

Investigation of the Effect of Sociodemographic Variables, Hopelessness and Intolerance of Uncertainty on Perceived Stress Levels By Physicians During Covid-19 Pandemic

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Abstract

The Covid-19 pandemic, which threatens life worldwide, have affected all segments of society, negatively. In this study, we aimed to examine the relationship between perceived stress levels of physicians and sociodemographic variables, intolerance of uncertainty levels and hopelessness levels. The study group of the research consists of 180 participants between the ages of 25 and 67. The Sociodemographic Data Form, the Perceived Stress Scale, the Beck Hopelessness Scale and the Intolerance of Uncertainty Scale were used for data collection. The Perceived Stress Scale total scores and stress perception subscale scores were significantly higher in female participants compared to male participants ($p<0.05$). The self-efficacy perception subscale score was significantly higher in patients with mental illnesses than in those without ($p<0.05$). The Perceived Stress Scale correlates significantly with the Beck Hopelessness and the Intolerance of Uncertainty scales ($p<0.001$). Perceived stress levels of physicians working during the pandemic increase with for females, where mental illness is present, with high level of hopelessness and intolerance of uncertainty. Identifying the factors that are likely to affect stress levels during the pandemic is important in terms of psychological support interventions, which will apply to these people during the pandemic and post-pandemic periods.

Keywords: COVID-19, physician, perceived stress, hopelessness, intolerance of uncertainty

Öz

Covid-19 Pandemi Sürecinde Hekimlerin Algıladıkları Stres Düzeyinin, Belirsizliğe Tahammülsüzlük, Umutsuzluk Süreçleri ve Sosyodemografik Değişkenlerle İlişkisinin İncelenmesi

Dünya genelinde yaşamı tehdit eden Covid-19 pandemisi toplumun tüm kesimlerini olumsuz etkilemektedir. Çalışmamızda hekimlerin algıladıkları stres düzeylerinin sosyodemografik değişkenler, belirsizliğe tahammülsüzlük ve umutsuzluk düzeyi ile ilişkisinin incelenmesi amaçlanmıştır. Çalışma grubu yaşları 25–67 arasında değişen 180 hekimden oluşmaktadır. Veri toplama aracı olarak sosyodemografik veri formu, Algılanan Stres Ölçeği, Beck Umutsuzluk Ölçeği ve Belirsizliğe Tahammülsüzlük Ölçeği kullanılmıştır. Araştırma grubundaki kadınlarda, erkeklere göre algılanan stres ölçeği toplam skorları ve stres algısı alt ölçek skorları anlamlı düzeyde yüksek bulunmuştur ($p<0,05$). Ayrıca ruhsal hastalığı olanlarda, olmayanlara göre özyeterlilik algısı alt ölçek skoru anlamlı düzeyde yüksek bulunmuştur ($p<0,05$). Diğer sosyodemografik değişkenlerle algılanan stres ölçeği skorları arasında anlamlı ilişki saptanmamıştır ($p>0,05$). Algılanan stres düzeyi, hem umutsuzluk hem de belirsizliğe tahammülsüzlük düzeyi ile pozitif yönlü, anlamlı düzeyde korelasyon göstermektedir ($p<0,001$). Pandemi sürecinde görev yapan hekimlerin algıladıkları stres düzeyleri kadın cinsiyet, ruhsal hastalık varlığı, yüksek umutsuzluk ve belirsizliğe tahammülsüzlük düzeyi ile artış göstermektedir. Pandemi sürecinde stres düzeylerini etkilemesi muhtemel faktörleri belirleyebilmek, pandemi ve sonrası süreçte bu kişilere uygulanacak psikososyal destek müdahaleleri açısından önem arz etmektedir.

Anahtar Kelimeler: COVID-19, hekim, algılanan stres, umutsuzluk, belirsizliğe tahammülsüzlük

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INTRODUCTION

A new type of coronavirus disease (COVID-19), which first emerged in December 2019 in the Wuhan province of China, has spread worldwide in a short time and was immediately announced as a pandemic by the World Health Organisation (WHO) immediately announced pandemic (WHO, 2021). The virus infected over five million people in a year and killed nearly one million seven hundred thousand (Wikipedia, 2021).

Individuals who were infected with COVID-19 experience respiratory illnesses as well as systemic signs and symptoms and it is highly fatal for a great many people (Wang et al., 2020).

The effects of the pandemic on mankind are not only physical problems but also mental, social and economic. Countries have been taking some precautions in order to prevent the spread of the virus as well as attempting to slow the speed of the spread. Restrictions and prohibitions have been placed on daily life. This global pandemic, which is traumatic for everyone, primarily threatens daily life and the existence of individuals. Fear of being ill, uncertainty, fear of one's family being infected, thinking that where you live is insecure, and beliefs such as these, are a source of intense anxiety. If we look at questions such as how long the pandemic will last, how the process will develop, if we will be able to return to our pre-pandemic lifestyles and many other unanswered questions, problems such as the constant change in information about the illness the fast spread of the virus and the increasing number of cases of deaths cause rises in levels of mental health problems (Üstün & Özçiftçi, 2020). All these uncertainties will most likely cause intense stress, anxiety, fear and hopelessness (Brooks et al., 2020).

Stress is defined as the effort that an individual has to spend beyond physical and psychological limits due to discordant conditions coming from the physical and social environment (Cüceloğlu, 2017). Stress may emerge because of various incidents and situations and may affect all aspects of life (Eskin, Harlak, Demirkiran, & Dereboy, 2013). When stress is prolonged, it becomes difficult to adapt to changing conditions and as such, the body's resistance is lost, and exhaustion rears its ugly head (Cüceloğlu, 2017). Long term exposure to stress may cause a lot of mental and physical problems (Schneiderman, Ironson, & Siegel, 2005).

Many conditions such as limitation of mobility because of curfew, possible financial loss due to the pandemic, inconsistent and insufficient information in written, visual and social media formats increase stress levels for people (Taylor, Agho, Stevens, & Raphael, 2008). Reasons like increased workload due to the pandemic, busy and exhausting working conditions and social restrictions may also create stress especially for health workers.

Intolerance of uncertainty is having a tendency to have negative thoughts and beliefs about uncertain conditions and results of those conditions (Koerner & Dugas, 2008). A person tends to have excessive anxiety and perceive excessive stress as a result of incidents regardless of the situation (Lally & Cantillon, 2014). According to the psychological stress and coping theory, in uncertainty, which is acknowledged to be a mental state with its cognitive and emotional aspects, the characteristic of that event or situation to cause stress for the individual is more important than the event or situation itself (Sarıçam, Erguvan, Akin, & Akça, 2014).

Hopelessness is having negative expectations about the future and a characterised thinking style of evaluating the future negatively (Durak & Palabiyikoğlu, 1994). When individuals who are prone to hopelessness have negative experiences, this thinking pattern is triggered and the situation is accompanied by negative emotional and motivational symptoms (Greene, 1989). When hopelessness thought is continuous, it causes a weakening in the ability to adapt and a decrease in problem solving skills of the individual (Houston, 1995).

It is inevitable that physicians who fight on the front line are affected mentally during and after the pandemic. The extent and magnitude of the psychological effects are yet unknown. Therefore, in this study it is aimed to analyse the interaction between perceived stress, which is thought to be a sign of psychological affects, with intolerance of uncertainty, the perception of hopelessness and sociodemographic variables. It is aimed that the data obtained will lead the way in terms of being able to cope with probable mental illnesses, in the cure and therapy process and in making decisions which concern of all of society in terms of the pandemic.

METHODS

Participants

Our study is cross-sectional and consists of observational research, without a control group. Physicians who work in

Turkey and participated in our study were selected by random sample method between 1 October and 31 October, 2020. Because of the pandemic conditions, firstly, short evaluative phone conversations were carried out with 180 physicians who accepted to participate in the study and the scales were applied electronically. Criteria to participate in the study: being between 18–65 years old, being an active working physician, not having neurologic disorders or mental retardation, and not having a history of psychotic disorder, bipolar affective disorder, alcohol or substance use disorder according to Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria.

Measures

We applied the Perceived Stress Scale (PSS), Beck Hopelessness Scale (BHS), Intolerance of Uncertainty Scale (IUS) and Sociodemographic Data Form to all participants.

1. Sociodemographic Data Form: It is a data form created to obtain demographic and sociocultural data of individuals who participate in the study.

2. Perceived Stress Scale (PSS): Developed and designed to determine how much stress an individual perceive regarding incidents in his/her life (Cohen, Kamarck, & Mermelstein, 1983). Validity study of the scale was carried out by Eskin et al. (2013). The lowest point one can get from this scale which is a quintet Likert type and consists of 14 items, and the highest point is 56. High points show that a person's stress perception is high. Scale has two sub dimensions which are self-efficacy perception (SEP) and stress perception (SP).

3. Beck Hopelessness Scale (BHS): This scale was developed to determine hopelessness levels objectively (Beck, Weissman, Lester, & Trexler, 1974). Validity study of the scale was carried out by Durak (1994). The scale consists of 20 items. It has three sub dimensions which are feelings about the future (FAF), loss of motivation (LM) and future expectations (FE). High points show that hopelessness level of an individual is high.

4. Intolerance of Uncertainty Scale (IUS): This scale which was developed to determine individual's intolerance of uncertainty levels, consists of 12 items (Carleton, Norton, & Asmundson, 2007). The scale consists of two sub dimensions which are prospective intolerance of uncertainty (PIU) and inhibitory intolerance of uncertainty

(IIU). The scale was adapted to Turkish by Sariçam et al. (2014).

Procedure and Statistics

Prior to participation, all physicians received informed consent form stating the details of the study and that the participation is voluntary. The data obtained in this study was analysed with SPSS (Statistical Package for the Social Sciences) for Windows version 26 programme. The compatibility of continuous variables to normal distribution was evaluated using the Kolmogorov-Smirnov test. Because continuous variables are normally distributed, the Student T test was used to compare quantitative continuous data between two independent groups, and analyses of variance (ANOVA) was used to evaluate quantitative continuous data among more than two independent groups. The Pearson correlation analysis was used to examine the relationship level between the scales which were applied to participants. The significance value in the statistical analyses was acknowledged as $p < 0.05$.

Ethics Statement

Ethical approval for this study was obtained from the Ethics Committee of Ondokuz Mayıs University Medical Faculty on 24.07.2020 (Approval number: 2020/494).

RESULTS

Physicians who participated in the study were between 25–67 years old and their average age is 43.01 ± 11.53 . 44.4% of participants were female, 82.2% of them were married, 72.2% of them had children. 15.6% of participants were practitioners, 4.4% were assistant doctors, 56.7% were specialist doctors, 8.3% were doctoral lecturers, 4.4% were associate professors, 10.6% were professor doctors. 5.6% of participants worked at family medical clinics, 29.4% of them worked at public hospitals, 22.2% of them worked at training and research hospitals, 17.2% of them worked at university hospitals, 12.8% of them worked at private hospitals and 12.8% of them worked at private clinics. 12.2% of participants live alone. 96.7% of participants did not have any chronic mental disorders and 75.6% of them did not have any chronic illnesses (Table 1).

When average points obtained from scales, which were applied to participants, are evaluated: The PSS average point is 25.92 ± 9.31 , the PSS SEP sub-scale average point

Table 1: Sociodemographic and clinical characteristics of the participants

		n	%
Sex	Female	80	44.4
	Male	100	55.6
Marital status	Married	148	82.2
	Single	32	17.8
Children	Yes	130	72.2
	No	50	27.8
Profession	Practitioner	28	15.6
	Assistant	8	4.4
	Specialist	102	56.7
	Doctoral lecturer	15	8.3
	Associate professor	8	4.4
	Professor	19	10.6
Institution	Family medical clinic	10	5.6
	Public hospital	53	29.4
	Training and research hospital	40	22.2
	University	31	17.2
	Private hospital	23	12.8
	Private clinic	23	12.8
Any mental disorder	Yes	6	3.3
	No	174	96.7
Any chronic disease	Yes	44	24.4
	No	136	75.6
Covid-19 history	Yes	18	10.0
	No	162	90.0
Covid-19 in family	Yes	39	21.7
	No	141	78.3
Living alone	Yes	22	12.2
	No	158	87.8

n, number of cases

is 10.24 ± 5.04 , and the PSS SP sub-scale average point is 15.67 ± 5.62 . The IUS average point is 38.30 ± 8.73 , the IUS PIU sub-scale average point is 23.47 ± 4.71 , and the IUS IIU sub-scale average point is 14.83 ± 4.81 . The BHS average point is 6.00 ± 5.17 , the BHS FAF sub-scale average point is 1.39 ± 1.47 , the BHS LM sub-scale average point is 2.51 ± 2.10 , and the BHS FE sub-scale average point is 2.10 ± 2.17 .

PSS total points and SP sub-scales for women are significantly higher than for men ($p < 0.05$). Also, the PSS SEP sub-scale scores of participants who have mental disorders are significantly higher than participants who don't have

any mental disorders ($p < 0.05$). Although PSS scores of the unmarried are higher than the married, the difference is statistically insignificant ($p > 0.05$). Participants who don't have children have more PSS scores than participants who do have children. However, the difference is statistically insignificant ($p > 0.05$). The PSS scores of participants who had never had the COVID-19 infection were higher than participants who had previously had COVID-19. However, the difference was not statistically significant ($p > 0.05$). The PSS scores of participants who did not have any chronic illnesses were higher than participants who had at least one chronic illness. However, the difference was not statistically significant ($p > 0.05$). Although participants with a family member who had previously had the COVID-19 infection had more PSS scores than participants without a family member who had previously had the COVID-19 infection, the difference was statistically insignificant ($p > 0.05$). The PSS scores of participants who live alone were higher than participants not living alone. But the difference was statistically insignificant ($p > 0.05$) (Table 2).

Among degrees, assistant professors have the highest PSS scores. But there is not statistically significant difference among degrees ($p > 0.05$). When workers are categorised according to their workplaces, the university group has the highest PSS scores. Universities are followed by training and research hospitals, public hospitals, private hospitals, family medical clinics and private clinics. But the PSS score differences between workplaces were statistically insignificant ($p > 0.05$) (Table 3).

When participants were analysed as two groups, 45 years old and younger ($n: 107$) and above 45 years old ($n: 73$): The PSS total score average of 45 years old and younger group was 27.62 ± 8.32 , the PSS SEP average score was 11.4 ± 4.95 and the PSS SP average score was 16.67 ± 5.17 . The PSS total average score of above 45 years old group was 23.41 ± 10.13 , the PSS SEP average score was 9.06 ± 4.97 and the PSS SP average score was 14.34 ± 5.99 . The PSS total and subscale scores of 45 years old and younger group were significantly higher than the above 45 years old group ($p < 0.05$).

The PSS scale total score was found to be positively and significantly related to the IUS and the BHS total score and their sub-scales in a correlation analyses in which the relationship of the PSS with IUS and BHS was analysed ($p < 0.05$) (Table 3). PSS SP subscale scale is found to be positively and significantly related to the IUS and the

Table 2: Comparison of PSS scores according to sociodemographic variables

		PSS Total Score			PSS SEP			PSS SP		
		M	SD	P	M	SS	P	M	SS	P
Sex	Female	28.41	9.09	0.001*	11.06	5.11	0.051*	17.35	5.51	0.000*
	Male	23.92	9.03		9.59	4.91		14.33	5.35	
Marital Status	Married	25.69	9.03	0.496*	10.05	4.85	0.277*	15.64	5.46	0.877*
	Single	26.93	10.58		11.12	5.82		15.81	6.38	
Children	Yes	25.45	9.41	0.284*	9.96	5.04	0.239*	15.48	5.69	0.472*
	No	27.12	9.02		10.96	5.01		16.16	5.43	
Any mental disorder	Yes	28.66	12.38	0.463*	15.00	6.06	0.018*	13.66	7.50	0.375*
	No	25.82	9.22		10.08	4.94		15.74	5.55	
Any chronic disease	Yes	25.56	8.90	0.776*	9.59	5.00	0.324*	15.97	5.27	0.680*
	No	26.02	9.46		10.45	5.05		15.57	5.73	
Covid-19 history	Yes	24.27	8.15	0.433*	10.77	5.64	0.638*	13.50	4.36	0.084*
	No	26.09	9.43		10.18	4.98		15.91	5.69	
Covid-19 in family	Yes	26.74	8.85	0.532*	11.12	5.02	0.217*	15.61	5.15	0.943*
	No	25.68	9.45		10.00	5.03		15.68	5.75	
Living alone	Yes	26.72	10.08	0.703*	11.09	5.32	0.425*	15.63	6.23	0.922*
	No	25.94	8.77		10.18	4.88		15.75	5.30	

M, mean; SD, standard deviation; PSS, perceived stress scale.

Table 3: Comparison of PSS scores according to profession and institution

		PSS total score				PSS SEP				PSS SP			
		M	SD	F	P	M	SD	F	P	M	SD	F	P
Profession	Practitioner	26.64	11.27	0.492	0.782*	10.78	5.79	0.313	0.905*	15.85	6.95	0.593	0.705*
	Asistant	27.37	11.87			11.50	6.63			15.87	8.20		
	Specialist	25.63	8.46			10.05	4.88			15.57	4.87		
	Assistant professor	27.93	8.90			10.53	5.24			17.40	4.74		
	Associate professor	22.12	13.07			8.87	6.24			13.25	8.11		
	Professor	25.73	8.64			10.26	3.52			15.47	5.75		
Institution	Family medical clinic	22.70	13.80	1.890	0.098*	7.20	6.59	1.801	0.115*	15.50	7.83	2.033	0.076*
	Public hospital	27.16	8.34			10.67	4.64			16.49	4.90		
	Training and research hospital	27.20	11.39			10.70	6.32			16.50	6.44		
	University	27.74	7.52			11.29	4.82			16.45	5.04		
	Private hospital	23.13	5.82			10.21	3.04			12.91	4.18		
	Private clinic	22.52	9.24			8.39	3.98			14.13	5.87		

M, mean; SD, standard deviation; PSS, perceived stress scale; SEP, self-efficacy perception; SP, stress perception. * ANOVA

BHS total score and their sub-scales in a correlation analyses in which the relationship of the PSS SP sub-scale with the IUS and the BHS was analysed (p<0.05) (Table 3). The PSS SEP subscale scale was found to be positively and

significantly related to the IUS and the BHS total score and their sub-scales in a correlation analyses in which the relationship of the PSS SEP sub-scale with the IUS and the BHS was analysed (p<0.05) (Table 4).

Table 4: The correlation of PSS, IUS and BHS scores

	IUS PIU		IUS IIU		IUS total score		BHS FAF		BHS LM		BHS FE		BHS total score	
	r	p	r	p	r	p	r	p	r	p	r	p	r	p
PSS SEP	0.194	0.009*	0.404	0.000*	0.327	0.000*	0.397	0.000*	0.336	0.000*	0.393	0.000*	0.415	0.000*
PSS SP	0.258	0.000*	0.394	0.000*	0.356	0.000*	0.342	0.000*	0.263	0.000*	0.397	0.000*	0.372	0.000*
PSS total score	0.261	0.000*	0.456	0.000*	0.392	0.000*	0.421	0.000*	0.341	0.000*	0.452	0.000*	0.449	0.000*
IUS PIU	-	-	-	-	-	-	0.274	0.000*	0.309	0.000*	0.199	0.008*	0.287	0.000*
IUS IIU	-	-	-	-	-	-	0.377	0.000*	0.424	0.000*	0.317	0.000*	0.413	0.000*
IUS total score	-	-	-	-	-	-	0.356	0.000*	0.400	0.000*	0.282	0.000*	0.383	0.000*

PSS, perceived stress scale; SEP, self-efficacy perception; SP, stress perception; IUS, intolerance of uncertainty scale; PIU, prospective intolerance of uncertainty; IIU, inhibitory intolerance of uncertainty; BHS, Beck hopelessness scale; FAF, feelings about the future; LM, loss of motivation; FE, future expectations. * Pearson correlation test.

DISCUSSION

Many parameters can affect the intensity and dimension of stress perception. Therefore, a multi-directional analysis is necessary. We analysed physicians in Turkey as a specific group in our study. We aimed to analyse the effects of variables such as sociodemographic variables, hopelessness and intolerance of uncertainty on the perceived stress levels.

Disasters like a pandemic, which affect every section of society, have an increasing effect on the perception of stress of individuals (Göksu & Kumcağiz, 2020). Health workers are under stress because of many reasons. It is shown in studies about the stress load of health workers that they are exposed to various stress factors such as constantly changing work conditions, increased workload, working in shifts, time pressure, low social support, uncertainties about treatment of patients and being faced with suffering and dying people (Marine, Ruotsalainen, Serra, & Verbeek, 2006; Portoghese, Galletta, Coppola, Finco, & Campagna, 2014). It is shown in the studies, that health workers have been experiencing more mental problems during the COVID-19 pandemic than other professions (Qui et al., 2020; Zhang et al., 2020). There are studies showing that physicians and nurses specifically, are under more stress than other health workers and other professions (Çamkerten, Tatar, & Saltukoğlu, 2020; Zhang et al., 2020).

There are studies which analyse perceived stress level differences between genders. Even though there are various studies which show that perceived stress levels are similar between men and women, when we look specifically at highly populated ones, there are studies showing women having more stress perception than men (Çamkerten, Tatar, & Saltukoğlu, 2020; Matud, 2004; Michael, Anastasios, Helen, Catherine, & Christine, 2009; Tytherleigh, Jacobs,

Webb, Ricketts, & Cooper, 2007). In our study, it was found that perceived stress level of women was significantly higher than for men. This situation can be explained by saying that women are more sensitive to problems, they express their feelings more and they are under more stress than men. Moreover, working women spend more time on work and family activities and take on more responsibilities than men. Regardless of their profession and work responsibilities, women spend more time on activities like childcare and housework, than men (Michael, Anastasios, Helen, Catherine, & Christine, 2009). In our study, the difference between genders is compatible with literature.

Perceived stress is at the highest level in the middle-aged group (30–54 years old) and decreases as age decreases (Kocalevent et al., 2007). The reason for this situation may be extra family and work responsibilities at these ages. As age increases, stress perception decreases for the adulthood period (Limcaoco, Mateos, Fernández, & Roncero, 2020). Although the risk of illness increases as age does, the perception of stress decreases at older ages and some hypotheses have been created to explain this situation. The first of these hypotheses is that as age goes up, people focus on the positive of situations and incidents more, resulting in their perceived stress levels decreasing (Carstensen, Mikels, & Mather, 2006). Another hypothesis is that an individual has more past experiences and emotional regulation skill as she/she gets older, and this may lead to decrease in perception of stress (Frazier, Lighthall, Horta, Perez, & Ebner, 2019). In our study, consistent with previous studies, we found that the stress perception of individuals under 45 years old is significantly higher than the stress perception of individuals over 45 years old.

Studies show that the perception of stress can be affected by variables such as marital status, income status and educational background (Finkelstein, Kubzansky, Capitman, &

Goodman, 2007; Michael, Anastasios, Helen, Catherine, & Christine, 2009). In a study, it was found that stress perception of married, young and low-educated women was significantly higher than single, highly educated elderly men (Michael, Anastasios, Helen, Catherine, & Christine, 2009). Because all the participants of our study are physicians, income and educational background differences weren't examined. Unlike previous studies, no significant differences were discovered in our study in terms of marital status, workplace and degree.

The perception of stress is known to be related with hopelessness (Cho, 2020). So, factors increasing hopelessness levels are expected to increase the perception of stress in individuals. In studies which analyse relationship between levels of perceived stress and a hopelessness period, it is usually shown that these two parameters are positively correlated with each other (Cho, 2020; Jamil & Riaz, 2020). It is inevitable that a pandemic as vastly devastating as COVID-19 will cause an increase in perception and level of stress. In our study which analyses perceived stress levels and hopelessness levels of physicians who are most likely affected by this pandemic, we also found statistically significant positive correlation between all total points and all sub-scales which are compatible with literature.

Individuals may have trouble with orientating new situations and settings in periods of uncertainty. Stress levels increase due to changing conditions. During the pandemic period, this situation has become more complicated in hospitals and other healthcare organisations where uncertainty levels are high, even in normal times. There are still many uncertainties about course and duration of the pandemic. This situation is likely to increase the perception of stress of all health workers, especially physicians. Individuals who have high an intolerance of uncertainty levels tend to have extreme anxiety and stress about this situation which they have been experiencing (Lally & Cantillon, 2014). This data is supported by various studies (Birrell, Meares, Wilkinson, & Freeston, 2011; Carleton et al., 2012; Öztürk, Tuncer, Kotanoğlu, Erdinç, & Kinikli, 2021). In our study, we found statistically significant positive correlations between the intolerance of uncertainty levels and perceived stress level. This finding is similar to literature.

CONCLUSION AND LIMITATIONS

In conclusion, stress has become an important public health problem during the pandemic. Although there are a lot of

factors increasing the perception of stress, we intended to analyse the relationship, during the pandemic, between the perception of stress and sociodemographic variables which are likely to affect stress levels of physicians, intolerance of uncertainty and perception of hopelessness. We discovered that variables such as being female, having mental disorders and being of a young age increase the perception of stress and the perception of stress is positively correlated with the intolerance of uncertainty and hopelessness levels. The findings of our study are mostly similar to those in literature.

Our study had some limitations. These limitations were the lack of a control group and the comparatively low number of participating physicians.

There is a limited number of studies on the mental problems of physicians during the pandemic. Also, when we looked at literature, we couldn't find a study in our country about the factors affecting perceived stress level of physicians. So, this is the first study about this subject, in our country. Studies about this subject in international literature are also very limited. Therefore, we think that our study will be one of the informative guides about physicians' coping with mental problems, in the process of treatment and therapy, if necessary, and making decisions related to pandemic.

Ethics Committee Approval: The study was approved by the Ethics Committee of Ondokuz Mayıs University Medical Faculty (date and number of approval: 24.07.2020 / 2020/494).

Informed Consent: Informed consent was obtained from all individual participants included in the study.

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