The Effect of COVID-19 Pandemic to the Practices of Cardiology Clinics and on the Anxiety Levels of Cardiologists

COVID-19 Pandemisinin Kardiyoloji Kliniklerinin İşleyişine ve Kardiyologların Anksiyete Düzeylerine Etkisi

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This study was presented as an orally in 5. International Health Sciences and Management Conference (2020, Kırşehir).

ABSTRACT Objective: The study aimed to determine coronavirus disease-2019 (COVID-19) pandemic on the attitudes of cardiologists, the anxiety conditions and effect on clinical functioning. **Material and Methods:** The clinical activities scale developed by researchers and the Beck Anxiety Scale were used as data collection tools in the study. Descriptive statistical methods, materiality tests, correlation, and regression analysis were used in the analysis of the data. **Results:** In cardiology clinics, patient admission continued; elective interventional diagnosis and treatment work decreased. Cardiologists declared that there was a serious decline in acute coronary syndrome application (87.2% of cardiologists) and that the most common cause of patients not wanting to come to the hospital was the fear of being infected. The severity of pandemic and the improved treatment protocols for COVID-19 were found to be effective in cardiac interventional treatment decisions. It was found that disruptions in clinical functioning increased anxiety (β=0.128), whereas the fight and prevention against COVID-19 (β=-0.304) decreased anxiety. **Conclusion:** The COVID-19 pandemic caused severe disruptions in the routine functioning of cardiology clinics and interventional procedures and an increase in anxiety among physicians. In a pandemic, preventions should be taken to minimize the treatment of non-infected patients and the anxiety of doctors besides the treatment of infected patients.

Keywords: COVID-19; cardiology clinic; anxiety

ÖZET Amaç: Çalışmanın amacı, koronavirüs hastalığı-2019 [coronavirus disease-2019 (COVID-19)] pandemisinin kardiyologların tutumları, anksiyete durumları ve klinik işleyiş üzerindeki etkisinin belirlenmesi. **Gereç ve Yöntemler:** Araştırmada, veri toplama aracı olarak araştırmacılar tarafından geliştirilen klinik etkinlikler ölçeği ve Beck Anksiyete Ölçeği kullanılmıştır. Verilerin analizinde tanımlayıcı istatistiksel yöntemler, önemlilik testleri, korelasyon ve regresyon analizi kullanılmıştır. **Bulgular:** Kardiyoloji kliniklerinde hasta kabulü devam etmekte olup, elektif girişimsel tanı ve tedavi çalışmalarını ertelemektedirler. Kardiyolog, akut koroner sendrom aplikasyonunda ciddi bir düşüş olduğunu (kardiyologların %87,2'si) ve hastaneye gelmek istemeyen hastaların en sık nedeninin enfekte olma korkusu olduğunu belirtmiştir. Pandeminin ciddiyeti ve COVID-19 için geliştirilmiş tedavi protokolleri, kardiyak girişimsel tedavi kararlarında etkili olmaktadır. Klinik işlevsellikteki bozulmaların anksiyeteyi artırdığı (β=0,128), COVID-19 ile mücadele ve önlenmenin (β=-0,304) anksiyeteyi azalttığı bulunmuştur. **Sonuç:** COVID-19 salgını, kardiyoloji kliniklerinin rutin işleyişinde ciddi aksamalara, girişimsel prosedürlere ve hekimler arasında anksiyetede artışa neden oldu. Bir pandemide, enfekte hastaların tedavisinin yanı sıra enfekte olmayan hastaların tedavisini ve doktorların endişelerini en aza indirmek için önlemler alınmalıdır.

Anahtar Kelimeler: COVID-19; kardiyoloji kliniği; anksiyete

Pandemics are large-scale infectious disease outbreaks that can greatly increase morbidity and mortality across a wide geographic area and cause significant economic, social, and political disruption. Increased global travel and integration, urbanization, changes in land use, and greater use of the natural environment suggest that the likelihood of a pandemic has increased over the past century.[1,2]

Recently, severe acute respiratory syndrome (SARS) in 2003, influenza in 2009, Middle East respiratory syndrome (MERS) in 2012, Ebola in 2014, Zika virus in 2016, and today coronavirus disease-

2019 (COVID-19) viruses have affected many people around the world and have caused many deaths.[3] Pandemics; despite all preparations of the health system and improvements in health, have revealed many challenges in and outside the health sector including timely detection and treatment of disease, basic maintenance needs, contact tracing, quarantine, and isolation procedures, and global coordination.[4,5]

The sudden spread of the COVID-19 epidemic all over the world caused an increase in workload. The increase in workload can lead to both serious loss of morale motivation and mental health problems in health workers.[6] The rapid filling of hospitals in particular, the possibility of insufficient staff and equipment, has led to the need for a rapid change in general approaches.[7] After this event spread across the world, almost all medical specialties had to make a quick overhaul of their diagnostic and treatment algorithms to prevent the spread of the disease, as well as to protect health workers.[8]

This study aimed to determine how cardiologists evaluate their working conditions, whether working in risky environments and abnormal conditions affect their anxiety levels, and to determine the effect of COVID-19 on routine approaches to cardiac diseases.

MATERIAL AND METHODS

THE POPULATION AND SAMPLE OF THE STUDY

The population of the study consists actively working of cardiology assistant doctors, cardiology specialists, and academic physicians. This is a descriptive study and is conducted by a quantitative method. The easy sampling method was used in the study. The data of the study was collected by the cardiology activity scale and Beck Anxiety Scale survey, which was created over the internet. Announcements were made over social media networks for participation in the survey. Because researchers do not have the ability to identify participants in the digital environment, easy sampling management has been used in data collection, which allows for easier, cheaper, and faster data collection.[9] The data collection period was seven days in total. The study was approved by the Ethics Committee of Ordu University Clinical Studies (No: 2020/81, Date: 30/4/2020).

There are about 2,400 active cardiology physicians in Turkey.[10] The minimum sample size for the study was calculated as 242 cardiology physicians at an error level of 0.05.[11] In the study, 297 valid questionnaire feedbacks were taken by using the convenience sampling method and the analyzes were made on 297 questionnaires. Power analysis of the sample was done with G*Power 3.1.9.7 program. The power of the test at 0.10 low effect size was calculated as 0.9166 at p=0.05 error and 0.20 type 2 error level for a rate of 0.5 (50%) of the n=297 sample number. The power of the sample is greater than 80%.

DATA COLLECTION TOOLS

The data in the study consisted of three parts: "demographic information in question form", "COVID-19 pandemic cardiology clinic activity scale" and "Beck Anxiety Scale".

Demographic Information: The personal characteristics of cardiologists, the types of hospitals they work in, the struggle with the COVID-19 outbreak, and the availability of services were inquired with three open-ended questions.

COVID-19 Pandemic Cardiology Clinic Activity Scale: The scale was prepared based on information about the pandemic, literature review, cardiology experts, and related experts' opinions on the scope and configuration of questions. The pilot implementation of the scale was carried out after the revised statements were removed from the scale. The scale of "investigation of the effect of COVID-19 pandemic on activities in the cardiology clinic" is a five-point Likert scale. Agreement levels of the participants were graded between totally disagree (1), and fully agree (5). As the level of agreement of the participants increases, the clinical process changes more than the normal period.

In the writing of the findings, the level of cardiologists' agreement in expressions was used as percentage or arithmetic means. Arithmetic means are shown in parentheses. Since the scale is a five-point Likert scale, the levels of arithmetic averages were considered to be as: 1-1.8 very low agreement; 1.9-2.6 low agreement; 2.7-3.4 moderate agreement; 3.5-4.2 high agreement; 4.3-5 very high agreement.

Validity and Reliability Analysis of the Scale: After exploratory factor analysis (EFA) of the COVID-19 pandemic cardiology clinical activity scale, confirmatory factor analysis of both scales was performed. EFA was carried out in the first phase. Validity is the degree to which a test or scale measures what is intended to be measured.[12]

The results of the EFA of the COVID-19 pandemic cardiology clinical activity scale were as follows. The Kaiser-Meyer-Olkin test was performed for the sample and it was 0.634. Besides, to find out if the correlation between statements was significant, the Barlett globality test results were analyzed and (Approx. Chi-square: 1286.368; DF: 276; sig: 0.001) was found to be significant at 0.001 level. "Verimax" rotation was applied with the "principal components" method to size the items. Scale items were found to take factor loads between 0.35 and 0.78. The 24 statements prepared for the scale were collected under 5 factors. These factors were named as the functioning of the cardiology clinic in the pandemic (5 statements), the pandemic disruptions in cardiology clinic (5 statements), the concerns of cardiology physicians in the pandemic (4 statements), fighting and protection against COVID-19 pandemic in cardiology clinic (5 statements) and COVID-19 scanning to the patients in cardiology clinic in pandemic. The variance of the factors forming the scale was calculated as 43.3%.

The results of the confirmatory factor analysis of the COVID-19 pandemic cardiology clinical activity scale and Beck Anxiety Scale were found to be at acceptable levels. Only the normed fit index (NFI) value of the COVID-19 pandemic cardiology clinical activity scale was below acceptable. Although NFI has a value between 0-1, above 0.90 is acceptable and above 0.95 is considered a perfect fit. If there is a small sample, it may cause the model to be rejected.[13] However, since the sample of the study consisted of 297 cardiologists, it was decided that the scale could be used because the sample was large enough and other fit indexes provided the necessary conditions. For the reliability analysis of the study, Cronbach's alpha coefficient was 0.744. The Cronbach α coefficient of the study was greater than 0.60. This result shows that the research data are reliable.[10]

STATISTICAL ANALYSIS

To test the objectives of the study, SPSS-23 package program and Amos statistical software were used. The analysis was carried out in a confidence interval of 95% (p=0.05). Before the analysis of the data, normality test was performed, and it was understood that the data showed normal distribution. Item analysis was made for the reliability study, the substance-total score correlations were analyzed, and the lower correlations were removed from the scale. EFA was applied for the discovery of the hidden structures formed by items. The reliability of the research was calculated by the Cronbach alpha coefficient of the internal consistency analysis method. Descriptive statistical methods, materiality tests, Pearson correlation and regression analysis (multiple regression) were used in the analysis of the data.

▌ RESULTS

A total of 297 physicians participated in this study, which was conducted on cardiology physicians to determine the effect of the COVID-19 pandemic on cardiology clinic activities. The frequency table of variables identifying participants was given in Table 1. Of the physicians 91.9% were male and 51.9% were 39 years of age.

Table 2 shows the findings of the research conducted by 5-point Likert scale and collected around 5 factors to understand how cardiology clinics were functioning during the pandemic. It was determined in clinical activities factor that interventional patient diagnosis and treatment (3.5) decreased, elective angiography interventions (4.34) were delayed and emergency angiography procedures (4.23) were performed. Overall, clinical activities were significantly (3.67) disrupted. Generally, these delays disturb cardiologist vocationally (3.68).

In this study, the status of patients with acute coronary syndrome, which is important for clinical activities is predicted to be a problem, was questioned in an open-ended manner. While 87.2% of the participants stated that patients with acute coronary syndrome presenting to the emergency department decreased, 12.8% stated that there was no decrease. Cardiologists have interpreted the decrease of acute coronary syndrome pa-

TABLE 1: The frequency table for variables identifying participants.		
Variable	n	%
1. Gender		
Female	24	8.1
Male	273	91.9
2. Age		
39 and below	154	51.9
40-49	107	36
50-59	36	12.1
3. Working year as a cardiologist		
1-5 year	60	20.3
6-10 year	75	25.25
11-15 year	81	27.5
16-20 year	39	13.2
21 and over year	40	13.6
4. The type of hospitals where you work		
Ministry of Health hospital	122	41.5
University hospital	106	36.1
Private hospital	66	22.4
5. Title		
Assistant Doctor	33	11.1
Specialist Doctor	31	44.1
Assistant Professor	28	9.4
Associate Professor	64	21.5
Professor	41	13.8
6. Is your hospital a pandemic hospital?		
Yes	230	77.4
No	30	10.1
Not a pandemic hospital, but there are COVID-19 patients.	37	12.5
7. Have you ever encountered COVID-19 patients?		
Yes	221	74.4
No	76	25.6
8. Have you treated COVID-19 patients?		
Yes	192	64.6
No	105	35.4
9. Did you take the COVID-19 test?		
Yes	55	18.5
No	242	81.5
10. If you had a COVID-19 what was the result?		
Positive	6	11.5
Negative	46	88.5
11. If you had the disease, how was your condition?	46	3.0
I stayed without symptoms, in quarantine.	5	41.7
I received inpatient treatment in the service.	-	-
I'm healed.	7	58.3

COVID-19: Coronavirus disease-2019.

tients 58.6% as not wanting to come to the hospital for reasons such as fear of COVID, anxiety about contracting the disease, 14.1% as a decrease in the number of hospitalization, 12.7% as staying at home, sedentary life and decreased stress, 12.4% as staying at home with the disease, not telling their complaints, and 2.1% as misdiagnosis.

The Ministry of Health, university and private hospitals where cardiologists worked were compared. Cardiologists who work in the hospitals of the Ministry of Health, compared to those working in other hospitals, think that COVID-19 affects clinical activities more (p<0.001) and disrupts clinical activities more (p=0.004). Also, the same group think that they do more COVID-19 scan to patients (p=0.002). Anxiety levels of cardiologists who work in the Ministry of Health were higher than those working in other hospitals (p<0.001). In addition, the anxiety level of cardiologists who work in hospitals defined as pandemic hospital was higher than the cardiologists working in other hospitals (p<0.001).

The general average of the factor measuring the level of anxiety caused by the pandemic on cardiologists was calculated as 3.51. The results of the Beck Anxiety Scale performed to understand the anxiety levels of cardiologists during pandemic showed that anxiety level was minimal in 62% of the cardiologists mild in 19.9% moderate in 11.1% and severe in 7.1%.

Cardiologists who have worked for between 6 and 10 years think that COVID-19 has more impact on clinical functionality (p<0.001). Anxiety levels of cardiologists who have worked for between 6 and 10 years were higher than others (p=0.023).

The Pearson correlation method was used to determine whether there was a significant relationship between the factors of the cardiology clinical activity scale used as a data collection tool and the Beck Anxiety Scale (Table 3). There was a full (1.00) relationship between the clinical functioning factor and the disruptions at the level of p=0.01 error, and a very weak relationship between the screening factor (0.225) and the Beck Anxiety Scale (0.183). Due to the pandemic, the disruption of clinical activities directly affected the decisions of physicians to have COVID-19 scans on patients and the anxiety values of physicians at a very weak level in a linear way. As a result, non-routine practices in clinical functioning increase disruptions in clinical functioning and making

TABLE 2: The frequency distribution of COVID-19 cardiology clinical activity scale.

Expressions	Investigation of the effect of COVID-19 pandemic on activities in the cardiology clinic											
	I never agree		I do not agree		I partially agree		I agree		I totally agree		x̄	SD
	n	%	n	%	n	%	n	%	n	%		
Clinical activities											**3.51**	**0.92**
Our routine patient admission is disruption during the pandemic.	57	19.2	43	14.5	95	32	70	23.6	32	10.8	2.92	1.25
Our routine interventional patient diagnosis and treatment decreased during the pandemic.	35	11.8	39	13.1	60	20.2	68	22.9	95	32	3.50	1.36
Our elective angio interventions were delayed during pandemic.	17	5.7	8	2.7	23	7.7	56	18.9	193	65	4.34	1.11
We only perform the angio of emergency cases during the pandemic.	22	7.4	12	4	24	8.1	54	18.2	185	62.3	4.23	1.21
We cannot carry out our in-clinical scientific meeting-seminar programs during the pandemic.	23	7.7	6	2	27	9.1	46	15.5	195	65.7	4.29	1.20
Disruptions in cardiology clinic activities in COVID-19 pandemic											**3.67**	**0.51**
The number of patients admitted during the pandemic period has decreased drastically.	16	5.4	19	6.4	19	6.4	54	18.2	189	63.6	4.28	1.16
We receive a separate consent form of COVID-19 from patients who are admitted to the hospital during the pandemic.	142	47.8	35	11.8	30	10.1	23	7.7	67	22.6	2.45	1.64
I get uncomfortable because of stay away from routine interventional program during pandemic.	31	10.4	22	7.4	69	23.2	64	21.5	111	37.4	3.68	1.32
Patients we treat interventionally before pandemic do not come to routine control appointments.	6	2	12	4	58	19.5	115	38.7	106	35.7	4.02	0.94
We use telemedicine techniques in the follow-up processes of the patients we treat interventionally before pandemic.	108	36.4	71	23.9	68	22.9	35	11.8	15	5.1	2.25	1.20
We are experiencing serious disruptions in the follow-up of the patients we treat interventionally before pandemic.	5	1.3	34	8.9	88	23	90	23.5	80	20.9	3.69	1.04
Anxiety occurred in physicians in COVID-19 pandemic											**3.51**	**0.84**
I am reluctant to do coronary angiography because of the lack of a negative pressure catheter laboratory.	55	18.5	27	9.1	56	18.9	58	19.5	101	34	3.41	1.49
I think that new guidelines is most effective on my treatment method during pandemic.	29	9.8	21	7.1	91	30.6	84	28.3	72	24.2	3.50	1.21
I think that the severity of COVID-19 is most effective on my treatment method during pandemic.	11	3.7	22	7.4	64	21.5	106	37.5	94	31.6	3.84	1.06
I am assigned to the outpatient and clinical processes of COVID-19 patients during the pandemic.	74	24.9	27	9.1	41	13.8	48	16.2	107	36	3.29	1.61
Fight against and preventing COVID-19 in the clinic											**3.76**	**0.72**
I don't have protective equipment shortage when caring for pandemic cases.	34	11.4	34	11.4	60	20.2	77	25.9	92	31	3.53	1.33
I use the protective equipment correctly.	8	2.7	12	4	61	20.5	120	40.4	96	32.3	3.95	0.96
I think that we have a positive cooperation with our colleagues during the pandemic.	17	5.7	29	9.8	78	26.3	90	30.3	83	27.9	3.64	1.15
I think that we are successful as a health system in the fight against pandemic.	5	1.7	15	5.1	62	20.9	130	43.8	85	28.6	3.92	0.91
I think that we are successful as a country in fighting pandemic.	10	3.4	27	9.1	64	21.5	126	42.4	70	23.6	3.73	1.02
COVID-19 screening at the clinic											**3.33**	**0.73**
I am doing a special assessment about COVID-19 for the patients who admitted to clinic patients.	11	3.7	18	6.1	46	15.5	89	30	133	44.8	4.06	1.08
When accepting cases during the pandemic, I first question the symptoms of coronavirus.	4	1.3	8	2.7	29	9.8	77	25.9	179	60.3	4.41	0.87
When accepting cases in the pandemic, I first get a coronavirus test.159	53.5	68	22.9	45	15.2	14	4.7	11	3.7	1.82	1.08	
While accepting suspicious cases in the pandemic, I first have a thorax CT and wait for the result.	58	19.5	49	16.5	72	24.2	62	20.9	56	18.9	3.03	1.38

SD: Standard deviation; COVID-19: Coronavirus disease-2019; CT: Computed tomography.

TABLE 3: Correlation analysis results of cardiology clinical activities and Beck Anxiety Scales.						
	Clinical activites	Prevention	Disruptions	Anxiety	COVID-19 scan	Beck Anxiety
Clinical activities	1					
Prevention	0.011	1				
Disruptions	0.039	0.173(**)	1			
Anxiety	1.000(**)	0.011	0.039	1		
COVID-19 screening	0.225(**)	0.129(*)	0.026	0.225(**)	1	
Beck Anxiety	0.183(**)	-0.280(**)	0.077	0.183(**)	0.028	1

**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); COVID-19: Coronavirus disease-2019.

TABLE 4: Regression analysis results of cardiology clinical activities and Beck Anxiety Scales.						
		Non-standardized values		Standardized values		
The dependent variable	Independent variable	B	S.H.	Beta	t value	p value
Anxiety	(Constant)	1.597	0.228		6.990	0.000
	Disruptions	0.089	0.039	0.128	2.297	0.022
	COVID-19 scan	0.019	0.035	**0.030**	0.528	**0.598**
	Clinical activities	-0.041	0.035	**-0.065**	-1.167	**0.244**
	Fight against and prevention	-0.189	0.035	-0.304	-5.444	0.000
	Anxiety	0.091	0.028	0.186	3.278	0.001
R=0.363	R^2=0.132	Corrected R^2=0.117		F=8.836	p=0.00	

B: Beta, S.H: Standard Error, COVID-19: Coronavirus disease-2019.

COVID-19 screening and increase anxiety levels.

The relationship between the factors of the COVID-19 pandemic cardiology clinical activity scale and the Beck Anxiety Scale was also examined by regression analysis and the results were shown in Table 4. The effect of cardiology clinical activities on anxiety was observed in the COVID-19 pandemic. The model is meaningful as shown in the table (F=8.832, p<0.01). COVID-19 screening and clinical functioning in the clinic from cardiology clinical activities have no significant effect on anxiety (p>0.05). In contrast, disruptions in clinical functioning, the fight against COVID-19, and prevention and anxiety dimensions have a significant effect on anxiety (p<0.05). According to beta values, disruptions in clinical functioning (β=0.128) and anxiety (β=0.186) have a positive effect on anxiety, whereas the fight against COVID-19 and prevention (β=-0.304) have a negative effect on anxiety. In other words, disruptions in clinical functioning and anxiety may increase anxiety, but the fight against COVID-19 and prevention play a role in reducing

anxiety. In the study, adjusted R^2 is 0.117; the total variance described accordingly is 11.7%.

DISCUSSION

Our study is the first to investigate the anxiety experienced by cardiology physicians during the COVID-19 pandemic and the effect of this anxiety on physicians' daily practices. The COVID-19 pandemic was found to cause significant disruptions in the routine functioning of cardiology clinics and interventional procedures.

Due to the limited knowledge of MERS and SARS outbreaks from the coronavirus family in the last two decades, patient management in interventional cardiology in the catheter laboratory was emerging as a new field whether or not COVID-19 was diagnosed.[14,15] With the first COVID-19 case in our country, it was decided to postpone elective cases in patients with excess comorbidity, elderly or whose estimated duration of hospitalization may be long.[16] Elective intervention cases were found to be decreased in our study. The most important reason

for postponing elective cases is to protect the number of beds against the number of patients that may increase during the pandemic, to reduce the transmission between patients in the hospital, and to use health personnel effectively.[17] The lack of protective equipment can be considered as one of the conceivable reasons for postponing elective cases of cardiologists, but in our study, cardiologists reported this cause as low. One of the reasons for postponing elective cases for cardiologists, which was highly declared in the study results, was the suitability of the catheter laboratory. Because the vast majority of laboratories in our country are not designed for infection insulation and have normal or positive ventilation systems. Intubation, aspiration, and cardiopulmonary resuscitation, which may be required in the event of complications in patients with a diagnosis or possibility of COVID-19, may cause an increase in aerosolization of respiratory secretions and increase the likelihood of infection in the catheter team.[18] One of the important consequences of the COVID-19 pandemic for interventional cardiology is the requirement that coronary angiography laboratories be designated to reduce the spread of infectious agents such as negative pressure ventilation systems.[17] Cardiologists stated that they followed the current literature in our study. They stated that current consensus decisions are effective in treatment decisions. In addition, it can be thought that the decisions to reduce the elective procedures taken by the Ministry of Health in our country may be effective in reducing the elective operations.

Contrary to what was expected in the early phase of the COVID-19 pandemic, different country data reported a significant decrease in ST elevation myocardial infarction (STEMI) cases; a decrease of 39% in Austria, 40% in Spain, and similarly 38% in the United States was observed.[19,20] The predictions for the reduction in STEMI cases were as follows: fear of infection in patients admitted to hospitals due to the pandemic, strict regulations created by the urge to stay at home, the association of infarction-related symptoms with COVID-19 and respiratory diseases at the forefront. Similarly, it has been shown that hospitalization for myocardial infarction decreased by 47.1% during the pandemic period and percutaneous coronary intervention decreased, especially in the non-ST elevation myocardial infarction (NSTEMI) group in Turkey.[21] In our study, 87.2% of cardiologist reported a significant decrease in STEMI cases, and 58.6% of them wrote that patients reluctant to come to the hospital and fear of transmission as the main cause. Our results were consistent with the existing literature. Concerns that there could be a place where the patient could catch the infection and spread the disease have significantly reduced access to hospital activities in non-COVID-19 emergencies.[22] While this led to reduced inappropriate admission to hospital, delays in diagnosis and treatment of acute myocardial infarction occurred as a result of underestimating problems not linked to COVID-19. Erol et al.'s study showed that in-hospital major adverse cardiac events increased significantly during the pandemic period.[21]

Cardiologists stated that patients' ambulatory follow-up was significantly affected in this process. In our study, one of the causes of increased anxiety among physicians is the disruption of routine functioning and disruptions in patient follow-up. If we accept the reduction in cases of acute coronary syndrome admitted to the hospital and patients having an infarction at home, an even more worrisome situation arises. As other studies have shown, cardiologists are concerned about facing a significant increase in morbidity (heart failure, malignant arrhythmias) and mortality associated with early and late infarction in the ongoing pandemic process.[23] Therefore, non-COVID-19 patients need to be able to describe and direct their complaints remotely without contacting emergency services or outpatient clinics.[24] However, the strict isolation and limited mobility of the pandemic in the process environment with calls to stay at home, especially in the elderly and fragile patients with the diagnosis of heart failures such as patients with high risk or proven track about how to manage heart disease, we are faced with serious problems that require negotiation.[25] The rapid integration of the most appropriate method with the contribution of telemedicine and telecardiology into the existing system, rather than as an alternative to traditional management, is required in emergency situations such as a pandemic.[26]

The first way to extinguish anxiety was to reduce avoidance behaviors. According to Beck, the founder of cognitive theory, another important way to extinguish anxiety is to bring the individual face-to-face with the anxiety-forming situation appropriately.[27] If the appropriate warning is given continuously, the severity of the anxiety is reduced. Our study found that cardiologists showed minimal or mild symptoms of anxiety during the COVID-19 pandemic. One of our study results was the severity of the COVID-19 pandemic, one of the major causes of concern for physicians during the pandemic process. However, 64.6% of cardiologists had been in contact with COVID-19 patients and were actively involved in the fight against COVID. According to cognitive learning theory, the response to anxiety depends on habituation. Cardiology physicians face many situations that increase the stress burden of the individual in their daily work life; while providing services to the most critical patients in the emergency department and intensive care unit, in the catheter laboratory they perform interventional procedures that can be defined as vital interventions for these patients.[28] In different studies, burnout among cardiologists was found to be 50 percent, and cardiologists were reported to be in the risky group and should be supported.[29] In our study, the rate of cardiologists experiencing moderate to severe anxiety in a situation leading to social trauma such as pandemic was 18.2%. According to the cognitive-behavioral approach, the more the individual encounters a situation that increases the stress burden, the greater their ability to cope, and many individuals feel less anxiety in situations that can be interpreted as stressors.[30] Although cardiologists encounter stress more than other physicians due to their specialty, the pandemic process brings new concerns. Therefore, measures to reduce the anxiety of physicians for these additional stress factors should be considered. Psychological support of health workers in such processes will benefit.

LIMITATION

Because of social isolation, the most important limitation is that the questionnaire cannot be performed face-to-face and only the use of online systems as a data collection tool. Therefore, it often reflects the views of cardiologists who use social media well. Besides, physicians's not willing to fill the questionnaire because of excessive workload was another limitation.

CONCLUSION

The COVID-19 pandemic has led to a rapid reinterpretation of accepted medical approach methods all over the world. The rapid spread of the infection all over the world and the lack of medical staff and equipment caused serious problems in hospital functioning, such as in cardiology clinics. In this process, the level of anxiety of health care workers who are at serious risk increases and this may reflect negatively on their services. While it is particularly focused on the solution to the health problems of infected patients, in fact, the solution to the health problems of non-infected patients may be seriously disrupted. The COVID-19 pandemic will pave the way for reshaping health systems. This should include reorganization of the working conditions and technical facilities of health workers, re-evaluation of the condition of inpatient, as well as new approaches in pre-evaluation of those who are unable to reach the hospital with virtual triage, telemedicine techniques and artificial intelligence.

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