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Fatigue in Individuals with Post-COVID-19: A Cross-Sectional Descriptive Study

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Abstract

Background: Coronavirus Disease 2019 (COVID-19) continues as an epidemic with high morbidity and mortality rates. Individuals experience physiological and psychological changes after COVID-19, with fatigue being a frequently reported symptom both during and after infection. Fatigue is a multidimensional subjective concept, necessitating evaluation with measurement tools for effective treatment and care planning.

Aim: This study aimed to examine the fatigue levels in individuals who have recovered from COVID-19 through a cross-sectional descriptive approach.

Methods: The study included 300 individuals who had COVID-19 between July 1 and August 1, 2021. Ethics committee approval and permission from the Ministry of Health were obtained prior to the research. Data were collected online using a questionnaire and the Piper Fatigue Scale (PFS), covering socio-demographic characteristics and COVID-19-related processes. Higher PFS scores indicated increased fatigue levels. The data were analyzed using Student's t-test, One-Way Analysis of Variance (ANOVA), Kruskal-Wallis, and Mann-Whitney U tests.

Results: The majority of participants were aged 34-41, female, married, high school graduates, with chronic diseases, and had transmitted COVID-19 to family members. The average PFS score was 5.50 ± 1.28, with individuals aged 50-57, married, and with chronic diseases reporting higher scores ($p < 0.05$). Post-COVID-19 symptoms included shortness of breath, fatigue, forgetfulness, cough, and loss of smell. Higher PFS scores were observed in participants with shortness of breath, body pain, cough, difficulty concentrating, and increased sleep tendency, although these findings were not statistically significant ($p > 0.05$).

Conclusion: Fatigue persists for months after COVID-19, with individual variations in fatigue levels. Individuals reported various symptoms during and after infection, with the severity of fatigue varying according to these symptoms.

Keywords: Coronavirus disease 2019, fatigue, symptom

Introduction

Although Coronavirus Infectious Disease 2019 (COVID-19) was initially reported to be a short-term illness, widespread evidence now indicates that it leads to a variety of long-term health problems globally.[1-5] As a result of the continuation of health problems after COVID-19, the term "Long COVID" has been adopted in international literature[4,5] to describe the condition in individuals who recover from COVID-19 but continue to report lasting effects of the infection or experience symptoms for much longer than expected. These symptoms persist for at least four weeks.[4] The Centers for Disease Control and Prevention have reported that fatigue, muscle weakness, shortness of breath, cough, joint pain, cognitive disorders, depression, forgetfulness, and sleep problems are among the symptoms frequently experienced after COVID-19.[6] According to a study conducted by Huang et al.[7] involving 2,469 individuals who had COVID-19, 63.0% of the participants reported experiencing fatigue. In a study conducted in Mexico, fatigue was reported in the first month after COVID-19, while another study found fatigue to be the most common lingering symptom in the second month post-infection.[8,9] Additionally, it has been emphasized that post-COVID-19 symptoms are associated with factors such as obesity, advanced age, female gender, and the presence and duration of chronic diseases.[10-12] Numerous studies have observed that the symptom of fatigue often persists at different intervals following COVID-19.[8-11] Fatigue

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is described as a constant, debilitating weakness, lack of energy, and a subjective feeling that limits physical and mental capacity.[12,13] Post-COVID-19 fatigue, on the other hand, is a subjective concept found to be associated with factors such as the severity of the infection, tissue and organ oxygen deficit, medication use, sedentary lifestyle during quarantine, and the need for respiratory support during the illness.[9,10,14-16]

Fatigue, frequently reported following COVID-19, significantly limits individuals' life activities and severely impacts work performance. A literature review conducted prior to initiating this research revealed no studies on the frequency and severity of post-COVID-19 symptoms in Türkiye. Additionally, in the review of international literature, no studies were found that assessed the severity of post-COVID-19 fatigue using quantitative measurement tools. In this context, the current study aimed to evaluate the fatigue levels of individuals who had recovered from COVID-19. This study was undertaken to document the level of post-COVID-19 fatigue with quantitative data and to provide a basis for nursing care planning in response to these findings.

Research Questions

- What is the severity level of fatigue in individuals after COVID-19?
- What factors influence the severity of fatigue in individuals after COVID-19?
- What are the most common persistent symptoms following COVID-19?
- What practices have been employed in the management of symptoms during and after COVID-19?

Materials and Methods

Type of Research Study

The research was conducted as a descriptive cross-sectional study.

Population and Sample

The study targeted individuals residing in the Mediterranean and Southeastern regions of Türkiye who had recovered from COVID-19. It was conducted between July 1 and August 1, 2021, across two provinces to ensure a homogeneous research sample by reaching an equal number of participants from each province. The study population comprised individuals who had contracted COVID-19 prior to the data collection date, with a maximum duration since recovery of six months. In the literature review conducted prior to initiating the study, it was discovered that among the research on post-COVID-19 fatigue, the longest study covered a duration of six months.[7-11] The sample size for the current study was calculated using Cohen's effect size, standardized at a 95% confidence level, with an alpha value of 0.05, a theoretical power of 80%, and medium effect sizes. Consequently, it was determined that the minimum sample size required would be 200. However, the study was completed with 300 participants. After exceeding the targeted number of participants, as indicated by the power analysis, the research was concluded. Eligible participants included individuals who were 18 years of age or older, could read and write, spoke Turkish, owned a smartphone/tablet personally or through a relative, and were within the first six-month period after contracting COVID-19. Exclusion criteria of the study was individuals who were more than six months post-COVID-19 infection were excluded from the study.

Data Collection Tools

Questionnaire Form

The form consisted of questions covering the sociodemographic characteristics of the participants (age, gender, marital status, education status) and their status regarding COVID-19 infection (the number of COVID-19 infections, family contagion, time since contracting COVID-19 (in months), where COVID-19 was contracted, the use of integrative methods during the COVID-19 period, the use of integrative methods after COVID-19, the regular use of COVID-19 medications, and experiences of medication-related side effects).

Piper Fatigue Scale

This Likert-type diagnostic tool was developed by Barbara F. Piper et al.[17] in 1987. It evaluates the patient's subjective perceptions of fatigue across four sub-dimensions including behavioral, affective, sensory, and cognitive. The total score on the Piper Fatigue Scale ranges from 0 to 10, with an increase in score indicating higher levels of fatigue. The Turkish validity and reliability study of the scale was conducted by Can.[18] The scoring is as follows: A score of 0 indicates no fatigue; 1-3 points indicate light fatigue; 4-6 points indicate moderate fatigue; and 7-10 points suggest severe fatigue. The scale assesses four sub-dimensions including behavioral, affective, sensory, and cognitive, with each sub-dimension scored between 0 and 10. The original Cronbach's alpha value for the scale was determined to be 0.97. In this study, the internal consistency coefficient (Cronbach's Alpha) for the Piper Fatigue Scale was calculated as 0.91.

Data Collection

Data were digitally collected using a questionnaire developed from a review of the literature and the Piper Fatigue Scale. The data collection form was disseminated by the researchers on social media and WhatsApp platforms between July and August. Completing the survey takes 5-7 minutes.

Ethical Aspect of the Study

This study was conducted in accordance with the Helsinki Declaration. Approval was obtained from the Kahramanmaraş Sütçü Imam University Non-Interventional Research Ethics Committee (Approval Number: 2021/23-06), Date: 26.01.2021 the Ministry of Health (2021-05-26T00_01_04), and from participants for data collection. Informed consent was acquired from all participants. Prior to accessing the data collection form, participants were informed about their right to participate in the research or not. Participants were required to respond to this proposition before proceeding to the data sheets. Permission for the use of the scale was also obtained.

Statistical Analysis

The distribution normality of the data was assessed using the Shapiro-Wilk test. For variables not exhibiting normal distribution, non-parametric tests were preferred. The relationship of fatigue levels with gender, marital status, presence of chronic disease, number of COVID-19 infections, family transmission status, and regular use of COVID-19 medications was analyzed using the Mann-Whitney U Test. The relationships with age, education status, time elapsed since COVID-19 infection, and use of integrative methods post-infection were evaluated with the Kruskal-Wallis Test. Smoking status was examined using the Student's t-test, and instances of resorting to integrative applications during the COVID-19 period were assessed

with the Analysis of Variance (ANOVA) Test. A p-value of < 0.05 was considered statistically significant.

Results

The study found that 51.3% of the patients were female, 31.3% were aged between 34-41 years, 74.3% were married, and 48.7% had completed high school. Additionally, 33.7% of the participants were smokers, 60.7% had a chronic disease, and among those with chronic diseases, 29.1% had diabetes. The analysis revealed that the mean fatigue score was higher in married patients aged 50-57 years and those with chronic diseases ($p < 0.05$) (Table 1).

A total of 68.7% of individuals who had COVID-19 once infected their families, with 56.7% reporting family infections. About 28.3% were two months post-diagnosis, 41.0% encountered this problem at home, 40.3% did not use integrative methods during their COVID-19 illness, and only 32.3% engaged in breathing exercises. The severity of fatigue was found to be higher in individuals who had COVID-19 twice, those in the third month post-diagnosis, and those treated in intensive care units ($p < 0.05$) (Table 2).

Table 1. Comparison of Some Characteristics of Individuals with Mean Fatigue Scores

Characteristics	n (%)	Piper Fatigue Scale Total Mean ± SD
Gender		
Female	154 (51.3)	5.62 ± 1.35 p= 0.466
Male	146 (48.7)	5.37 ± 1.19 Z=0.729
Age		
18-25	67 (22.3)	4.79 ± 1.09
26-33	36 (12.2)	5.07 ± 1.12 p=0.000
34-41	94 (31.3)	5.99 ± 1.30
42-49	46 (15.3)	5.38 ± 1.15 KW=51.538
50-57	44 (14.7)	6.12 ± 1.41
58-65	13 (4.3)	5.78 ± 1.08
Marital status		
Married	223 (74.3)	5.84 ± 1.33 p= 0.001
Single	77 (25.7)	5.01 ± 1.30 Z= 3.293
Educational status		
Primary School	59 (19.7)	5.88 ± 1.38
High School	146 (48.7)	5.54 ± 1.28 p=0.318
University	95 (31.6)	5.49 ± 1.14 KW=8.058
Smoking		
Yes	101 (33.7)	5.96 ± 1.28 p=0.288
No	199 (66.3)	5.19 ± 1.25 t=1.066
Chronic disease		
Yes	182 (60.7)	5.83 ± 1.14 p=0.000
No	118 (39.3)	5.01 ± 1.39 Z=4.085
Chronic disease		
Diabetes Mellitus	53 (29.10)	5.62 ± 1.44
Hypertension	47 (25.82)	5.40 ± 1.07 p= 0.067
Rheumatoid arthritis	38 (20.89)	6.08 ± 1.17 KW= 20.142
Coronary heart disease	33 (18.13)	5.88 ± 1.32
COPD	11 (6.06)	5.71 ± 1.09
Total	300(100.0)	5.50 ± 1.28

Z: Manny Whitney U Test, KW: Kruskall Walls H test, t: Student *t*-test F: Anova Test, COPD: Chronic obstructive pulmonary disease

Table 2. Comparison of Some Conditions of Individuals about COVID-19 and Mean Fatigue Scores

Characteristics	n (%)	Piper Fatigue Scale Mean ± SD
Number of COVID-19		
1	206 (68.7)	5.22 ± 1.16 p=0.000
2	94 (31.3)	6.12 ± 1.30 Z=4.526
Family contagion		
Yes	170 (56.7)	5.41 ± 1.11 p=0.216
No	130 (43.3)	5.62 ± 1.47 Z=1.238
Time since COVID-19 (months)		
1 (0-30 days)	57 (19.0)	5.28 ± 1.01
2 (31-60 days)	85 (28.3)	5.54 ± 1.51 p=0.002
3 (61-90 days	60 (20.0)	6.07 ± 1.36 KW=18.796
4 (91-120 days)	47 (15.7)	5.18 ± 1.04
5 (121-150 days)	26 (8.7)	5.47 ± 1.09
6 (151-180 days)	25 (8.3)	5.12 ± 1.13
Place of treatment during the period of COVID-19 disease		
House	123 (41.0)	4.85 ± 1.10
Hospital ward	103 (34.3)	5.88 ± 1.16 p=0.000
Intensive care	74 (24.7)	6.11 ± 1.27 KW=52.787
Using an integrative method in the COVID-19 period		
None	121 (40.3)	5.73 ± 1.45
Herbal tea-food support	104 (34.7)	5.50 ± 1.34 p=0.038
Exercise	51 (17.0)	5.28 ± 1.27 F=10.065
Breathing exercise	24 (8.0)	5.13 ± 1.47
Using an integrative method after COVID-19		
Breathing exercise	92 (32.3)	5.17 ± 1.61
Food supplement	62 (20.7)	5.52 ± 1.08 p=0.385
Herbal teas	47 (15.7)	5.22 ± 1.05
Rest	39 (13.0)	5.40 ± 1.09
Exercise	37 (12.3)	5.36 ± 1.35 KW=5.525
None	18 (6.0)	5.46 ± 1.38
Regular use of COVID-19 medications		
Yes	254 (84.7)	5.64 ± 1.33 p=0.086
No	46 (15.3)	5.84 ± 1.09 Z=2.301
Experiencing medication-related side effects		
Yes	71 (23.7)	5.76 ± 1.32 p=0.097
No	229(76.3)	5.42 ± 1.26 Z=1.659

The mean Piper Fatigue Scale total score during the COVID-19 illness was found to be 5.50 ± 1.28. The mean scores for the sub-dimensions were as follows: behavioral, 5.31 ± 1.07; sensory, 4.43 ± 1.25; cognitive, 4.95 ± 1.55; and affective, 4.20 ± 1.53 (Table 3).

In the post-COVID-19 period, 69.7% of participants experienced shortness of breath, 64.7% fatigue, 55.3% forgetfulness, 53.7% cough, 34.7% general body pain, 44.3% loss of smell, 31.7% loss of taste, 32.0% hair loss, 38.7% stress, and 31.3% sleepiness. Individuals with fatigue (6.06 ± 1.12), general body pain (5.84 ± 1.11), cough, shortness of breath (5.71 ± 1.09), difficulty concentrating (5.87 ± 1.06),

Table 3. Examining the Fatigue Scores of Individuals

Fatigue Assessment Tools	Mean Scores Mean ± SD	Piper Fatigue Score Min-Max	Cronbach alfa
Piper fatigue scale subgroups			
Piper fatigue scale behavior	5.31 ± 1.07	0-10	0.94
Piper fatigue scale sensory	4.43 ± 1.25	0-10	0.88
Piper fatigue scale cognitive	4.95 ± 1.55	0-10	0.90
Piper fatigue scale affective	4.20 ± 1.53	0-10	0.92
Piper fatigue scale- Total	5.50 ± 1.28	0-10	0.91

and a tendency to sleep (5.60 ± 1.34) had higher mean fatigue scores (Table 4).

After COVID-19, the frequencies of experiencing fatigue symptoms according to the elapsed time are as follows: 1st month (0-30 days) 77.2%; 2nd months (31-60 days) 63.5%; 3rd months (61-90 days) 75.0%, 4th month (91-120) 29.8%; 5th month (121-150 days) 88.5%; 6th month (151-180) days 56.6% (Table 5).

Discussion

The COVID-19 pandemic continues to profoundly impact every aspect of people's lives worldwide.[1,4] It has been reported that individuals with COVID-19 face a myriad of physiological, psychological, and social problems.[7,8] Numerous studies have highlighted that fatigue is the predominant condition experienced by individuals after COVID-19.[6-9]

Fatigue, a subjective phenomenon, is influenced by various factors and detrimentally affects quality of life.[19] In this study, the mean Piper Fatigue Scale score for participants was determined to be a moderate level of fatigue. Symptoms present during the clinical diagnosis of COVID-19 in individuals may persist post-recovery.[10,14,15] Previous research has identified fatigue as the most frequently reported problem post-COVID-19.[20,21] According to Tenforde et al,[22] fatigue emerged as the most common symptom (35.0%) following cough (43.0%) post-COVID-19.[20-23] This finding may be related to COVID-19-induced tissue oxygenation balance disorders, medical interventions during the illness, social isolation, and cerebral hypometabolism.[10,14,20-22] Although fatigue accompanies many chronic diseases, it is frequently observed during and after viral infectious diseases.[9,19-21] Fatigue significantly impacts quality of life across multiple dimensions.[19] The symptom of fatigue post-COVID-19 is commonly reported.[21-23] However, COVID-19 affects various physiological systems, leading to a range of other symptoms. In this study, difficulty concentrating, widespread body pain, and cough were among the most frequently reported symptoms post-COVID-19. D'Crus et al.[21] identified sleep disturbances, shortness of breath, and stress disorders as common post-COVID-19 issues. According to Wong et al.,[9] headaches, cough, and muscle aches were the most common symptoms experienced after COVID-19. The literature indicates a broad spectrum of health problems following COVID-19.

Table 4. Distribution of Piper Fatigue Scale Mean Scores for Those Experiencing Symptoms after COVID-19

Symptoms	n (%)	Piper Fatigue Scale Mean ± SD
Shortness of breath	209 (69.7)	5.62 ± 1.20
Fatigue	194 (64.7)	6.06 ± 1.12
Forgetfulness	166 (55.3)	5.51 ± 1.24
Cough	161 (53.7)	5.71 ± 1.09
Loss of smell	133 (44.3)	5.47 ± 1.35
Stress	116 (38.7)	5.56 ± 1.44
Common body pain	104 (34.7)	5.84 ± 1.22
Tendency to sleep	101 (33.7)	5.60 ± 1.34
Hair loss	96 (32.0)	5.21 ± 1.62
Loss of taste	95 (31.7)	5.14 ± 1.37
Difficulty concentrating	94 (31.3)	5.87 ± 1.06
Headache	81(27.0)	5.18 ± 1.24

*Individuals stated more than one symptom.

Previous studies have indicated that different problems emerge at various stages post-COVID-19.[7-9] In this study, it was discovered that symptoms persisting after COVID-19 vary with the elapsed time since infection. One month post-COVID-19, individuals often experience shortness of breath, tiredness, and cough; at two months, the prevalent symptoms include shortness of breath, loss of smell, and fatigue; at three months, fatigue, shortness of breath, and cough are common; at four months, symptoms shift to forgetfulness, depression, and shortness of breath; at five months, cough, tiredness, and shortness of breath are reported; and at six months, forgetfulness, shortness of breath, and fatigue are frequent. Garrigues et al.[23] identified fatigue, shortness of breath, memory problems, and loss of smell as the most common symptoms in the fourth month after COVID-19.[23,24] Carfi et al.[8] found that the most common symptoms in the second month post-COVID-19 were fatigue, shortness of breath, and joint pain. Upon reviewing studies that examined symptoms experienced after COVID-19 during various periods, findings similar to those of the current study were observed. As a viral disease, COVID-19 can affect nearly all bodily systems, and the duration of accompanying symptoms can vary. This study included patients who had recovered from COVID-19 up to six months prior, with the ongoing symptoms post-recovery assessed according to the duration since the disease. Additionally, the Piper Fatigue Scale mean score for individuals three months post-COVID-19 was found to be higher than at other times evaluated in this study. Nurses play a crucial role in assessing the fatigue levels of patients during the care process for respiratory infectious diseases and should work closely with patients and their families to plan daily activities that help manage fatigue.

Fatigue is a subjective symptom that influences the diagnosis and treatment of various chronic diseases and is affected by numerous factors. This study found that individuals aged 50-57, those who are married, have chronic diseases, or underwent the disease process in Intensive Care Units exhibited higher mean post-COVID-19 fatigue scores, aligning with findings reported in the literature. Garrigues et al.[23] identified fatigue as one of the most commonly experienced symptoms after COVID-19, with a mean participant age of 60.0 years.[24] In another study by Carfi et al.,[8] which explored the most common symptoms experienced after COVID-19, the mean age of participants was 56.5 years, highlighting that a majority had a chronic disease.[8] Factors such as decreased immune response, tissue perfusion

Table 5. Distribution of the Ongoing Symptoms of Individuals after the COVID-19

Symptoms	First Month n (%)	Second Month n(%)	Third Month n(%)	Fourth Month n(%)	Fifth Month n(%)	Sixth Month n (%)
Fatigue*	44 (77.2)	54 (63.5)	45 (75.0)	14 (29.8)	23 (88.5)	14 (56.6)
Ache*	11 (19.3)	49 (57.6)	26 (43.3)	6 (12.8)	2 (7.7)	10 (40.0)
Headache*	23 (40.4)	17 (20.0)	19 (31.7)	6 (12.8)	11 (42.3)	5 (20.0)
Cough*	44 (77.2)	42 (49.4)	37 (61.7)	11 (23.4)	18 (69.2)	9(36.0)
Shortness of breath*	45 (78.9)	57 (67.1)	38 (63.3)	31 (66.0)	18 (69.2)	14 (56.0)
Loss of taste*	26 (45.6)	50 (58.8)	17 (28.3)	2 (4.3)	3 (11.5)	5 (20.0)
Loss of odor*	38 (66.6)	57 (67.1)	16 (26.79	3 (6.4)	4 (15.3)	4 (16.0)
Hair loss*	30 (52.6)	36 (42.4)	14 (23.3)	10 (21.3)	3 (11.5)	3 (12.0)
Forgetfulness*	17 (29.8)	35 (41.2)	37 (61.7)	39 (83.0)	16 (61.5)	22 (88.0)
Depression/stress*	12 (21.1)	22 (25.9)	25 (41.7)	25 (53.2)	9 (34.6)	20 (80.0)
Difficulty concentrating*	5 (8.7)	24 (28.2)	29 (48.3)	20 (42.6)	9 (34.6)	11 (44.0)
Tendency to sleep*	21 (36.8)	18 (21.2)	20 (33.3)	22 (46.8)	8 (30.8)	12 (48.0)
N (%)	57 (100.0)	85 (100.0)	60 (100.0)	47 (100.0)	39 (100.0)	18 (100.0)

*Individuals stated more than one symptom.

disorders, advanced age, and the presence of comorbid diseases can contribute to the persistence and increased severity of fatigue following COVID-19.[4,7,16] Consequently, a comprehensive anamnesis is crucial during the treatment and care process for COVID-19, with medication, nutrition therapy, and daily living activities tailored for fatigue management employing a patient-centered care approach.

Individuals may turn to integrative practices to prevent the transmission of COVID-19, boost immunity, mitigate the expected side effects of conventional medical treatments, and enhance adherence to treatment.[25] In the current study, it was found that some participants utilized herbal teas and food supplements, engaged in exercise, and practiced breathing exercises during their COVID-19 diagnosis. Yet, studies on integrative approaches during and after COVID-19 are sparse. Fengi et al.[26] underscored that Qigong, a key component of traditional Chinese medicine, can be safely used for the prevention, treatment, and rehabilitation of COVID-19 in the elderly. In a web-based study conducted by Degha et al.[27] in Iran, it was reported that 84% of participants utilized integrative practices during the COVID-19 pandemic, predominantly in the form of food supplements (61.3%), prayers (57.9%), and herbal remedies (48.8%). In a study focused on this topic, it was discovered that the Liuzijue Program, incorporating breathing exercises from Traditional Chinese Medicine, effectively enhances the quality of life and functional recovery in individuals who have recovered from COVID-19.[28] Shukla et al.[29] reported that Pranayama Techniques, which include breathing exercises from Indian medicine, were beneficial in enhancing pulmonary reserve during the COVID-19 quarantine period.

Limitations

The primary limitation of this study is its geographic scope, being conducted solely in cities within a specific region. To generalize the results, further studies with longer follow-up periods and larger sample sizes are necessary. Additionally, the collection of data within a limited timeframe represents another limitation. Factors such as anemia, blood loss, major surgery, chronic diseases, and nutritional deficiency, which may influence fatigue, were not distinctly categorized, marking another limitation of the study.

Conclusion

In this study, the average fatigue score of individuals post-COVID-19 were determined to be at a moderate level. The most common symptoms identified were fatigue, cough, and loss of smell. Although the subjective fatigue score during the COVID-19 illness was found to be moderate, the subjective average score post-COVID-19 exceeded the mean value. Additionally, it was observed that most participants utilized various integrative applications both during and after their COVID-19 illness. In this respect, it is advisable to expand research on identifying the duration and intensity of symptoms experienced post-COVID-19 and to enhance evidence-based scientific research on the effectiveness of integrative practices used throughout and following the COVID-19 illness. The findings of this study, which evaluated post-COVID-19 fatigue levels using a scale, are expected to contribute to the body of literature on the subject. The fatigue levels of individuals should be assessed using both objective and subjective measures in the monitoring, treatment, and care of respiratory-transmit ted diseases like COVID-19 that impact plasma oxygen levels. Based on these findings, caregivers are encouraged to inquire about post-COVID-19 fatigue symptoms and assist individuals in planning their daily activities according to their fatigue levels.

Ethics Committee Approval: Ethical permission was obtained from the Kahramanmara Sütçü Imam University Non-Interventional Research Ethics Committee (Approval Number: 2021/23-06), Date: 26.01.2021), and the Republic of Türkiye Ministry of Health (2021-05-26T00_01_04).

Informed Consent: Permission was obtained from the participants to collect the data.

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