

Pulmonary Function Tests in Coronavirus Disease 2019 Pandemic: The Thoughts and Concerns of the Patients

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Abstract

Objective: Due to the risk of transmission in the coronavirus disease 2019 (COVID-19) pandemic, the pulmonary function test (PFT) could not be applied for a certain time. Guidelines on the functioning of PFT laboratories in pandemic have been prepared from the perspective of health professionals, and it has not been investigated whether these guideline recommendations are in line with the expectations of patients. In this study, it was aimed to investigate the perspectives of the patients who underwent PFT during the pandemic on compliance with the guidelines.

Methods: A cross-sectional study conducted at the pulmonary function laboratory between June and September 2021. Patients filled out "COVID-19 Perception Scale" and "COVID-19 Avoidance Attitudes Scale" before the PFT, and "Patients' view of PFT during the COVID-19 period survey" after the test.

Results: The mean age of 201 participants was 45.87 of the participants (43%) agreed that their concerns about undergoing PFT had increased compared to pre-COVID period. Eighty-six percent of patients agreed that COVID polymerase chain reaction (PCR) should be given before the test, and 50% of the participants agreed that COVID PCR should be given after the test. The survey of patients' views total score of patients receiving outpatient COVID-19 treatment was found significantly higher.

Conclusion: Although there are delays in the diagnosis and treatment processes because of the prolongation of the PFT processes due to the safety measures taken in line with the guidelines prepared from the perspective of healthcare professionals, these measures are necessary and sufficient from the patients' perspective.

Keywords: Pulmonary function tests, anxiety, COVID-19

Introduction

Coronavirus disease 2019 (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a systemic disease that is transmitted by droplets through the respiratory tract and involves many organs, especially the lung; and, it is an important cause of mortality and morbidity.¹ In epidemics such as the SARS-CoV-2 pandemic, the concern of infecting with an infectious disease increases in the population.^{2,3} This concern generates many changes in people's daily lives. Social distance rules, social restrictions, using personal protective equipment are practices that have been implemented in daily life with the COVID-19 pandemic. These practices have become more important in the functioning of health centers.

Pulmonary function tests (PFTs) are objective tests used to determine respiratory disorders and their severity, to diagnose many diseases, and to evaluate treatment response. Spirometry, which is the most commonly used method for this purpose, is a physiological

test based on the measurement of flow or volume changes during breathing as a derivative of time. With these tests, the static and dynamic volumes of the lungs can be evaluated.⁴ During the test, the tested patient has the potential to emit droplets during expiratory maneuvers or coughing, and there is also a risk that the patient can inhale droplets.⁵

Due to the risk of transmission in the COVID-19 pandemic, PFTs could not be applied between May 2020 and February 2021. With the spread of social security measures, the functioning of health institutions has been regulated and guidelines have been published to create a safe working environment. With the publication of the PFT application guidelines, security measures were taken and PFTs were started to be applied to limited patient groups. These safety measures required real-time reverse transcriptase polymerase chain reaction (RT-PCR) COVID PCR before testing and ventilation of the room for at least 20 minutes before the second test.^{6,7} Therefore, the total duration of PFTs has been extended and tests have to be done by appointment. This situation reduced the number of PFTs that were performed daily and patients had to wait for a longer duration.

There are many studies on the functioning of PFT laboratories during the pandemic. These studies aimed to ensure the safety of PFT laboratories from the viewpoint of the healthcare professionals.⁵⁻⁷ There isn't any study examining the concerns and expectations of patients who administered PFT laboratories during the pandemic. Furthermore, it has not been investigated whether the recommendations of the guidelines prepared from

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the perspective of healthcare professionals are similar to the expectations of the patients.

In this study, during the pandemic, the transmission concerns of the patients who were administered PFT laboratories and their perspectives on the measures taken according to the guidelines were investigated, and thus whether the patient's perspective and guideline measures were similar.

Methods

Study Design

It is a cross-sectional survey study at the Chest Diseases Department of İstanbul University - Cerrahpaşa, Cerrahpaşa Faculty of Medicine hospital. Patients who were tested in the Pulmonary Function Laboratory of the Department of Chest Diseases between June 15, 2021, and September 15, 2021, were included in the study. Consecutive sampling was used. Our study was approved by the ethics committee of İstanbul University - Cerrahpaşa, Cerrahpaşa Faculty of Medicine (Approval No: E-23 7786442-604.01.01-94649, Date: May 18, 2021).

Participants

G power 2.0 software was used for sample size calculation. We computed our sample size, considering an 80% power to detect a significant *P*-value of .5. A minimum sample size of 182 was estimated.

Inclusion Criteria

- Being over 18 years old
- Having a sufficient level of perception to complete the survey
- Agreeing to participate in the study and signing the informed consent form

Exclusion Criteria

- Not agreeing to participate in the study

The participants who met the inclusion criteria filled out the "COVID-19 Perception Scale" and "COVID-19 Avoidance Attitudes Scale" before PFTs, and the "Patients' view of PFTs during the COVID-19 pandemic" questionnaire after the test. The demographic characteristics of the participants (age, gender, educational status, presence of chronic disease, smoking history, COVID-19 history) and responses to surveys were recorded and statistically analyzed.

Scales and Survey

"COVID-19 Perception Scale"

The COVID-19 Disease Perception Scale consists of 7 items. The scale, which is in a 5-point Likert type, consists of 2 sub-dimensions: "Danger" and "Infectiousness." The expressions found are evaluated as "I strongly disagree (1)," "I do not agree (2)," "I am undecided (3)," "I agree (4)," "I strongly agree (5)."

The first sub-dimension (questions 1, 2, and 3), called dangerousness, covers perceptions and beliefs about the danger posed by the disease, COVID-19. The second sub-dimension (questions 4, 5, 6, and 7), called contagiousness, consists of items related to perceptions of the contagiousness of the disease.

A total value between 1 and 5 is obtained by dividing the total score obtained by summing the item scores in the scale by the number of items in that sub-dimension.

High scores in the dangerousness sub-dimension indicate that the perception of danger about the disease is high, and high scores

in the contagiousness sub-dimension indicate the perception that the virus is highly contagious.

The reliability of the scale in Türkiye was evaluated by Altan et al.^{8,9}

"COVID-19 Avoidance Attitudes Scale"

The COVID-19 Avoidance Attitudes Scale is in a 5-point Likert type and has 10 items. It has 2 sub-dimensions: cognitive avoidance (items 1-5) and behavioral avoidance (items 6-10). The cognitive avoidance sub-dimension includes cognitive avoidance, such as changing attention, drifting away from the subject, or thinking about other things in the news about COVID-19. Behavioral avoidance includes avoidance behaviors such as not participating in social activities, not shaking hands, kissing, and not using public transportation.

Expressions in the scale: It is evaluated as "I definitely do not (1)," "I do not (2)," "I am undecided (3)," "I do (4)," and "I definitely do (5)."

A value between 1 and 5 is obtained by dividing the total score obtained by summing the item scores in the scale sub-dimension by the number of items in that sub-dimension. High scores from the sub-dimensions indicate higher levels of avoidance in the relevant domain.

The reliability of the scale in Türkiye was also evaluated by Altan et al.^{8,9}

Survey of Patients' Views of Pulmonary Function Tests During the COVID Pandemic

The "Patients' view of PFTs during the COVID-19 pandemic" survey, which was applied to patients after the PFT, is in a 5-point Likert type consisting of 12 sub-dimensions. The sub-dimensions of this survey were created by the authors, taking into account the guidelines for the functioning of PFT laboratories during the COVID-19 pandemic. The reliability of the 12 subdimensions in the survey was evaluated with the Cronbach's alpha test, and its value was 0.74 (values over 0.70 were considered acceptable.). The high scores in the sub-dimensions indicate that the perception in that area is higher.

The scores in these surveys were evaluated objectively; thereby, the patients' concerns during the COVID-19 pandemic, their attitude changes in line with their concerns, and their expectations from the PFT process were determined to be compatible with the guidelines.

Statistical Analysis

The IBM SPSS® Statistics 21 program was used in the analysis of the data. In the evaluation of the surveys, Student's *t*-test was used in pairwise comparisons, while ANOVA tests were used in comparison of 3 or more groups ANOVA tests were used. Pearson method was used in correlation analysis of the survey and the scales. *P* < .05 were considered statistically significant.

Results

Participants

Among the 207 patients who applied to the PFT laboratory, 1 was excluded because of not signing the informed consent, and 6 of them were excluded due to filling out the surveys incompletely; the remaining 201 were included in the study. Fifty-nine percent of the patients did not have any airway disease (*n* = 120).

Demographic Features

The mean age of the 201 participants was 44.6 ± 15.5, and 50.5% (*n* = 101) of the participants were women. Ninety-eight

Table 1. Demographic Features

Total, n (%)	201 (100%)
Gender, n (%)	
Female	101 (50.5)
Male	100 (49.5)
Age, n (%)	
<30	47 (23.3)
30-60	118 (59)
>60	36 (17.8)
Chronic disease, n (%)	
Yes	80 (39.6)
No	121 (60.4)
Smoking history, n (%)	
Yes	60 (30.2)
No	141 (69.8)
Education, n (%)	
Primary school	59 (29.7)
Secondary school	13 (6.4)
High school	45 (22.3)
University	58 (28.7)
Master's degree	26 (12.9)
COVID-19 history, n (%)	
Yes	98 (48)
No	103 (52)
COVID-19 treatment	
Inpatient	15 (15.3)
ICU	6 (6.1)
Outpatient	77 (78.6)

COVID-19, coronavirus disease 2019; ICU, intensive care unit.

patients had COVID-19 before. The demographic characteristics of the participants are indicated in Table 1.

Results of the Survey and Scales

Participants who filled out the survey of patients' views of PFTs during the COVID-19 pandemic; 95% (n = 190) agreed that measures should be taken before the PFT, and 78% (n = 176) agreed that the safety measures taken before the test were sufficient. Hundred seventy-three participants (86.1%) agreed that COVID PCR should be given before the test, 98 participants (50%) agreed that COVID PCR should be given after the test. Among the participants who had tested before, 87 (43%) agreed that their concerns about undergoing PFT had increased compared to the pre-COVID period. The response distribution of the survey of patients' views of PFTs during the COVID pandemic is given in Table 2.

Table 2. Survey of Patients' View of Pulmonary Function Tests During the Coronavirus Disease 2019 Pandemic

	n (%)
1) I think measures should be taken before the test	
Never agree	2 (1)
I do not agree	5 (2.5)
I am undecided	4 (2)
I agree	54 (26.9)
I am totally agreed	136 (67.7)
2) The safety measures taken before the test are sufficient	
Never agree	4 (2)
I do not agree	7 (3.5)
I am undecided	14 (7)
I agree	78 (28.8)
I am totally agreed	98 (48.8)
3) I find it necessary to give a COVID PCR before the test	
Never agree	6 (3)
I do not agree	9 (4.5)
I am undecided	13 (6.5)
I agree	41 (20.4)
I am totally agreed	132 (65.7)
4) I find the disinfection of the test environment sufficient	
Never agree	5 (2.5)
I do not agree	9 (4.5)
I am undecided	26 (12.9)
I agree	80 (39.8)
I am totally agreed	81 (40.3)
5) Precautions that were taken before the test relieved me	
Never agree	2 (1)
I do not agree	5 (2.5)
I am undecided	15 (7.5)
I agree	73 (36.3)
I am totally agreed	106 (52.7)
6) I find it necessary to do the test by appointment during the COVID-19 period	
Never agree	3 (1.5)
I do not agree	3 (1.5)
I am undecided	9 (4.5)
I agree	47 (23.4)
I am totally agreed	139 (69.2)
7) I find it sufficient to inform about the test	
Never agree	2 (1)
I do not agree	6 (3)
I am undecided	14 (7)
I agree	72 (35.8)
I am totally agreed	107 (53.2)
8) I find it necessary to use a new mouthpiece and nose clip for each patient	
Never agree	2 (1)
I do not agree	0 (0)
I am undecided	1 (0.5)
I agree	29 (14.4)
I am totally agreed	169 (84.1)
9) I find it necessary for the technician/healthcare worker to be wearing a mask, surgical gown, and glasses	
Never agree	4 (2)
I do not agree	0
I am undecided	2 (1)
I agree	34 (16.9)
I am totally agreed	161 (80.1)

(Continued)

Table 2. Survey of Patients' View of Pulmonary Function Tests During the Coronavirus Disease 2019 Pandemic (Continued)

	n (%)
10) I am afraid of undergoing PFT because of the risk of COVID-19 transmission	
Never agree	37 (18.4)
I do not agree	51 (25.4)
I am undecided	27 (13.4)
I agree	37 (18.4)
I am totally agreed	49 (24.4)
11) After the test, I find it necessary to give a COVID PCR for control	
Never agree	33 (16.4)
I do not agree	28 (13.9)
I am undecided	42 (20.9)
I agree	51 (26.4)
I am totally agreed	47 (23.4)
12) My concerns about undergoing PFT have increased compared to the period before COVID-19	
Never agree	36 (17.9)
I do not agree	38 (18.9)
I am undecided	40 (19.9)
I agree	41 (20.4)
I am totally agreed	46 (22.9)

COVID-19, coronavirus disease 2019; PFT, pulmonary function test.

Seventy-seven percent (n = 155) of the participants who filled the COVID-19 Perception Scale had the perception that COVID-19 is not as dangerous as it was told, while 32 (16%) did not agree with this perception. Meanwhile, 83.1% (n = 167) of the participants believed that the virus caused a fatal disease, while 14 (7%) did not agree with this. Additionally, 154 (77%) of the respondents had the perception that the media was exaggerating the pandemic. The response distribution of the COVID-19 Perception Scale is given in Table 3.

Hundred thirty-seven (68%) of the participants who filled out the COVID-19 Avoidance Attitudes Scale agreed that they had the attitude of distracting their attention when exposed to news about the disease. Hundred thirty-nine participants (69%) agreed that they have an attitude of avoiding social activities in order not to get sick. Response distribution of the COVID-19 Avoidance Attitudes Scale is given in Table 4.

When the distribution of responses to the survey of patients' views of PFTs during the COVID-19 pandemic, COVID-19 Perception Scale, and COVID-19 Avoidance Attitudes Scale was compared with age, smoking history, educational status, and COVID-19 history and history of ICU admission due to COVID-19 of the participants, no statistically significant difference was found.

When the total scores of the questionnaires and scales were compared with the patients' COVID-19 history, hospitalization and intensive care hospitalization history, and the presence of chronic disease, no statistically significant difference was found (Table 5). No statistically significant difference was found between the total scores of the "Survey of patients' views of PFTs during the COVID-19 pandemic" "COVID-19 Perception Scale," and "COVID-19 Avoidance Scale," and the patients' age (*P*-values .10; .63; .19, respectively), smoking history (*P*-values .31; .95; .98), and education level (*P*-values .28; .14; .93, respectively).

When the questionnaires were compared, a positive correlation was found between the total scores of the "Survey of patients'

Table 3. Coronavirus Disease 2019 Perception Scale

	n (%)
1) This disease is not as dangerous as told	
Never agree	15 (7.5)
I do not agree	17 (8.5)
I am undecided	12 (6)
I agree	41 (20.4)
I am totally agreed	114 (56.7)
No response	2 (1)
2) Media exaggerates the pandemic	
Never agree	15 (7.5)
I do not agree	13 (6.5)
I am undecided	20 (10)
I agree	60 (29.9)
I am totally agreed	94 (46.8)
No response	2 (1)
3) The virus causes a fatal disease	
Never agree	6 (3)
I do not agree	8 (4)
I am undecided	18 (9)
I agree	55 (27.4)
I am totally agreed	112 (55.7)
No response	2 (1)
4) This disease may spread to anybody	
Never agree	7 (3.5)
I do not agree	6 (3)
I am undecided	5 (2.5)
I agree	44 (21.9)
I am totally agreed	137 (68.2)
No response	2 (1)
5) The disease spread easily	
Never agree	6 (3)
I do not agree	9 (4.5)
I am undecided	8 (4)
I agree	53 (26.4)
I am totally agreed	123 (61.2)
No response	2 (1)
6) Possibility of spread to women and men is similar	
Never agree	5 (2.5)
I do not agree	12 (6)
I am undecided	31 (15.4)
I agree	61 (30.3)
I am totally agreed	90 (44.8)
No response	2 (1)
7) The virus may spread via cargo or any shopping product	
Never agree	14 (7)
I do not agree	22 (10.9)
I am undecided	40 (19.9)
I agree	61 (30.3)
I am totally agreed	62 (30.8)
No response	2 (1)

COVID-19, coronavirus disease 2019

views of PFTs during the COVID-19 pandemic" and the "COVID-19 Perception Scale" (*r* = 0.3, *P* < .001).

Discussion

In this study, it has been revealed that the measures taken in PFT laboratories according to the guidelines prepared from the perspective of healthcare professionals in the COVID-19 pandemic are also compatible with the patient's perspective. It is also

Table 4. Coronavirus Disease 2019 Avoidance Attitudes Scale

	n (%)
1) Distracting your attention when exposed to news about the disease	
Never agree	65 (32)
I do not agree	72 (36)
I am undecided	22 (11)
I agree	20 (10)
I am totally agreed	20 (10)
No response	2 (1)
2) Thinking about other things when talking about illness	
Never agree	65 (32)
I do not agree	83 (42)
I am undecided	10 (5)
I agree	24 (12)
I am totally agreed	17 (8)
No response	2 (1)
3) Not reading news about the pandemic	
Never agree	66 (33)
I do not agree	76 (38)
I am undecided	14 (7)
I agree	21 (11)
I am totally agreed	2 (1)
No response	2 (1)
4) Changing the channel when news about the disease appears on TV	
Never agree	66 (33)
I do not agree	88 (44)
I am undecided	17 (8.5)
I agree	9 (4.5)
I am totally agreed	19 (9.5)
No response	2 (1)
5) Changing the subject to terminate talks about the disease	
Never agree	63 (32)
I do not agree	92 (46)
I am undecided	21 (10)
I agree	11 (5)
I am totally agreed	12 (6)
No response	2 (1)
6) Avoiding to participate into social activities to prevent the disease (movie, theater, etc.)	
Never agree	20 (10)
I do not agree	15 (8)
I am undecided	25 (12)
I agree	57 (28)
I am totally agreed	82 (41)
No response	2 (1)
7) Avoiding to take public transport to prevent getting sick	
Never agree	18 (9)
I do not agree	26 (13)
I am undecided	41 (20)
I agree	47 (23)
I am totally agreed	67 (34)
No response	2 (1)
8) Not kissing when greeting people, you know to avoid being sick	
Never agree	9 (4)
I do not agree	8 (4)
I am undecided	6 (3)
I agree	51 (25)
I am totally agreed	125 (63)
No response	2 (1)

(Continued)

Table 4. Coronavirus Disease 2019 Avoidance Attitudes Scale (Continued)

	n (%)
9) Not shaking hands when greeting people to avoid being sick	
Never agree	10 (5)
I do not agree	9 (4)
I am undecided	6 (3)
I agree	47 (23)
I am totally agreed	127 (64)
No response	2 (1)
10) Avoiding to go to use public toilets to prevent the disease	
Never agree	15 (7)
I do not agree	11 (5)
I am undecided	33 (17)
I agree	53 (27)
I am totally agreed	87 (43)
No response	2 (1)

COVID-19, coronavirus disease 2019.

determined that the patients had concerns about transmission of COVID-19 due to the PFT. Therefore, they wanted to undergo a COVID-19 PCR test after PFT.

Pulmonary function tests have a risk for the transmission of COVID-19, and current guidelines emphasize that COVID-19 should be excluded before testing.^{6,7} This process reduces the average number of PFTs that can be performed daily, causing patients to spend extra time for testing, thus prolonging the diagnosis and examination process. It can be thought that this situation may cause anxiety for patients. In the literature, Silva et al¹⁰ reported that the majority of the 103 participants did not have fear before PFT.¹⁰ However, in our study, among the 201 participants who were evaluated with wider parameters, about half of them reported that they were afraid of undergoing PFT due to the risk of COVID transmission.

In our study, it was revealed that the majority of patients (95%) agreed with these measures and thought that the measures were sufficient (77%). This finding is significant because it shows the view of the healthcare professionals and the view of the patients are similar. However, since 77% of our patients have the perception that COVID-19 is not as dangerous as they say, it is possible that they find the precautions sufficient. For this reason, it is seen that the measures to be taken should be evaluated and developed by the professionals as a result of the scientific data obtained before. In addition, it was noted that approximately half of the patients who had PFT before the pandemic (43%) had increased anxiety about having tests after the pandemic. Although it is not in the recommendations of the guidelines in daily practice, approximately half (49.8%) of patients stated that COVID PCR should be given after the test; this finding may be an indication of patients' concerns about COVID-19 transmission due to PFT.

Coronavirus disease 2019 Perception Scale is a test used to evaluate people's perception levels of the disease during the pandemic.^{8,9} It can be thought that there may be variability in the perception levels of COVID-19 due to the existing diseases of the patients who applied to the PFT laboratory. However, there is no study about this issue in the literature. In our study, 83% of the patients who applied to PFT have the perception that the virus causes a fatal disease, while 77% have the perception that COVID-19 is not as dangerous as it is said. In addition to these findings, the fact that 78% of the patients thought that the media exaggerated the epidemic may actually be an indication that the

Table 5. Association Between the Total Scores of the Survey and Scales Between the COVID-19 History and Chronic Disease Presence

Parameters	Number of Patients	Mean	SD	P
Total points scored on the survey of patients' view				
COVID history (No)	101	49	6.3	.62
COVID history (Yes)	100	50	6	
Total points scored on the COVID-19 Perception Scale				
COVID history (No)	101	25	6.07	.38
COVID history (Yes)	100	25	3.84	
Total points scored on the COVID-19 Avoidance Scale				
COVID history (No)	101	30.4	6.62	.66
COVID history (Yes)	100	32	6.68	
Total points scored on the survey of patients' views among the COVID-19 patients				
Hospitalization due to COVID-19 (No)	79	50.7	4.7	.53
Hospitalization due to COVID-19 (Yes)	21	47	9.1	
Total points scored on the COVID-19 Perception Scale among the COVID-19 patients				
Hospitalization due to COVID-19 (No)	79	25	3.6	.4
Hospitalization due to COVID-19 (Yes)	21	24.7	3.9	
Total points scored on the COVID-19 Avoidance Scale among the COVID-19 patients				
Hospitalization due to COVID-19 (No)	79	32.4	6.4	.73
Hospitalization due to COVID-19 (Yes)	21	30.8	7.5	
Total points scored on the survey of patients' views among the COVID-19 patients				
ICU admission due to COVID-19 (No)	93	50.5	4.8	.5
ICU admission due to COVID-19 (Yes)	7	42.4	13.2	
Total points scored on the COVID-19 Perception Scale among the COVID-19 patients				
ICU admission due to COVID-19 (No)	93	25.1	3.4	.35
ICU admission due to COVID-19 (Yes)	7	22.8	6.4	
Total points scored on the COVID-19 Avoidance Scale among the COVID-19 patients				
ICU admission due to COVID-19 (No)	93	31.9	6.5	.68
ICU admission due to COVID-19 (Yes)	7	33.8	8.6	
Total points scored on the survey of patients' view				
Chronic disease (No)	129	49.5	6.9	.61
Chronic disease (Yes)	72	49.7	4.7	
Total points scored on the COVID-19 Perception Scale				
Chronic disease (No)	129	24.9	3.6	.32
Chronic disease (Yes)	72	24.5	3.8	
Total points scored on the COVID-19 Avoidance Scale				
Chronic disease (No)	129	31.9	6.8	.6
Chronic disease (Yes)	72	30	6.2	

$P < .05$, statistically significant

COVID-19, coronavirus disease 2019; ICU, intensive care unit.

severity of the pandemic is not perceived enough. The instinct of ignoring that human nature develops against situations that cause anxiety can also explain this situation.

Coronavirus disease 2019 Avoidance Attitudes Scale examines 2-dimensional avoidance attitudes of patients, both cognitively and behaviorally, during the pandemic process.^{8,9} While most of the participants in our study had cognitive avoidance attitudes (68%) when exposed to news about COVID-19, a significant majority of them agreed that they complied with social constraints such as not participating in social activities (69%), not using public transportation (57%), and not shaking hands while greeting (86%). This can be explained by the fact that as the community's anxiety increases due to the pandemic, avoidance attitudes change similarly.

No statistically significant difference was found when the answers to the survey questions were compared with the demographic characteristics, which indicate the perceptions and attitudes of all patients, regardless of age, gender, educational status, and COVID-19 history. However, among the patients with COVID-19, the ones who were treated outpatiently had significantly higher total scores in the survey of patients' views, which may be due to the fear of this patient group to have an even more severe illness.

Limitations of Our Study

Since it is a cross-sectional study, the changes in the patients' behaviors and expectations from the PFT process could not be investigated. Also, the questionnaires were filled by the patients who underwent PFT. We could not evaluate the perspectives of the patients who were denied PFT due to transmission concerns.

Significance of Our Study

Contrary to the studies in the literature, which were evaluated from the viewpoint of the healthcare professionals, the evaluation was made from the viewpoint of the patient. Our study is the first study in the literature to reveal the expectations of patients about PFT regulation during the pandemic period.

Conclusion

Although there are delays in the diagnosis and treatment processes because of the prolongation of the PFT processes of the patients due to the safety measures taken in line with the guidelines prepared from the perspective of healthcare professionals, these measures are necessary and sufficient from the patients' point of view.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of İstanbul University-Cerrahpaşa (Approval No: E-237786442-604.01.01-94649, Date: May 18, 2021).

Informed Consent: Written informed consent was obtained from the participants who participated in this study.

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