impact of the COVID-19 pandemic on health care workers in Singapore. Ann Intern Med 2020; 173:317-320. doi:10.7326/M20-1083

Tam CW, Pang EP, Lam LC & Chiu HF: Severe acute respiratory syndrome (SARS) in Hong Kong in 2003: stress and psychological impact among frontline healthcare workers. Psychol Med 2004; 34:1197-1204. doi:10.1017/s0033291704002247

Troyer EA, Kohn JN & Hong S: Are we facing a crashing wave of neuropsychiatric sequelae of COVID-19? Neuropsychiatric symptoms and potential immunologic mechanisms. Brain Behav Immun 2020; 87:34-39. doi:10.1016/j.bbi.2020.04.027

Tsipropoulou V, Nikopoulou VA, Holeva V, Nasika Z, Diakogiannis I, Sakka S et al.: Psychometric properties of the Greek version of FCV-19S. Int J Ment Health Addict 2020; 1-10. doi:10.1007/s11469-020-00319-8

Tzur Bitan D, Grossman-Giron A, Bloch Y, Mayer Y, Shiffman N & Mendlovic S: Fear of COVID-19 scale: Psychometric characteristics, reliability and validity in the Israeli population. Psychiatry Res 2020; 289:113100. doi:10.1016/j.psychres.2020.113100

Usul E, San I & Bekgoz B:The effect of the covid-19 pandemic on the anxiety level of emergency medical services professionals. Psychiatria Danubina 2020; 32, 3-4: 563-569 https://doi.org/10.24869/psyd.2020.563

Wang J, Zhou M & Liu F: Reasons for healthcare workers becoming infected with novel coronavirus disease 2019 (COVID-19) in China. J Hosp Infect 2020; 105:100-101. doi:10.1016/j.jhin.2020.03.002

WHO: Naming the coronavirus disease (COVID-19) and the virus that causes it. World Health Organization 2020a https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it

WHO: WHO Announces COVID-19 outbreak a pandemic. World Health Organization 2020b https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic

WHO: Coronavirus disease (COVID-19) pandemic. World Health Organization 2020c https://www.who.int/emergencies/diseases /novel-coronavirus-2019

Wu Y, Wang J, Luo C, Hu S, Lin X, Anderson AE et al.: A Comparison of burnout frequency among oncology physicians and nurses working on the frontline and usual wards during the COVID-19 epidemic in Wuhan, China. J Pain Symptom Manage 2020; 60: e60-e65. doi:10.1016/j.jpainsymman.2020.04.008

Xiao H, Zhang Y, Kong D, Li S & Yang N: The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China. Med Sci Monit 2020; 26:e923549. doi:10.12659/MSM.923549

Zhang WR, Wang K, Yin L, Zhao WF, Xue Q, Peng M et al.: Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. Psychother Psychosom 2020; 89:242-250. doi:10.1159/000507639