

Evaluation COVID-19 and Professional Anxiety of Medical Faculty Students

Tıp Fakültesi Öğrencilerinin COVID-19 Anksiyete Düzeyi ve Mesleki Kaygı Durumlarının Değerlendirilmesi

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ABSTRACT

Background: In this study, we evaluated the Coronavirus disease-2019 (COVID-19) anxiety levels and occupational anxiety levels of medical faculty students (MFS) during the COVID-19 pandemic.

Materials and Methods: The population of this descriptive and single-center study consisted of MFS in January 2021. After the literature review, the form prepared by us and the coronavirus anxiety scale (CAS) were sent to all MFS via the internet. Before answering the form questions, detailed information about the study was given and an informed consent form was presented. Only students who marked the "I approve" option on the informed consent form participated in the study. In the form, contains questions about their socio-demographic data, career choice and educational status, changes in the COVID-19 period and their results. At the end of the form, the CAS was applied.

Results: Two hundred-fifty one MFS participated in our study and the mean age was 21.14±2.16 (minimum: 18, maximum: 35). 51.8% (n=130) of MFS were male and 8.8% (n=22) had a chronic disease. The rate of smokers was 19.1% (n=48) and 78.1% (n=196) of MFS lived with their families.

The mean score of the participants on the CAS was determined as 1.06±2.24 (minimum: 0, maximum: 15). CAS scores was found to be statistically significantly higher in those participants aged 23 and over, women, those has chronic diseases, those recovered from COVID-19 without any medication, those who have fear of infected with COVID-19, those who change their specialization preferences during the pandemic, those who think that using PPE is insufficient to protect against COVID-19, those who thought to interrupt or drop out their medical education due to the COVID-19 pandemic (p=0.002, p<0.001, p=0.044, p=0.033, p<0.001, p<0.001, p=0.034, p=0.003, respectively).

Conclusion: CAS increased with age, female gender, having a chronic disease, fear of infecting with COVID-19 and not thinking that using PPE is sufficient to protect against COVID-19.

Keywords: COVID-19, anxiety, education



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Received: 13.09.2021 **Accepted:** 25.01.2022

Amaç: Biz bu çalışmamızda Koronavirüs hastalığı-2019 (COVID-19) pandemisi sürecinde tıp fakültesi öğrencilerinin (TFÖ) COVID-19 anksiyete düzeylerini ve mesleki kaygı durumlarını değerlendirmeyi amaçladık.

Gereç ve Yöntemler: Bu tanımlayıcı ve tek merkezli çalışmanın popülasyonu Ocak 2021'deki TFÖ'den oluşmaktadır. Literatür taraması sonrası tarafımızda hazırlanan sorgulama formu ve koronavirüs anksiyete ölçeği (KAÖ) internet üzerinden tüm TFÖ'ye iletilmiştir. Form sorularından önce çalışma hakkında detaylı bilgi verildi ve bilgilendirilmiş onam formu sunulmuştur. Çalışmaya sadece bilgilendirilmiş onam formunda "Onaylıyorum" seçeneğini işaretleyen öğrenciler katılmıştır. Anket formunda sosyo-demografik verileri, meslek seçimi ve eğitim durumları, COVID-19 dönemindeki değişiklikler ve sonuçları ile ilgili sorular yer almaktadır. Formun sonunda KAÖ uygulanmıştır.

Bulgular: Çalışmamıza 251 TFÖ katıldı ve yaş ortalamaları $21,14 \pm 2,16$ (minimum: 18 maksimum: 35) idi. TFÖ'nün %51,8'i (n=130) erkekti ve %8,8'i (n=22) kronik bir hastalığa sahipti. Sigara içenlerin oranı %19,1 (n=48) idi ve %78,1'i (n=196) ailesiyle birlikte yaşıyordu. Katılımcıların KAÖ puan ortalamaları $1,06 \pm 2,24$ (minimum: 0 maksimum: 15) olarak saptandı. KAÖ puanları 23 yaş ve üstü kişilerde, kadınlarda, kronik hastalığı olanlarda, COVID-19 ile enfekte olanlardan hastalığı tedavissiz geçirenlerde, COVID-19'dan korktuğunu belirtenlerde, pandemiden sonra tıpta uzmanlık bölümü tercihleri değişmiş olanlarda, KKE'nin COVID-19'dan korunmada yetersiz olduğunu düşünenlerde ve COVID-19 pandemisi nedeniyle tıp eğitimini bırakmayı ya da dondurmaya düşünenlerde istatistiksel olarak anlamlı şekilde daha yüksek saptanmıştır (sırasıyla; $p=0,002$, $p<0,001$, $p=0,044$, $p=0,033$, $p<0,001$, $p<0,001$, $p=0,034$, $p=0,003$).

Sonuç: KAÖ puanları kadın cinsiyet, kronik bir hastalığa sahip olma, COVID-19 ile enfekte olmaktan korkma, KKE kullanmanın COVID-19'dan korunmak için yeterli olmadığını düşünme durumlarında ve yaş ile artıyordu.

Anahtar Kelimeler: COVID-19, anksiyete, eğitim

Introduction

The occupation can be defined as the activities that people do both to earn a living and to realize themselves, and for this reason, the choice of profession is one of the biggest milestones in people's lives (1,2). While it has been determined by studies that students have various anxieties before starting to university, after their knowledge about the profession increases during university education, their anxiety continues by differentiating. Medical faculty students (MFS) experience higher rates of psychological problems compared to the other faculty students and the general population, due to the extensive content, performance pressure, self-pressure for good grades, keeping up to date with knowledge, fear of making mistakes and medical school workload (3,4,5).

Although medicine is among the most dangerous professions, it is also one of the most demanded and respected professions. According to a study conducted in Turkey in 2020, medicine is one of the two professions that are in the top 10 professions that are both desirable and undesirable. This may be caused by factors such as the difficulty of working conditions, work and shift systems, workplace stress and high probability of occupational accidents (6).

The Coronavirus disease-2019 (COVID-19) has affected the whole world since December 2019 and has caused various problems such as social isolation, disruption of education and economic difficulties. Education method changes due to the pandemic have caused difficulties for students. MFS have also witnessed the difficulties

experienced by healthcare professionals due to the pandemic. An increase in anxiety can be expected in this group, who faced the problems they may experience in the future. As a matter of fact, some studies conducted during the pandemic have shown that MFS have high levels of anxiety (7,8).

In this study, we aimed to evaluate the COVID-19 anxiety levels and occupational anxiety levels of MFS during the COVID-19 pandemic.

Material and Methods

Study Population and Sample

The population of this descriptive and single-center study consisted of MFS in January 2021. Since our university was newly established, there are students up to the 5th grade.

In January 2021, the total number of MFS in University of Health Sciences Turkey is 730. The sample size was calculated as at least 252 MFS with a 95% confidence interval.

The protocol of this study was approved by the Ethics Committee of University of Health Sciences Turkey on 04/12/2020 (number: E-46418926-050.01.04).

Data Collection Tools

After the literature review, the form prepared by us and the questions consisting of the coronavirus anxiety scale (CAS) were sent to all medical school students via the internet. Before answering the form questions, detailed information about the study was given and an informed consent form

was presented. Only students who marked the “I approve” option on the informed consent form participated in the study. Participation in the study is completely voluntary.

In the form, contains questions about their socio-demographic data, career choice and educational status, changes in the COVID-19 period and their results. At the end of the form, the “CAS” was applied.

CAS

The “CAS” was used to measure the COVID-19 anxiety levels of the students. This scale was developed by Lee (9), and its Turkish validity study was conducted in 2020 by Evren et al. (10). It is made up of five items employing a 5-point Likert scale and participants are asked how often they have experienced the conditions found in the questions during the last 2 weeks. Scoring of the scale was “0” “not at all”, “1” “rare, less than a day or two”, “2” “several days”, “3” “more than 7 days” and “4” “nearly every day over the last 2 weeks”. The higher the score, the higher the anxiety level.

Statistical Analysis

IBM SPSS Statistics for Windows, version 25 (IBM Corp., Armonk, N.Y., USA) was used for the data analysis. Descriptive statistics for continuous variables were expressed as mean, standard deviation, minimum and maximum; categorical variables were expressed as number and percentage. The normality of the data set was confirmed by Kolmogorov-Smirnov test and it was determined that the measurements in the study were not distributed normally. Comparisons between groups were made using the Mann-Whitney U test for continuous variables. Spearman correlation analysis was used for the correlation relationship of continuous variables. Chi-square tests were used to compare categorical data. A p-value of <0.05 was considered statistically significant.

Results

Two hundred-fifty one MFS participated in our study and the mean age was 21.14 ± 2.16 (minimum: 18, maximum: 35). 51.8% (n=130) of MFS were male and 8.8% (n=22) had a chronic disease. The rate of smokers was 19.1% (n=48) and the smokers had an average smoking history of 1.72 ± 1.98 (minimum: 0.3, maximum: 8) packyears. 78.1% (n=196) of MFS lived with their families.

81.7% (n=205) MFS stated that they did not have COVID-19, 10.8% (n=27) had COVID-19 and recovered with outpatient treatment, 7.6% (n=19) stated that they had COVID-19 but recovered without any treatment. There were no MFS that treated hospital or intensive care.

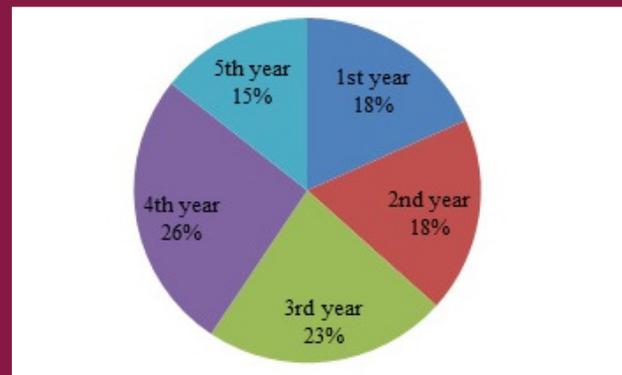
As age increases, the rate of having COVID-19 increases ($p=0.002$). MFS with chronic disease were found to have a statistically significant higher incidence of COVID-19

($p=0.008$), but no statistical difference was found between having COVID-19 and gender, smoking status ($p=0.212$, $p=0.081$, respectively).

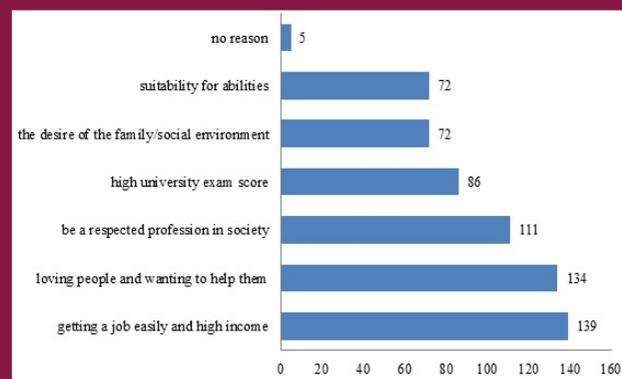
MFS’ relatives had COVID-19, 76 (30.3%) of them stated that none of their relatives had COVID-19. Among those whose relatives had COVID-19, 111 participants (44.2%) stated that they recovered with outpatient treatment, 19 participants (7.6%) stated that recovered with inpatient treatment, 17 participants (6.8%) stated that recovered without any treatment, 10 participants (4%) stated that recovered with intensive care treatment and 18 (7.2%) participants stated that their relatives died due to COVID-19.

The distribution of MFS’ academic years of the study is given in Graph 1. 228 students (90.8%) stated that they chose the medical faculty themselves. The reasons for choosing the medical faculty, was mostly getting job easily and high income at the rate of 55.4 (n=139) (Graph 2).

One hundred-seventy (67.7%) MFS stated that they had received training about the use of personal protective equipment (PPE). Most of MFS stated that the use of PPE was sufficient to prevent transmission and they felt safe (n=162; 64.5%); but 126 (50.2%) MFS thought that there



Graph 1. Distribution of participants’ academic years of the study



Graph 2. Reasons for choosing the medical profession of the participating medical students

might be a problem in the supply of PPE. Those who received PPE training thought that the use of PPE was sufficient to prevent transmission and they felt safe, and thought that there might be no problem in the supply of PPE ($p=0.04$, $p=0.012$, respectively).

41.8% ($n=105$) of MFS stated that they were not sufficiently aware of the risks of being a physician before the COVID-19 pandemic. 80.1% ($n=201$) of MFS think that their medical education was disrupted during the pandemic.

When asked whether the pandemic had any effect on their preference for specialization in medicine, 85.7% ($n=215$) MFS stated that there was no change in their preference for specialization. Due to the effect of pandemic, while specialties with few or no shifts preferred by 23 students (9.2%), specialties not in contact with the patient preferred by 7 students (2.8%). However, 6 students (2.4%) tend to specialties dealing with COVID-19 in the frontlines.

The appreciation of healthcare professionals and the understanding of the importance of healthcare during the pandemic led to an increase in the professional motivation of 63.7% ($n=160$) of MFS. 84.5% ($n=212$) of MFS stated that they approve of physicians who resigned or retired during the pandemic period. The rate of MFS considering interruption or dropping out of medical education due to the pandemic was determined as 10.4% ($n=26$). The situation of considering of interruption or dropping out medical education is more often in those who did not increase their professional motivation during the pandemic, those who did not choose the medical profession themselves, those who did not know the risks of the medical profession before the pandemic, those who thought that the use of PPE was insufficient for protection from COVID-19 and those who thought that there might be a problem in the supply of PPE. These situations are statistically significant ($p<0.001$, $p<0.001$, $p=0.034$, $p=0.003$, $p=0.004$, respectively).

46.2% ($n=116$) of the MFS stated that they had a fear of infected with COVID-19 because they were medical students. The relationship between the study data of people who have and do not have fear of infected with COVID-19 is given in Table 1. The mean age of individuals who were afraid of infected with COVID-19 was significantly higher ($p=0.004$). When we grouped the age, it was found that the 18-22 age group experienced less fear than the age group 23 and older ($p=0.009$). The fear of infected with COVID-19 was found to be statistically significantly more common in the following situations: Female gender, living with a person whom has a chronic disease, not having any relatives infected with COVID-19, having any relatives who got intensive care treatment because of COVID-19, thinking of

medical education has been disrupted due to the pandemic, thinking that using PPE is insufficient to protect against COVID-19, changing specialization preferences due to the pandemic, considering interruption or dropping out medical education due to the pandemic ($p=0.001$, $p=0.03$, $p=0.14$, $p=0.031$, $p=0.029$, $p=0.001$, $p=0.003$, $p=0.001$, respectively). In the other hand, fear of infected with COVID-19 was found to be statistically significantly less frequent in cases of being in the first year of medical school, knowing the risks of the medical profession before the pandemic, trusting their institution to provide PPE ($p=0.004$, $p=0.015$, $p=0.001$, respectively).

The mean score of the participants on the CAS was determined as 1.06 ± 2.24 (minimum: 0, maximum: 15). No correlation was found between age and CAS scores ($p=0.343$). The relationship between the CAS and the study data of the individuals is given in Table 2. CAS scores were found to be statistically significantly higher in those participants aged 23 and over, women, those who have chronic diseases, those who recovered from COVID-19 without any medication, those who have fear of infected with COVID-19, those who change their specialization preferences during the pandemic, those who think that using PPE is insufficient to protect against COVID-19, those who thought to interrupt or drop out their medical education due to the COVID-19 pandemic ($p=0.002$, $p<0.001$, $p=0.044$, $p=0.033$, $p<0.001$, $p<0.001$, $p=0.034$, $p=0.003$, respectively).

Discussion

During the pandemic period, healthcare workers are dealing with COVID-19 in the frontline. In this period, according to Amnesty International report dated March 5, 2021, more than 17,000 healthcare workers worldwide died due to COVID-19, and according to CDC data dated June 1, 2021, 1,635 healthcare workers in the United States alone (11,12). This situation may have caused medical school students to have fear and anxiety as it increased their awareness of occupational risks. In this study, it was aimed to investigate the fear and anxiety states of MFS and the factors affecting them.

46.2% ($n=116$) of the students participating in our study stated that they had a fear of infecting with COVID-19 because they were MFS. There are studies with various scales in the literature and in a study conducted with MFS in China in 2020, it was determined that 24.9% of the MFS were worried due to the COVID-19 pandemic (8). In a study conducted with MFS in Turkey, 59.9% of the students stated that they were worried about having COVID-19 (13).



Table 1. Relationship between study data of participants with and without fear of infecting with COVID-19					
	Participants who have fear of infecting with COVID-19		Participants who have not fear of infecting with COVID-19		p
	N	%	N	%	
Age					
18-22	90	42.7	121	57.3	0.009
≥23	26	65.0	14	35.0	
Gender					
Male	47	36.2	83	63.8	0.001
Female	69	57.0	52	43.0	
Having a chronic disease					
Yes	14	63.6	8	36.4	0.086
No	102	44.5	127	55.5	
Smoking					
Yes	22	45.8	26	54.2	0.953
No	94	46.3	109	53.7	
Living					
Alone	7	50.0	7	50.0	0.975
With friends	8	42.1	11	57.9	
With family	91	46.4	105	53.6	
In dormitory	10	45.5	12	54.5	
Living with a person whom has a chronic disease					
Yes	42	56.8	32	43.2	0.030
No	74	41.8	103	58.2	
Status of infected with COVID-19					
Yes	17	37.0	29	63.0	0.192
No	99	48.3	106	51.7	
Treatment status of participants infected with COVID-19					
Without medication	4	21.1	15	78.9	0.061
Outpatient treatment	13	48.1	14	51.9	
Having relatives infected with COVID-19					
Yes	72	41.1	103	58.9	0.014
No	44	57.9	32	42.1	
Treatment status of their relatives infected with COVID-19					
Without medication	7	41.2	10	58.8	0.031
Outpatient treatment	37	33.3	74	66.7	
Inpatient treatment	12	63.2	7	36.8	
Intensive care treatment	7	70.0	3	30.0	
Death	9	50.0	9	50.0	
Participants' academic years of medical education					
First year	10	21.7	36	78.3	0.004
Second year	24	52.2	22	47.8	
Third year	26	45.6	31	54.4	
Fourth year	38	57.6	28	42.4	
Fifth year	18	50.0	18	50.0	
Receiving training on the use of PPE					
Yes	74	43.5	96	56.5	0.216
No	42	51.9	39	48.1	

Table 1. continued

	Participants who have fear of infecting with COVID-19		Participants who have not fear of infecting with COVID-19		p
	N	%	N	%	
Thinking that using PPE is sufficient to protect against COVID-19					
Yes	62	38.3	100	61.7	0.001
No	54	60.7	35	39.3	
Thinking that their institutions will not have problems in the supply of PPE					
Yes	45	36.0	80	64.0	0.001
No	71	56.3	55	43.7	
The state of choosing the medical faculty themself					
Yes	103	45.2	125	54.8	0.298
No	13	56.5	10	43.5	
Knowing the risks of the medical profession before the pandemic					
Yes	58	39.7	88	60.3	0.015
No	58	55.2	47	44.8	
Thinking that medical education has been disrupted due to the pandemic					
Yes	86	42.8	115	57.2	0.029
No	30	60.0	20	40.0	
Increased professional motivation during the pandemic					
Yes	72	45.0	88	55.0	0.609
No	44	48.4	47	51.6	
Changing specialization preference due to pandemic					
Yes	25	69.4	11	30.6	0.003
No	91	42.3	124	57.7	
Specializations preferred by participants whose specialization preferences have changed due to the pandemic					
Specialties with few or no shifts	15	65.2	8	34.8	0.856
Specialties not in contact with the patient	5	71.4	2	28.6	
Specialties dealing with COVID-19 infection in the frontlines	5	83.3	1	16.7	
Approving the resignation or retirement of physicians during the pandemic					
Yes	100	47.2	112	52.8	0.479
No	16	41.0	23	59.0	
Considering interruption or dropping out medical education due to the pandemic					
Yes	20	76.9	6	23.1	0.001
No	96	42.7	129	57.3	

COVID-19: Coronavirus disease-2019

In the study of Nguyen et al. (14) about the fear of COVID-19 in MFS, the COVID-19 fear scores of the 19-22 age group were found to be significantly higher than the 23-26 age group. In another study conducted with nursing students, the participants were separated as under 25 years old and over and no significant relationship was found

between age and COVID-19 fear scores (15). Similarly, in this study, in the age group of 23 years and older, fear of COVID-19 was more common and the means of CAS scores was higher. In our opinion, this may be due to the increase in the level of knowledge about diseases as the academic year of medical faculty increases, as well as the fact that the



Table 2. Relation of the CAS scores with the study data of participants

	CAS score		P
	Mean	SD	
Age			
18-22	0.87	1.925	0.002
≥23	2.08	3.323	
Gender			
Male	0.62	1.625	<0.001
Female	1.53	2.687	
Having a chronic disease			
Yes	1.55	2.283	0.044
No	1.01	2.239	
Smoking			
Yes	1.17	2.452	0.549
No	1.03	2.197	
Living ...			
Alone	1.21	1.578	0.473
With friends	1.16	1.500	
With family	0.98	2.135	
In dormitory	1.55	3.713	
Living with a person whom has a chronic disease			
Yes	1.04	2.161	0.771
No	1.07	2.283	
Status of infected with COVID-19			
Yes	1.00	2.160	0.936
No	1.07	2.266	
Treatment status of participants infected with COVID-19			
Without medication	1.53	2.480	0.033
Outpatient treatment	0.63	1.864	
Having relatives infected with COVID-19			
Yes	1.07	2.069	0.283
No	1.04	2.615	
Treatment status of their relatives infected with COVID-19			
Without medication	1.12	2.497	0.755
Outpatient treatment	1.05	1.870	
Inpatient treatment	1.16	2.794	
Intensive care treatment	1.20	1.549	
Death	1.00	2.401	
Participants' academic years of medical education			
First year	0.78	1.590	0.508
Second year	1.28	2.146	
Third year	0.98	2.468	
Fourth year	0.95	2.011	
Fifth year	1.44	3.028	
Receiving training on the use of PPE			
Yes	0.91	2.018	0.095
No	1.38	2.639	

Table 2. continued

	CAS score		p
	Mean	SD	
Thinking that using PPE is sufficient to protect against COVID-19			
Yes	0.86	2.073	0.034
No	1.43	2.495	
Thinking that their institutions will not have problems in the supply of PPE			
Yes	0.80	1.751	0.139
No	1.32	2.625	
The state of choosing the medical faculty themselves			
Yes	1.05	2.312	0.104
No	1.13	1.424	
Knowing the risks of the medical profession before the pandemic			
Yes	1.17	2.320	0.296
No	0.90	2.133	
Fear of infecting with COVID-19			
Yes	1.80	2.817	<0.001
No	0.42	1.301	
Thinking that medical education has been disrupted due to the pandemic			
Yes	1.07	2.311	0.854
No	1.00	1.969	
Increased professional motivation during the pandemic			
Yes	1.16	2.453	0.808
No	0.89	1.816	
Changing specialization preference due to pandemic			
Yes	2.53	3.768	<0.001
No	0.81	1.770	
Specializations preferred by participants whose specialization preferences have changed due to the pandemic			
Specialties with few or no shifts	2.00	3.162	0.134
Specialties not in contact with the patient	5.43	5.740	
Specialties dealing with COVID-19 infection in the frontlines	1.17	0.753	
Approving their signation or retirement of physicians during the pandemic			
Yes	1.06	2.162	0.362
No	1.05	2.675	
Considering interruption or dropping out medical education due to the pandemic			
Yes	1.85	2.257	0.003
No	0.97	2.229	

CAS: Coronavirus anxiety scale, SD: Standard deviation, COVID-19: Coronavirus disease-2019

medical students started to work actively in the hospital due to their internships in the following years of medical education. As a matter of fact, the fear of infecting with COVID-19 in our study was at least among first-year MFS.

In a study conducted with the COVID-19 fear scale in the general population of 772 people in Cuba, it was determined that women had higher COVID-19 fear scores than men (16). Similar to the general population, in another study conducted with MFS, the level of fear of COVID-19 was found to be higher in women than in men (17). Similarly, in another study conducted with nurses in China, women were found to have a higher level of fear of COVID-19 than men (18). In this study, in line with the literature, fear of COVID-19 was found more frequently in women than in men. In addition, in our study, CAS scores in women were found to be statistically significantly higher than in men. While no difference was found between genders in anxiety levels in a study conducted by Cao et al. (8) with MFS, in another study conducted with university students using the self-rating anxiety scale in China, higher anxiety levels were found in female students (19). In another study using the state and trait anxiety scale with MFS in Turkey, it was found that women had higher anxiety scores than men (13). Anxiety disorder is higher in women than men, not only during the pandemic period, but this difference is thought to be related to the fact that women have more serotonin receptors than men, but less serotonin-binding protein (20).

In a study conducted by Sakib et al. (21) in Bangladesh, no relationship was found between having a chronic disease and fear of COVID-19 in healthcare workers; COVID-19 fear levels of healthcare workers who stated that they felt insecure themselves and their family members due to COVID-19 were found to be statistically significantly higher. In our study, while no relationship was found between having a chronic disease and fear of COVID-19, the coronavirus anxiety form scores were higher in MFS with chronic diseases, in addition there was a relationship between fear of COVID-19 and living with a person whom has a chronic disease. This situation can be considered as an indication that individuals can accept the risk of COVID-19 contamination due to their profession, even if it creates anxiety for them, but they cannot conscientiously accept the risk of infecting their relatives and they are more afraid of. As a matter of fact, we had health workers who did not go to their homes due to the pandemic and stayed in the allocated places and did not meet with their families. In addition, in another study conducted with MFS, similar to our study, a significant relationship was found between fear of COVID-19 and family members having previously had COVID-19 (22).

While no relationship was found between the students' receiving training on the use of PPE and the fear of COVID-19, the rates of fear of COVID-19 were statistically higher in those who thought that the use of PPE was insufficient to protect against COVID-19 and that their institutions might have problems in providing PPE. In a study conducted with nursing students on the fear of COVID-19 and the use of PPE, it was determined that the COVID-19 fear scores of nursing students who were provided with PPE in the workplace were significantly lower than those who experienced lack of PPE (15). In another study conducted with healthcare professionals, the reasons why healthcare professionals think they have a higher risk of infecting with COVID-19 than other people were questioned, and the most common answer was that PPE is not always available (23). In addition, in our study, the coronavirus anxiety form scores were significantly higher in those who thought that PPE would be insufficient to protect against COVID-19. In the literature, it has been determined that MFS who think that they cannot take adequate precautions against COVID-19 have high state and trait anxiety scores (13). It is considered that this is due to the idea that PPE is the only barrier between this infection without effective treatment and healthcare workers, and that they are unprepared for a sudden outbreak.

Although 90.8% of the MFS in our study stated that they chose to study medicine themselves, 41.8% (n=105) of them stated that they were not aware of the professional risks of medicine before the COVID-19 pandemic. Fear of COVID-19 was found to be higher in those who stated that they did not know enough about the risks of the medical profession before the pandemic, and this shows that there is a lack of information about the professions before choosing a profession. The training given before the choice of profession can enable the person to choose a suitable profession and be aware of the risks of the chosen profession, and also increase the professional satisfaction of the person (24).

A statistically significant relationship was found between experiencing fear and anxiety due to COVID-19, and changes in specialty preferences, and even considering interruption or dropping out medical education. It can be predicted that the pandemic may have negative effects on the medical profession and preferences for some specializations.

Conclusion

CAS increased with age, female gender, having a chronic disease, fear of infecting with COVID-19 and not thinking that using PPE is sufficient to protect against COVID-19.

Increase of CAS was changed in specialty preferences of MFS and increased interruption or dropping out medical education.

Meetings should be organized for MFSs to reduce anxiety and fear during the pandemic period.

Ethics

Ethics Committee Approval: The protocol of this study was approved by the Ethics Committee of University of Health Sciences Turkey on 04/12/2020 (number: E-46418926-050.01.04).

Informed Consent: Informed consent was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: Y.U., G.B., G.Z.Ö., E.Ç., Design: Y.U., G.B., M.T.E., E.Ç., Data Collection or Processing: Y.U., G.B., G.Z.Ö., M.T.E., E.Ç., Analysis or Interpretation: Y.U., G.Z.Ö., M.T.E., E.Ç., Literature Search: Y.U., G.B., G.Z.Ö., M.T.E., E.Ç., Writing: Y.U., G.B., G.Z.Ö., M.T.E.

Conflict of Interest: No conflict of interest was declared by the authors.

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

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