



Self-assessment of the Feelings and Thoughts of Healthcare Professionals Regarding Their Social Lives and View of the Profession at the Onset and at the End of the First Year of the COVID-19 Pandemic

COVID-19 Pandemisi Başında ve Birinci Yılın Sonunda Sağlık Çalışanlarının Sosyal Yaşamları ve Mesleğe Bakışları Konusunda Duygu ve Düşüncelerinin Öz Değerlendirmesi

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Abstract

Introduction: We aimed to self-evaluate the impact of front-line health workers' perspective on their profession, family, social life and to determine how emotions and thoughts changed in the process.

Methods: This is a questionnaire answered according to a 5-point Likert scale, which involved the demographic characteristics of the staff and the self-assessment of their views on their profession, family, and social life. Evaluations were made in the categories of occupational satisfaction, individual fear, professional ethics, meeting physical needs, trust in institution-infrastructure support, trust in the work team, and the effects on family life through categorized queries. Volunteer healthcare staff work actively in the units, where the patients with suspected or diagnosed infection were treated, included in the study. A year later, the questionnaire was administered again. The multiple logistic regression model was used to determine the factors.

Results: Regarding the first year of the pandemic, no significant difference was determined in the individual fear of getting sick and professional ethics scores of healthcare professionals in Turkey. The scores of meeting physical needs, trust in the team, and institutional infrastructure support in the working environment were significantly decreased ($p<0.05$). While working conditions affected the family significantly ($p<0.05$), ethical behavior scores were above the average in both periods.

Conclusion: The study reveals a profile of healthcare staff who maintain their professional ethical behaviors, are satisfied with their profession and can tolerate the impact of working conditions on family order, despite the drawbacks of the ongoing fear of getting sick.

Keywords: Healthcare workers, professional ethics, fear

Öz

Giriş: Ön saflarda yer alan sağlık çalışanlarının bakış açılarının mesleklerine, ailelerine, sosyal yaşamlarına etkisini kendi kendine değerlendirmeyi ve bu süreçte duygu ve düşüncelerinin nasıl değiştiğini belirlemeyi amaçladık. Bildiğimiz kadarıyla sağlık çalışanlarının pandemi gölgesinde mesleğine bakışını da değerlendiren Türkiye'de yapılmış ilk çalışmadır.

Yöntemler: Bu, personelin demografik özelliklerini ve meslek, aile ve sosyal hayata ilişkin görüşlerinin öz değerlendirmelerini içeren 5'li Likert ölçeğine göre yanıtlanan bir ankettir. Kategorize edilmiş sorgular aracılığıyla mesleki doyum, bireysel korku, meslek etiği, fiziksel ihtiyaçların karşılanması, kurum-altyapı desteğine güven, çalışma ekibine güven ve aile yaşamına etkileri kategorilerinde değerlendirmeler yapılmıştır. Çalışmaya enfeksiyon şüphesi olan veya enfeksiyon tanısı konan hastaların tedavi edildiği birimlerde aktif olarak çalışan gönüllü sağlık personeli dahil edilmiştir. Bir yıl sonra anket tekrar uygulanmıştır. Faktörleri belirlemek için çoğul lojistik regresyon modeli kullanıldı.

Bulgular: Pandeminin ilk yılına göre Türkiye'de sağlık çalışanlarının bireysel hastalanma korkusu ve meslek etiği puanlarında anlamlı bir farklılık saptanmadı. Çalışma ortamında fiziksel ihtiyaçların karşılanması, ekibe duyulan güven ve kurumsal altyapı desteği puanları anlamlı olarak azaldı ($p<0,05$). Çalışma koşulları aileyi önemli ölçüde etkilerken ($p<0,05$), etik davranış puanları her iki dönemde de ortalamanın üzerindedir.

Sonuç: Bu çalışma, Türkiye'de süreç boyunca devam eden hastalanma korkusu, iş yoğunluğu ile ilişkili fiziksel ihtiyaçlarının karşılanamaması, kurum altyapı ve çalışma ortamı desteğinin daha az hissedilmesi olumsuzluklarına rağmen, mesleki etik davranışlarını koruyan, mesleklerinden memnun olan ve çalışma koşullarının aile düzenine olan etkisini tolere edebilen bir sağlık çalışanı profilini ortaya koymaktadır.

Anahtar Kelimeler: Sağlık çalışanları, mesleki etik, korku

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Introduction

Serious cases of pneumonia of unknown cause, which broke out in China and spread rapidly all over the world. With the increasing workload amid all the unknowns, it is thought that the Coronavirus disease-2019 (COVID-19) pandemic, as in other previous outbreaks in the world, has multifaceted negative effects in addition to the increasing workload on healthcare professionals (HP).¹

Previous studies revealed that the risk of developing psychiatric problems in HPs was directly associated with being young, being a woman, being a nurse, having a child, insufficient social support, quarantine experience, lack of experience in the profession, long working hours, lack of education and equipment, as well as unknowns about the virus.¹⁻⁴

This study was designed to search for answers to questions of "How do HP view their profession in the shadow of the pandemic?" and "how do they consider their own life?". As far as we know, this study is the first study in Turkey that involves the perspective of HP toward his/her profession under pandemic conditions. Moreover, it is forecasted that the study would provide basic data to support the moral-mental well-being and teamwork dynamics of HPs in extraordinary situations and epidemics and would guide the studies to be planned and the institutional structuring.

Materials and Methods

The first part of the study was carried out in May 2020, which can be considered the onset of the pandemic in Turkey, and the second part was carried out at the end of the first year of the pandemic by the Pediatric Emergency Department of Akdeniz University. Ethics Committee approval of Akdeniz University Faculty of Medicine (no: 2012-KAEK-20) and Ministry of Health Ethics Committee approval (no: 2020-05-12T11_46_12) were obtained.

This is a questionnaire study composed of two parts prepared in the electronic environment and consisting of 30 questions. The first part involves 14 open-ended/multiple-choice questions regarding the descriptive characteristics of HPs. The second part consists of 16 questions answered according to a 5-point Likert scale, which involves the self-assessment of HPs' views on their profession, family, and social life during the COVID-19 pandemic. In the first 14 questions, the participants were asked about their age, sex, city of residence, occupation and professional experience, place of duty, working hours, institution, marital status, whether they lived with anyone over the age of 60, whether they had children, and whether they lived apart from the family while living with their families before the pandemic. Through the questions grouped in the

questionnaire, assessments were made in the categories of occupational satisfaction, individual fear, professional ethics, meeting physical needs, trust in institution-infrastructure support, trust in the work team, and the effects of circumstances on family life. The questionnaire was delivered to the participants via the network. The inclusion criteria for the study were to be actively working in the units where patients with COVID-19 infection/suspect or diagnosis were cared for. Volunteer practitioners, research associates, specialist physicians, lecturers, sub-branch assistants/specialists, nurses, and paramedics were included in the study. In the second part of the study, nearly one year later, the same questionnaire was administered again with the same method. The data of the two periods were compared. Among the main subjects of professional satisfaction, individual fear, professional ethics, meeting physical needs, trust in institution-infrastructure support, trust in the work team, and the effect of conditions on family life, the factors that most affect the change in the process were determined.

Statistical Analysis

The software SPSS (Statistical Package for the Social Sciences) 23.0 was used for statistical analysis of the data. Categorical measurements were summarized as numbers and percentages, and continuous measurements as mean and standard deviation (median and minimum-maximum where appropriate). Shapiro-Wilk test was used to determine whether the parameters in the study showed a normal distribution. Mann-Whitney U test was used in the analyzes of non-normally distributed two groups, and Kruskal-Wallis tests were used in the comparison of groups of more than two. Tamhane's T2 test, one of the post-hoc tests, was used to determine the source of the difference between groups in more than two groups. In the multiple logistic regression modeling, those with scale scores below the mean values were considered low, while those above it were considered high. The multiple logistic regression model was used to determine the factors impacting the patients' individual fear, professional ethics, ability to meet physical needs, trust in the team in the working environment, trust in the institution-infrastructure support, occupational satisfaction, the impact of working conditions on family order, and the total score of the scale. The results were considered statistically significant at $p < 0.05$.

Results

Demographic Characteristics

A total of 1.216 HPs, 809 (66.5%) of whom were female, and 1.078 (88.7%) of whom were living and working in

31 metropolitan cities where lockdown was mandated and the pandemic was relatively intense as of May 2020 were included.

At the end of the COVID pandemic, the same questionnaire was administered again based on a simple random sampling method to 300 HPs, 126 of whom also participated in the first phase of the study, 275 living and working same.

The socio-demographic characteristics of the healthcare personnel who participated in the study at the onset and at the end of the first year of the pandemic are presented in Table 1.

Data on the Reliability and Validity of the Scale Used

Individual fear scale score range (SSR) and professional ethics, meeting physical needs, trust in the team in the working environment, trust in the institutional infrastructure support, and the effect of working conditions on family order SSR were between 2-10 points, while professional satisfaction SSR was 4-20, and total SSR was 16-80 points.

In the first phase of the study, the reliability Cronbach's alpha coefficient value of the scale, namely Cronbach's alpha internal consistency was found to be 0.788 (reliable) and 0.763 (reliable) in the second phase. Tables 2a and 2b show the reliability and validity tables of the questionnaire scales administered at the onset and the first year of the pandemic.

In the first phase of the study, the Kaiser-Meyer-Olkin value of the total scale size was 0.822, and 0.763 in the second phase. This value indicated that the sample size was "excellent" in the first phase and "moderate" in the second phase for factor analysis. Besides, when the results of the Barlett sphericity test were analyzed, it was noticed that the chi-square values were significant ($X^2=3767.269$; $p<0.05$), ($X^2=1122.543$; $p<0.05$), respectively.

The scale scores evaluating the participants' view of their own life in 7 categories in both periods are tabulated in Table 3.

Table 4 a and b show the distribution of the scale scores of the participants, at the onset (a) and at the end of the first year (b) of the pandemic, in terms of the socio-demographic characteristics.

The effects of the socio-demographic characteristics of the participants on the total score of the "social life and professional perspective of healthcare professionals" scale and the sub-domain scores during the pandemic were assessed via multiple logistic regression analysis on a sample of 1.516 people who responded to the questionnaire at the onset and at the end of the first year of the pandemic. In this evaluation, ranges for related characteristics were specified as follows; <31 years of age ≤ 31 , 6 years < professional experience ≤ 6 years, institutions worked in -training/public hospitals and university hospitals-others, departments served:

emergency services and others, 12< working hours ≤ 12 , 5< weekly working days ≤ 5 . The multiple logistic regression analysis results of the relationship between the scale total and sub-domain scores of HP and their socio-demographic characteristics are presented in Table 5.

Discussion

As in the rest of the world, in Turkey the COVID pandemic has rapidly affected healthcare workers. They sought to adapt themselves to the rapid and compelling changes in family and social lives as well as to the changing working conditions.

Fear is an emotion arising from the unknown associated with the individual's feeling of safety or the safety of others at risk.⁵ Albeit the fear of getting sick individually and transmitting the disease to their relatives decreased at the end of the first year compared to the beginning of the pandemic, the difference between the two periods was not significant. In publications discussing severe acute respiratory syndrome, Middle East respiratory syndrome, Ebola, HIV, and influenza outbreaks, it has been reported that 22-80% of front-line healthcare workers have high fears and anxieties of getting sick and transmitting the disease.^{1,4,6-8} It has been emphasized that fear increases the level of anxiety and stress in healthy individuals.^{6,7}

In our study, the high fear of getting sick and transmitting the disease individually at the onset of the pandemic was found to be significantly correlated with the profession, place of duty, and working hours. The mean scores of the faculty members, those working in the outpatient clinics, and HPs who had shorter daily working hours were higher. This seemingly contradictory result might be due to the "uncertainty" factor that constitutes the essence of fear. Because at the onset of the pandemic, institutions channeled protective equipment and resources to emergency services and intensive care units, where patients were admitted first. The HPs working in these departments gained knowledge and experience more actively and rapidly, and they started to learn about the disease. At the end of the first year of the pandemic, fear was significantly higher in those who were over 45 years old and worked for more than 20 years, and was married. Over time, it has become clear that the risk of contracting COVID-19 disease and a severe course of the disease is higher among the older age group. Hence, as the pandemic progressed, older people were started to be employed in a flexible working schedule by institutions. This result might also explain the relationship between individual fear of getting sick and short working time.

At the onset of the pandemic, there were many unanswered questions regarding the clinical manifestations, transmission

Table 1. Demographic characteristics of healthcare personnel participated in the study at the onset and at the end of the first year of the pandemic

Characteristic		The onset of the pandemic	At the end of the first year of the pandemic
		n (%)	n (%)
Sex	Male	407 (33.5)	103 (34.3)
	Female	809 (66.5)	197 (65.7)
Age (years)	<25	161 (13.2)	21 (7)
	26-35	566 (46.5)	203 (67.7)
	36-45	354 (29.1)	61 (20.3)
	>45	135 (11.1)	15 (5)
Living place	Cities where COVID is common	1.078 (88.7)	275 (91.7)
	Other	138 (11.3)	25 (8.3)
Profession	Nurse	489 (40.2)	43 (14.3)
	Specialist physician	364 (30)	134 (44.7)
	Research assistant physician	292 (24)	108 (36)
	Faculty member physician	71 (5.8)	15 (5)
Professional experience (years)	≤5	441 (36.3)	136 (45.3)
	6-10	272 (22.4)	93 (31)
	11-20	327 (26.9)	55 (18.3)
	>20	176 (14.5)	16 (5.3)
Employed institution	Public hospital	705 (58)	150 (50)
	University hospital	422 (34.7)	129 (43)
	Other	89 (7.3)	21 (7)
Marital status	Single	484 (39.8)	110 (36.7)
	Married	732 (60.2)	190 (63.3)
Status of having children	Yes	603 (49.6)	141 (47)
	No	613 (50.4)	159 (53)
Department where the participant served during the pandemic	COVID service	345 (28.4)	54 (18)
	112 and emergency service	461 (37.9)	95 (31.7)
	More than one	410 (33.7)	151 (50.3)
Daily working time (hours) during the period of pandemic	>12	518 (42.6)	149 (49.6)
	8-12 hours	457 (37.6)	80 (26.7)
	<8 hours	241 (19.8)	71 (23.7)
Weekly working time (days)	1-2 days	273 (22.5)	34 (11.3)
	3 or 4 days	543 (44.7)	44 (14.7)
	>5 days	400 (32.9)	222 (74)
Mode of transportation to the hospital	With my own means	1084 (89.1)	287 (95.7)
	Other	132 (10.9)	13 (4.3)
Presence of individuals over 60 years of age living together at home during the period of the pandemic	No	1.012 (83.2)	255 (85)
	Yes	204 (16.8)	45 (15)
The situation of living with the family during the period of pandemic	I am living with my family/children	786 (64.6)	223 (74.3)
	I am living separated from my family/children	430 (35.4)	77 (25.7)

COVID: Coronavirus

	Intraclass correlation ^b	95% confidence interval		F test with true value 0			Sig
		Lower bound	Upper bound	Value	df1	df2	
Single measures	0.189	0.173	0.205	4.718	1215	18225	0
Average measures	0.788	0.77	0.805	4.718	1215	18225	0

	Intraclass correlation ^b	95% confidence interval		F test with true value 0			Sig
		Lower bound	Upper bound	Value	df1	df2	
Single measures	0.168	0.14	0.201	4.224	299	4485	0
Average measures	0.763	0.722	0.801	4.224	299	4485	0

Category	Scale score			p
	At the onset of the pandemic		In the first year of the pandemic	
	Mean ± standard deviation (min-max)		Mean ± standard deviation (min-max)	
Individual fear	5.17±2.11 (2-10)		4.90±2.06 (2-10)	0.216
Professional ethical behavior	6.74±1.89 (2-10)		6.88±1.81 (2-10)	0.260
Meeting physical needs	6.28±2.10 (2-10)		5.89±2.16 (2-10)	0.004
Trust in the team in the work environment	6.07±1.92 (2-10)		5.31±1.55 (2-10)	<0.001
Confidence in institution-infrastructure support	6.20±1.60 (3-10)		4.23±1.80 (2-10)	<0.001
Professional satisfaction	11.76±3.19 (4-20)		12.94±2.65 (8-19)	<0.001
The impact of working conditions on family life	5.76±2.05 (2-10)		4.61±1.77 (2-10)	<0.001
The total score of the scale	48.00±9.90 (21-79)		44.79±8.98 (24-71)	<0.001

routes, lethality, treatment, and prevention of the disease. Under these circumstances, the fear score measured at baseline was moderate, slightly higher than that determined in the first year, but did not show any significant difference. This can be explained by the practical experience gained with patients and the increase in scientific elucidating data over time. The fact that the decrease in fear did not show a significant difference at the end of the first year might be due to the intensity and the fact that the threat of fatal disease has not yet disappeared.

In our study, the views of HPs regarding professional ethical behavior were similar at the end of the first year compared to the onset of the pandemic, the mean scores they obtained from this category were almost the same in both periods, and their mean ethical behavior scores were above the middle level according to the scale dimension. In the literature, it is suggested that in the display of ethical behavior in critical times, the adequacy of resources and the perception of combating a deadly disease, as well as the contamination concerns of HPs with their families, might be determining factors.^{9,10} It has been underscored that ethical behavior anxiety of

healthcare workers may increase, particularly in countries where the question of "who needs critical care more" has to come to the fore in this pandemic.^{9,10} It is stated that at the onset of the pandemic, the videos of patients appearing on social media, begging for help, healthcare workers are being attacked by patients' relatives, and being described as "heroes" just because they are doing their job, can contribute to this chaos, and that cultural differences might also play a role in the process.^{9,11}

In our study, based on the results of the first period, professional ethical behavior scores increased with advancing age and increasing professional experience. Ethical behavior scores were higher for those who were married, had children, and those working in COVID services. It can be explained by the contribution of the positive support created by professional experience and familial integrity. Likewise, the professional ethical thoughts of the HPs, who continued to live with the family, were similar in the second period. In this study, which is based on the self-assessment of HPs, the fact that HP in Turkey uphold their professional principles in the extraordinary circumstances of the pandemic

Table 4a. Distribution of the scale scores of the health workers' perceptions of their own social life and profession at the onset of the pandemic according to socio-demographic characteristics

		Scale scores (mean ± SD)							
Socio-demographic characteristics		Professional ethical behavior	Status of meeting physical needs	Status of trusting the work team	Status of trusting in institution infrastructure support	Professional satisfaction	The impact of working conditions on family life	The total score of the scale	
Individual fear of getting sick									
Sex	Male	5.26±2.19	6.59±1.93	6.21±2.18	6.33±1.87	6.22±1.63	11.99±3.51	6.05±2.08	
	Female	5.12±2.07	6.82±1.86	6.31±2.06	5.94±1.93	6.19±1.58	11.65±3.01	5.62±2.02	
	p	0.275	0.041	0.526	0.001	0.824	0.02	<0.001	
Age	<25	5.21±2.08	6.50±1.81	6.50±1.93	5.89±1.80	6.31±1.51	11.90±3.00	6.11±1.89	
	26-35	5.09±2.15	6.66±1.94	5.88±2.09	5.90±1.88	5.93±1.56	11.38±3.23	5.56±2.08	
	36-45	5.12±2.04	6.95±1.90	6.66±2.08	6.21±1.98	6.43±1.60	11.90±3.12	5.83±2.01	
	>45	5.60±2.19	6.87±1.71	6.71±2.17	6.67±2.00	6.64±1.71	12.82±3.20	6.08±2.19	
	p	0.12	0.026	<0.001	<0.001	<0.001	<0.001	<0.001	
City of residence	Cities where COVID is common	5.16±2.11	6.72±1.91	6.28±2.09	6.14±1.94	6.21±1.61	11.82±3.14	5.87±2.06	
	Other	5.18±2.12	6.80±1.82	6.28±2.14	5.87±1.86	6.18±1.58	11.59±3.35	5.45±2.00	
	p	0.922	0.671	0.969	0.029	0.883	0.25	0.001	
Profession	Paramedic, emergency medical technician	5.33±2.29	6.72±2.19	6.74±0.32	5.96±1.95	6.46±1.76	12.02±3.38	6.04±0.35	
	Minor assistant-minor specialist physician	5.54±2.18	7.40±1.72	6.47±0.19	5.70±2.05	6.32±1.59	12.03±3.15	5.87±0.19	
	Research assistant physician	5.14±2.10	6.39±1.94	5.24±0.16	5.87±1.94	5.47±1.47	10.91±3.40	5.13±0.16	
	Nurse	5.04±2.14	6.66±1.89	6.58±0.09	6.19±1.85	6.20±1.59	11.86±2.99	5.92±0.09	
	Faculty member physician	5.99±2.03	7.66±1.58	6.90±0.21	6.30±1.96	6.92±1.53	13.74±2.67	6.56±0.23	
	General practitioner	4.97±2.03	5.88±1.91	6.00±0.20	5.64±1.76	6.16±1.55	11.24±2.94	5.26±0.16	
	Specialist physician	5.10±2.05	7.00±1.70	6.26±0.13	6.34±1.99	6.44±1.59	11.68±3.38	5.86±0.13	
		p	0.010	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
	Year of professional experience	<5	5.07±2.11	6.41±1.92	5.83±2.14	5.79±1.83	5.90±1.59	11.34±3.22	5.58±2.07
		6-10	5.25±2.13	6.93±1.76	6.32±1.94	6.03±1.95	6.32±1.51	11.95±3.01	5.92±1.99
11-20		5.07±2.04	7.00±1.95	6.53±2.03	6.21±1.91	6.37±1.62	11.84±3.16	5.80±2.05	
>20		5.48±2.23	6.85±1.78	6.90±2.19	6.59±2.03	6.48±1.66	12.40±3.37	5.95±2.13	
	p	0.168	<0.001	<0.001	<0.001	<0.001	<0.001	0.145	

Table 4a. continued

		Scale scores (mean ± SD)							
Socio-demographic characteristics		Professional ethical behavior	Status of meeting physical needs	Status of trusting the work team	Status of trusting in institution infrastructure support	Professional satisfaction	The impact of working conditions on family life	The total score of the scale	
Individual fear of getting sick									
The institution where the healthcare staff worked	Public hospital	5.13±2.13	6.72±1.84	6.60±2.08	6.11±1.88	6.42±1.61	11.59±3.09	5.98±1.97	
	Other	5.28±2.19	6.48±2.17	6.47±2.25	6.76±1.85	6.39±1.70	12.35±3.37	5.39±2.07	
The institution where the healthcare staff worked	Training and research hospital	5.30±2.13	6.79±1.75	6.29±1.93	5.88±2.01	6.13±1.50	12.06±3.26	5.69±2.10	
	University hospital	5.11±2.09	6.81±1.96	5.89±2.15	6.01±1.91	5.97±1.62	11.65±3.22	5.67±2.10	
	p	0.7	0.54	<0.001	0.002	<0.001	0.045	0.016	
Marital status	Single	5.18±2.10	6.61±1.90	6.17±2.08	5.68±1.79	6.12±1.54	11.70±3.11	5.82±2.05	
	Married	5.15±2.12	6.83±1.87	6.35±2.11	6.33±1.96	6.25±1.64	11.80±3.25	5.72±2.05	
	p	0.847	0.027	0.143	0	0.27	0.371	0.347	
Status of having children	Yes	5.11±2.08	6.86±1.84	6.56±2.10	6.33±1.93	6.37±1.63	12.00±3.18	5.81±2.04	
	No	5.22±2.15	6.63±1.92	6.00±2.07	5.81±1.88	6.03±1.55	11.53±3.19	5.72±2.06	
	p	0.463	0.021	<0.001	<0.001	<0.001	0.003	0.496	
Department where the participant served	Emergency service	5.12±2.07	6.55±1.87	6.33±2.06	6.14±1.87	6.35±1.57	11.82±2.99	6.10±2.00	
	Outpatient clinic	5.39±2.07	6.67±1.98	6.20±2.22	6.23±1.97	6.15±1.62	11.80±3.44	5.60±2.16	
	COVID service	4.98±2.22	7.10±1.77	6.32±2.04	5.80±1.92	6.07±1.62	11.66±3.17	5.52±1.96	
	p	0.008	<0.001	0.72	0.006	0.024	0.572	<0.001	
Working hours	<8 hours	5.63±2.09	6.70±1.93	6.68±2.09	6.51±1.90	6.53±1.65	12.49±3.10	6.12±2.06	
	8-12 hours	5.18±2.10	7.08±1.82	6.41±2.07	5.95±1.97	6.28±1.68	12.02±3.06	5.87±2.04	
	>12 hours	4.95±2.12	6.47±1.89	5.98±2.11	5.98±1.87	5.98±1.48	11.21±3.27	5.52±2.04	
	p	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	
Number of working days per week	1-2 days	5.31±2.08	6.64±1.86	6.47±1.92	6.51±1.78	6.23±1.53	11.63±3.13	6.04±1.99	
	3 or 4 days	5.22±2.15	6.76±1.84	6.27±2.06	6.11±1.89	6.21±1.59	11.82±3.18	5.94±2.06	
	>5 days	5.01±2.10	6.81±1.98	6.17±2.29	5.72±2.00	6.18±1.67	11.79±3.27	5.34±2.03	
	p	0.126	0.279	0.348	<0.001	0.816	0.607	<0.001	
Presence of a person aged ≥60 years in the home	Yes	4.83±2.00	6.65±1.86	6.27±2.19	6.05±2.03	6.20±1.60	11.8±2.92	5.73±2.06	
	No	5.62±2.13	6.76±1.89	6.28±2.09	6.07±1.90	6.20±1.60	11.80±3.24	5.77±2.05	
	p	0.009	0.318	0.994	0.923	0.929	0.253	0.824	
Status of living with family	I am living separated from my family/children	5.06±2.19	6.72±1.90	6.20±2.08	5.28±1.8	6.20±1.60	11.91±3.21	5.83±1.99	
	I am living with my family/children	5.22±2.07	6.76±1.88	6.32±2.12	6.50±1.95	6.20±1.60	11.68±3.18	5.73±2.08	
	p	0.173	0.871	0.401	<0.001	0.849	0.323	0.284	

COVID: Coronavirus, SD: Standard deviation

Table 4b. Distribution of the scale scores of health care staff regarding their social life and view of the profession in the first year of the pandemic according to socio-demographic characteristics

	Socio-demographic characteristics	Individual fear of getting sick		Professional ethical behavior		Meeting physical needs		Trusting the work team		Trusting in the institution infrastructure		Occupational satisfaction		Impact of working conditions on family life		Total score of the scale	
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Sex	Male	4.9±2.2	6.7±1.9	6.1±2.1	5.3±1.6	4.5±1.8	13.2±2.7	4.7±1.9	45.7±9.1								
	Female	4.8±1.9	6.9±1.7	5.7±2.1	5.2±1.5	4.0±1.7	12.8±2.6	4.5±1.6	44.3±8.8								
Age	≤25	5.6±2.0	6.9±2.0	6.5±2.2	5.0±1.0	4.0±1.3	13.2±2.5	5.2±1.7	46.6±9.3								
	>25	4.7±2.0	6.7±1.8	5.4±2.1	5.1±1.4	4.0±1.7	12.4±2.6	4.4±1.8	42.9±8.4								
City of residence	Cities where COVID is common	4.9±2.0	6.9±1.8	5.9±2.1	5.3±1.5	4.2±1.8	12.9±2.6	4.6±1.8	44.9±9.0								
	Other	4.4±1.6	6.6±1.9	5.6±2.4	4.8±1.0	4.2±1.4	12.5±2.3	4.4±1.3	42.7±8.1								
Profession	Paramedic-emergency medical technician	4.6±1.7	6.7±1.5	5.8±1.9	6.3±1.6	3.3±1.9	12.6±2.6	4.1±1.9	43.8±9.1								
	Minor assistant-minor specialist physician	5.0±2.0	7.6±1.5	6.1±2.0	5.5±1.6	4.7±1.8	13.3±2.1	4.9±1.6	47.4±7.4								
Year of professional experience	Research assistant physician	4.8±2.0	6.8±1.6	4.8±2.0	4.9±1.3	3.3±1.4	12.2±2.6	3.8±1.8	40.8±9.2								
	Nurse	4.9±2.2	6.7±1.9	6.1±2.1	5.3±1.6	4.5±1.8	13.2±2.7	4.7±1.9	45.7±9.1								
Institution	Faculty member	4.8±1.9	6.9±1.7	5.7±2.1	5.2±1.5	4.0±1.7	12.8±2.6	4.5±1.6	44.3±8.8								
	General practitioner	0.831	0.356	0.175	0.406	0.024	0.162	0.547	0.219								
Year of professional experience	Specialist physician	5.6±2.0	6.9±2.0	6.5±2.2	5.0±1.0	4.0±1.3	13.2±2.5	5.2±1.7	46.6±9.3								
	>20	4.8±2.2	6.8±1.9	6.6±1.6	5.2±1.3	6.2±1.5	13.5±1.8	4.8±1.4	46.1±6.5								
Year of professional experience	<5	6.8±1.5	7.8±1.7	7.4±2.0	7.1±1.5	3.7±1.2	16.4±1.2	5.9±1.2	57.8±6.1								
	6-10	4.4±2.1	6.2±2.2	6.0±2.2	5.1±1.1	4.7±1.7	11.9±3.3	4.9±1.8	42.4±8.0								
Institution	11-20	4.7±1.9	6.5±1.8	6.2±2.1	5.1±1.5	4.7±1.7	12.8±2.6	4.8±1.6	45.0±8.2								
	>20	0.599	0.762	0.706	0.043	0.182	0.457	0.519	0.518								
Year of professional experience	Public hospital	4.5±1.9	6.6±1.7	5.1±2.0	4.9±1.3	3.6±1.5	12.2±2.6	4.1±1.7	41.2±8.6								
	Other	5.0±2.0	7.0±1.9	6.1±2.1	5.4±1.5	4.7±1.8	13.1±2.4	4.9±1.7	46.6±7.4								
Institution	Training and research hospital	6.1±2.1	7.3±2.0	6.9±1.7	6.3±1.8	5.6±1.3	14.6±1.6	5.3±1.1	52.5±7.9								
	University hospital	0.024	0.112	<0.001	0.001	<0.001	<0.001	<0.001	<0.001								
Year of professional experience	Public hospital	4.7±2.2	6.7±1.7	6.6±1.9	4.9±1.5	4.3±1.6	12.5±2.6	4.7±1.7	44.8±7.8								

Table 4b. continued

Socio-demographic characteristics		Individual fear of getting sick	Professional ethical behavior	Meeting physical needs	Trusting the work team	Trusting in the institution infrastructure	Occupational satisfaction	Impact of working conditions on family life	Total score of the scale
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Marital status	Single	3.9±1.4	6.0±2.2	5.1±1.8	5.8±1.9	3.6±1.4	12.3±2.5	3.8±1.6	40.8±6.5
	Married	5.1±1.9	6.8±1.8	6.1±2.0	5.3±1.3	4.9±1.9	13.2±2.5	4.8±1.5	46.6±8.3
	p	5.0±2.0	7.1±1.7	5.3±2.2	5.4±1.5	3.8±1.7	13.1±2.6	4.5±1.8	44.5±10.1
Status of having children	Yes	0.07	0.071	<0.001	0.062	0.001	0.241	0.082	0.054
	No	4.5±1.9	6.8±1.8	5.8±2.0	4.7±1.2	3.9±1.8	12.4±2.5	4.4±1.8	42.7±8.7
	p	5.1±2.0	6.9±1.7	5.9±2.2	5.6±1.6	4.4±1.7	13.2±2.6	4.7±1.7	45.9±8.9
Department	emergency service	0.016	0.659	0.801	<0.001	0.011	0.017	0.078	0.002
	Outpatient clinic	5.1±2.1	6.9±1.8	6.1±2.1	5.7±1.6	4.6±1.8	13.5±2.4	4.9±1.8	47.1±8.8
	COVID ward	4.7±2.0	6.8±1.7	5.6±2.1	4.9±1.3	3.8±1.6	12.3±2.6	4.3±1.7	42.7±8.5
Working hours	p	0.11	0.5	0.074	<0.001	<0.001	<0.001	0.004	<0.001
	<8 hours	5.2±2.2	7.0±1.6	6.5±2.0	5.6±1.5	4.2±1.7	13.2±2.6	5.2±1.8	47.2±9.2
	8-12 hours	4.6±1.9	6.6±1.8	5.3±1.9	5.1±1.4	3.9±1.6	12.6±2.7	4.1±1.6	42.4±8.6
Number of working days per week	>12 hours	4.8±2.2	6.8±1.9	6.6±1.6	5.2±1.3	6.2±1.5	13.5±1.8	4.8±1.4	46.1±6.5
	p	6.8±1.5	7.8±1.7	7.4±2.0	7.1±1.5	3.7±1.2	16.4±1.2	5.9±1.2	57.8±6.1
	1-2 days	4.4±2.1	6.2±2.2	6.0±2.2	5.1±1.1	4.7±1.7	11.9±3.3	4.9±1.8	42.4±8.0
Presence of a person aged ≥60 years in the home	3-4 days	4.7±1.9	6.5±1.8	6.2±2.1	5.1±1.5	4.7±1.7	12.8±2.6	4.8±1.6	45.0±8.2
	>5 days	0.599	0.762	0.706	0.043	0.182	0.457	0.519	0.518
	p	4.5±1.9	6.6±1.7	5.1±2.0	4.9±1.3	3.6±1.5	12.2±2.6	4.1±1.7	41.2±8.6
Status of living with family	Yes	5.0±2.0	7.0±1.9	6.1±2.1	5.4±1.5	4.7±1.8	13.1±2.4	4.9±1.7	46.6±7.4
	No	5.0±2.0	7.0±1.5	7.0±1.8	5.6±1.8	4.4±1.9	13.9±2.5	4.9±1.8	48.1±8.9
	p	6.1±2.1	7.3±2.0	6.9±1.7	6.3±1.8	5.6±1.3	14.6±1.6	5.3±1.1	52.5±7.9
Status of living with family I am living separated from my family/children	I am living with my family/children	0.024	0.112	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
	p	4.7±2.2	6.7±1.7	6.6±1.9	4.9±1.5	4.3±1.6	12.5±2.6	4.7±1.7	44.8±7.8
	I am living with my family/children	3.9±1.4	6.0±2.2	5.1±1.8	5.8±1.9	3.6±1.4	12.3±2.5	3.8±1.6	40.8±6.5

COVID: Coronavirus, SD: Standard deviation

Table 5. Multiple logistic regression analysis of the relationship between the scale total and sub-domains scores of healthcare professionals and their socio-demographic characteristics

Scale score X socio-demographic characteristics	B	S.E	Wald	df	p	Exp(B)	95% CI for Exp(B)	
							Lower	Upper
The total score of the scale								
≤6/year professional experience	-0.823	0.338	5.921	1	0.015	0.439	0.226	0.852
Individual fear of getting sick								
Presence of individuals aged >60 years living together	0.591	0.179	10.957	1	0.001	1.806	1.273	2.563
Status of having children	0.531	0.197	7.280	1	0.007	1.701	1.156	2.502
Professional ethical behavior								
Female gender	0.430	0.133	10.442	1	0.001	1.537	1.184	1.995
Assistant + general practitioner	0.500	0.164	9.320	1	0.002	1.648	1.196	2.272
Working in public institutions	0.417	0.141	8.742	1	0.003	1.517	1.151	1.999
Working in emergency services	0.284	0.136	4.375	1	0.036	1.329	1.018	1.734
Status of meeting physical needs								
Paramedic + nurse	-0.376	0.176	4.555	1	0.033	0.686	0.486	0.970
Assistant + general practitioner	-0.431	0.167	6.662	1	0.010	0.650	0.468	0.901
Working in public institutions	-0.549	0.144	14.446	1	0.000	0.578	0.435	0.767
Status of trusting the work team								
Working in cities where COVID is common	-0.719	0.227	10.049	1	0.002	0.487	0.312	0.760
Living with family and children	1.582	0.177	79.802	1	0.000	4.862	3.437	6.879
Confidence in institution-infrastructure support								
Living with family and children	-0.595	0.170	12.273	1	0.000	0.551	0.395	0.769
Working in public institutions	-0.529	0.153	12.021	1	0.001	0.589	0.437	0.795
Working in emergency services	-0.277	0.143	3.747	1	0.053	0.758	0.573	1.003
Professional satisfaction								
Female gender	-0.340	0.139	5.969	1	0.015	0.712	0.542	0.935
Specialist/minor specialist physician	0.768	0.339	5.139	1	0.023	2.156	1.110	4.189
≤6/year professional experience	-0.301	0.143	4.391	1	0.036	0.740	0.559	0.981
The impact of working conditions on family life								
Female gender	-0.499	0.147	11.485	1	0.001	0.607	0.455	0.810

CI: Confidence interval, COVID: Coronavirus, S.E.: Standard error

in both periods can also be explained by the intense feeling of empathy experienced during this challenging period. On the other hand, in both periods, long working hours, which reduced physical and psychological tolerance, adversely impacted professional ethical thinking.

In our study, the mean scores of HPs in meeting their physical needs at the end of the first year compared to the onset of the pandemic were significantly lower. Employees thought they were in more distress. Of the participants, the assistant physicians, who were generally at the forefront of the pandemic conditions, were younger, had less experience in the profession, had long working hours and worked at the university hospital, thought that they could not meet their physical needs adequately in both periods of the study. This can be explained by the fact that the number of patients in our study increased throughout the pandemic, as well as by the long working hours and working in more than one service associated with a higher rate of COVID. Similarly, it has been emphasized in the literature that the main concern of HPs is the lack of meeting their physical needs.^{1,7}

Patient care and treatment services are basically provided in institutional integrity. The systematic functioning of the process, staff, and material management should always be

patient-oriented. In crises such as outbreaks, institutions are responsible for eliminating all disruptions, arranging team and equipment needs, optimal personnel management for patients and healthcare workers, and taking necessary precautions.⁹ At the end of the first year of the pandemic, the mean score of HPs in the categories of trusting the team in the working environment and the support of the institution they work for in terms of opportunities, working conditions, and infrastructure was significantly lower compared to the mean score obtained at the onset of the pandemic. This might be associated with the possible burnout due to the increased workload of HPs, whose positive thoughts on ethical behavior did not differ throughout the pandemic. Because the institutions were applying a flexible working schedule at the onset of the pandemic, they switched to working with less leave and for longer periods to meet the workload created by the increasing patient admissions during pandemic course. In support of this finding, in the second period of our study, participants were working in more than one ward with a higher percentage of working days and hours. Besides, due to the illness of an HP in a team, they had to stay in quarantine causing a decrease in the number of active personnel. Throughout the pandemic, the feeling of loneliness of HPs

may have deepened with the contribution of weariness, restriction of life, increased frequency of encountering mortal situations, and changes and challenges in working conditions. Nonetheless, despite all the drawbacks, HPs were significantly more satisfied with their jobs at the end of the first year than at the beginning of the pandemic. In both periods, those who were older and had a longer professional life (>20 years), had shorter working hours and were more satisfied with being a member of this occupational group. This situation can be explained by the feeling of trust that experience gives and the happiness of being able to touch lives despite all the risks. Participants believed that working conditions during the pandemic had a more adverse impact on their family life at the end of the first year than at the beginning. As reported in the literature that the family life of HPs is adversely affected during outbreaks.^{1,12-14} Although the rate of those living separately from their families and children during the pandemic course is fewer in our study, the necessity to work more frequently and with longer working hours due to the increasing workload throughout the pandemic may cause HPs to spend less time with their families and affect their familial social life.

When logistic regression analysis was conducted on all participants in our study, it was found that the total scores of the scale, which represents the self-evaluation of the HPs under pandemic conditions and their perspectives on their profession and social life, were significantly negatively correlated with being at the beginning of their profession during the period of the pandemic. This group, which admitted patients on the front line and intensively during the pandemic, also felt inexperienced in their profession and considered that their social lives were adversely impacted.

HPs who have children and live with the elderly at home were more afraid of getting sick and infecting them and their relatives. Likewise, it has been revealed in the literature that being a woman, being married, having children, and working as a nurse have a greater impact on the fear and anxiety of getting sick and being contagious.^{1,4,6,8,15,16}

The ethical behavior score in the profession was positively correlated and significantly higher among those working in public hospitals and emergency services, residents and general practitioners and females. This can be interpreted as a sign that the group, which has intense contact with patients in the continuation of medical service during the pandemic, continues to adhere to ethical principles.

Of the professional groups included in the study, assistants, general practitioners, paramedics, nurses, and those working in public institutions, those who met pandemic patients more frequently had significantly lower scores in meeting their physical needs. This outcome might be arising from the

adverse impact of the increased burden of work.

Living in metropolitans, where admissions due to COVID-19 were high, and working in government institutions and emergency services were found to be significantly and negatively correlated with the scores of trusting institution infrastructure and work team. This can be explained by the potential increased workload and the inability to meet physical needs. On the other hand, living with his family and children was significantly positively correlated with the score of trust in the team in the work environment. This situation might be indicating the positive contribution of family support to the HPs.

The occupational satisfaction score was significantly negatively correlated with being a woman and having less experience in the profession. This might be due to the cumulative effect of increased workload as well as domestic responsibilities of women. It indicates that the health worker, who is at the beginning of her profession and has shouldered the heavy pandemic burden, might be questioning this situation and the professional alternatives. Similar to the category of occupational satisfaction, being a woman showed a negative correlation in the category of the effect of working conditions on family life.

Study Limitations

The main limitation of this study is that only 126 employees participated in both stages, since not all of the HP who participated in the study at the first stage could be reached.

Conclusion

The study reveals a profile of healthcare staff who maintain their professional ethical behaviors, are satisfied with their profession and can tolerate the impact of working conditions on family order, despite the drawbacks of the ongoing fear of getting sick during the pandemic in Turkey.

Ethics

Ethics Committee Approval: The first part of the study was carried out in May 2020, which can be considered the onset of the pandemic in Turkey, and the second part was carried out at the end of the first year of the pandemic by the Pediatric Emergency Department of Akdeniz University. Ethics Committee approval of Akdeniz University Faculty of Medicine (no: 2012-KAEK-20) and Ministry of Health Ethics Committee approval (no: 2020-05-12T11_46_12) were obtained.

Informed Consent: In the electronic environment, the relevant consent was obtained from the participants at the beginning of the survey application.

Peer-review: Internally and externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Ö.T.K., N.E., R.G., Concept: Ö.T.K., N.E., R.G., Design: Ö.T.K., N.E., Data Collection or Processing: Ö.T.K., R.G., Analysis or Interpretation: Ö.T.K., N.E., Literature Search: Ö.T.K., Writing: Ö.T.K., N.E.

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