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Fatigue Related COPD From Patient's Perspectives

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ABSTRACT

Objectives: Fatigue is a common symptom in patients with the chronic obstructive pulmonary disease (COPD). The aim of this study was to assess patient-reported fatigue in the COPD and to investigate their attempts to cope with it.

Methods: This cross-sectional study was conducted with 62 patients diagnosed with the COPD. Individual Introduction Form, Fatigue Intervention Form and Visual Analog Scale were used to collect research data. The data were presented in the form of numbers, percentages, means and standard deviations, while Chi-Square, Fisher Freeman Halton and Pearson Correlation analysis were applied in statistical analysis.

Results: Patients have moderate fatigue, with a score of 6.91 ± 2.81 out of 10 and they experience fatigue for 4.95 ± 2.19 days in a week. Patients reported that the most common causes of fatigue were stress, illness and advanced age. They also mentioned feeling unhappy and angry due to fatigue, adopted a sedentary lifestyle, and being unable to do housework. The most common attempts made by patients to cope with fatigue are sleeping, taking a warm shower and using medication, while less frequently used methods include watching movies, praying, getting a massage and listening to music.

Conclusion: Patients diagnosed with the COPD frequently experience moderate fatigue, which can have harmful effects on their daily lives. In response, patients often implement strategies to conserve energy, with the aim of managing the fatigue symptoms. Nurses should routinely assess the fatigue status of the COPD patients and counsel them on coping with fatigue.

1 | Introduction

The World Health Organization lists chronic obstructive pulmonary disease (COPD) as the eighth leading cause of poor health worldwide [1], affecting the health of more than 380 million people globally [2]. The COPD is the fourth leading cause of death worldwide, with 3.5 million deaths in 2021. Approximately 90% of the COPD deaths under age 70 are reported to occur in low- and middle-income countries [1]. Moreover, the COPD accounts for 4% of respiratory system diseases and is the third most prevalent cause of mortality in Türkiye. In 2022, the mortality rate due to the COPD was

10.44 per 100.000 population [3]. Reasons for the high rates of the COPD in low- and middle-income countries include rapid urbanisation with heavy motor vehicle traffic, increasing tobacco smoking rates, and indoor air pollution from the burning of biomass fuels [4].

The COPD, which is predicted to increase further in the coming years [4], imposes a significant burden on individuals, including a range of symptoms (shortness of breath, cough, sputum production, wheezing, chest tightness) of varying severity. Overall symptom burden has a significant negative impact on health status, quality of life, and daily activities [5]. Fatigue is the

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second most important symptom after dyspnoea in the COPD patients [6]. Fatigue is a complex, distressing, and multi-dimensional sensation for COPD patients [7]. Patients describe fatigue as a feeling of 'general tiredness' [8] or 'depletion of energy' [9]. The state of fatigue has been shown to impact motivation, resulting in decreased concentration and the ability to participate in daily activities. These activities can include home, work, and social life [7]. Furthermore, symptoms associated with fatigue include dyspnoea, pain, anxiety, depression, and sleep disturbances [10, 11].

Fatigue in the COPD patients is a symptom that negatively affects many aspects of life [11, 12], and strains the patient's resources to cope with the relevant health problem [12]. The prevalence of fatigue in these patients ranges between 17%–95% [6] and 47%–72% [13]. Almost all patients undergoing pulmonary rehabilitation experience fatigue [7]. In view of the pervasiveness of the condition [2, 6, 14] and the associated symptoms of fatigue [9–13], it is imperative to adopt effective management strategies. There is limited evidence in the recent literature on how the COPD patients and their families cope with fatigue [11, 12].

Considering both its frequency and consequences, patients, their relatives and healthcare professionals should be aware of the detection, management and consequences of fatigue. Patients and their families should be informed that fatigue is a common symptom and should be educated about coping strategies to prevent fatigue and maintain or restore vitality [14]. Interventions such as exercise, rehabilitation opportunities, and breathing techniques have proven benefits in managing the COPD-associated fatigue. There are also emotion-focused strategies that the COPD patients have developed to cope with fatigue. The literature reports that the most commonly used strategies developed by the patients themselves include walking quickly, maintaining activities within their own limits (saving energy), doing regular exercise, resting, and relaxing [7, 11, 15]. However, there is limited current information on whether patients add new approaches to the aforementioned interventions and which interventions they use more intensively. This study was conducted to identify the fatigue levels of the COPD patients and the interventions they use to cope with fatigue. The research questions are as follows:

What is the level of fatigue experienced by the patients?

What are the causes and consequences of fatigue according to the patients?

How do patients cope with fatigue?

2 | Methods

2.1 | Aim

This study was conducted to assess the fatigue of patients with the COPD, to investigate their attempts to cope with fatigue, and to examine the factors that influence these attempts.

2.2 | Design

This descriptive, cross-sectional study was reported in accordance with the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) guidelines.

2.3 | Setting and Participants

This study was conducted in a pulmonary diseases clinic at a training and research hospital in Mersin/Turkiye between March and June 2023. The study population consisted of patients who were followed up and treated for the COPD during the specified dates. An average of 18 patients are hospitalised and treated each month in the pulmonary diseases clinic. Patients were selected through convenience sampling based on the following inclusion criteria: being diagnosed and treated for the COPD, being 18 years of age or older, scoring 1 or higher on the Visual Analogue Scale for fatigue, having the ability to understand, write, and read in Turkish, and voluntarily agreeing to participate in the study. Those who did not report experiencing fatigue in the previous month or who exhibited cognitive impairments, such as schizophrenia or Alzheimer's disease, were excluded from the study.

2.4 | Data Collection

The data were collected by the researcher through face-to-face interviews conducted during daytime hours with patients who met the inclusion criteria. Individual Introduction Form, Fatigue Intervention Form and Visual Analog Scale were used for data collection.

2.5 | Questionnaire

2.5.1 | Individual Introduction Form

Developed by the researchers based on the literature [6, 14, 16, 17], the form includes 19 questions to collect information about the patients' socio-demographic characteristics (such as age, gender and education level), disease-related characteristics (such as disease duration, presence of other chronic diseases and treatment information) and fatigue-related characteristics (such as factors that increase and decrease fatigue and its effects on daily life).

2.5.2 | Fatigue Intervention Form

In the form developed by the researchers based on the literature [6, 14], there are 14 statements designed to assess the coping methods used by the patient to manage fatigue. Patients respond to each statement in the questionnaire by marking one of the options: 'Always', 'Occasionally' or 'Never'. A question pool of 17 items was created by the researchers for the questionnaire, and the opinions of expert nurses were obtained regarding the question items. The experts' feedback on the 17 items was analysed using the Lawshe technique. Three items

with a Content Validity Ratio below 0.80 were removed from the pool and the Content Validity Index (CVI) of the remaining 14 items was calculated. The 14-item questionnaire had a CVI = 0.970. The responses obtained from the form are not subject to any scoring system. The form provides descriptive information regarding the frequency with which patients apply the interventions they use to cope with fatigue.

2.5.3 | Visual Analog Scale (VAS)

It was created by Huskisson to quantify values that cannot be measured numerically. The main advantage of this test is its lack of reliance on language and its ease of use. The definition of the parameter to be evaluated is written at both ends of a 10 cm line, and the patient is asked to indicate on this line where their condition corresponds, either by drawing a line, placing a dot, or pointing. The value obtained is not affected by whether the line on which the test is applied is horizontal or vertical, nor by its length. Patients are scored by averaging the scores obtained [18]. It is a safe, valid, and practical measurement tool used to assess the severity of fatigue in repeated measurements.

2.6 | Ethical Considerations

Before starting the research, ethical approval was obtained from the relevant ethics committee (Date: 04/02/2021 Number: 2021/1) and written permission was obtained from the hospital, where the research was conducted (Date: 21.01.2022 Issue: E.66792640). After being informed in writing about the study, informed consent was obtained from the participating patients.

2.7 | Data Analysis

The research data were analysed using IBM SPSS 27 (Statistical Package for the Social Sciences – IBM®) software. Descriptive data were expressed as numbers, percentages, means and standard deviations in the evaluation of the research data. The Kolmogorov Smirnov test was used to determine whether the variables followed a normal distribution, and it was found that they did not follow a normal distribution ($p < 0.005$). To compare differences between categorical variables according to groups, the Pearson chi-square was used in RxC tables where the ratio of cells with expected values above 5 or below 5 did not exceed 20%, while the Fisher-Freeman-Halton test was used in RxC tables where the ratio of cells with expected values below 5 exceed 20%. Effect sizes (Cramér's V) were calculated for the Pearson chi-square test and the Fisher-Freeman-Halton test. Statistical significance was accepted as $p < 0.05$ for all analyses.

3 | Results

Within the scope of the research, it was determined that 53.2% of the participants were 51 years old or older, 53.2% were female, 72.6% were married, 80.6% had an education level up to high school, 58.1% were unemployed and 54.8% had an income equal to their expenses (Table 1).

TABLE 1 | Socio-demographic characteristics of patients.

Characteristics	n	%
Age		
31–40	12	19.4
41–50	17	27.4
51 years and over	33	53.2
Gender		
Female	33	53.2
Male	29	46.8
Marital status		
Married	45	72.6
Widowed/divorced/unmarried	17	27.4
Education		
Less than high school educated	50	80.6
High school educated or more	12	19.4
Income generating employment		
Yes	26	41.9
No	36	58.1
Income		
Income < expenses	25	40.3
Income = expenses	34	54.8
Income > expenses	3	4.8

In our study, the average fatigue VAS score reported by the patients in the last week is 6.91 ± 2.81 . Patients stated that they felt tired for 4.95 ± 2.19 days per week in the last month. Furthermore, 43.5% of the patients reported having COPD for more than 1 year but less than 5 years, and 100% of them received treatment for their condition. Additionally, 72.6% of the patients indicated that stress was the cause of their fatigue and that they preferred a more sedentary life due to fatigue. As a result, it was found that fatigue frequently caused irritability (77.4%) in patients and they often tended (58.1%) to sleep during daily life due to fatigue (Table 2).

When the interventions used by the patients to cope with fatigue were examined, the top three interventions they consistently used were sleeping (56.5%), taking a warm shower (43.5%), and doing things in a planned manner (41.9%). On the other hand, the top three coping strategies that patients occasionally used were distraction (54.8%), exposure to sunlight (53.2%) and exercise (46.8%). It was found that the interventions patients reported never using to cope with fatigue were watching movies (98.4%), praying (40.3%), listening to music, and getting a massage (38.7%) (Figure 1).

When the distribution of coping attempts for fatigue experienced by patients was examined according to gender, it is found that trying to do things by planning differed significantly based on gender ($\chi^2 = 7.109$, $p < 0.05$). Accordingly, the percentage of female who 'occasionally try to do things by planning' is higher than male, while the percentage of 'never doing things' is lower (Table 3). When the methods of coping with fatigue of the patients were examined according to age groups, it was found

TABLE 2 | Characteristics of disease and fatigue of patients.

Characteristics	n	%
Duration of COPD		
3 months-1 year	18	29
1–5 years	27	43.5
More than 5 years	17	27.4
Presence of a other diagnosed chronic disease		
Yes	62	100
Negative health behaviours		
Yes	26	41.9
No	36	58.1
Treatments ^a		
Bronchodilator	62	100
Corticosteroid	52	83.8
Antibiotic	52	83.8
Mucolytic	56	90.3
Antipsychotic	38	40.3
Analgesic	27	43.5
Mean ± SD		
Fatigue score	6.91 ± 2.81	
Number of days in a week when fatigue is felt	4.95 ± 2.19	
Causes of fatigue	n	%
Disease	30	48.4
Old age	25	40.3
Sleep disturbance	28	45.2
Lack of motivation	14	22.6
Stress	45	72.6
Inadequate diet	8	12.9
Inactivity	19	30.6
Climate	5	8.1
Use of drugs	13	21
Fatigue changes your life		
My family relationships strengthened	13	21
I turned to worship	11	17.7
I started to do my work by planning	29	46.8
I have turned to a sedentary life	45	72.6
I started doing exercise	10	16.1
I withdrew from social life	31	50
Other ^b	30	48.4
The emotional consequences of fatigue		
Irritability	48	77.4
Anger	30	48.4
Disappointment	22	33.5
Fear	21	33.9

(Continues)

TABLE 2 | (Continued)

Causes of fatigue	n	%
Unhappiness	35	56.5
The effects of fatigue on daily life		
I have reduced/stopped hobbies	29	46.8
I have become unable to do housework.	30	48.4
I ask others for help with my day-to-day tasks	27	43.5
My tendency to sleep has increased	36	58.1
My social relationships have decreased	27	43.5
Other ^c	23	37.1

^aA patient is taking more than one medication.

^bQuick temper, tendency towards loneliness.

^cInability to drive, constantly ventilating the house, inability to stay in closed environments.

that there was no statistically significant difference between them (Please see Supporting Information S1).

When the methods of coping with fatigue were examined according to patients' educational status, it is found that listening to music, exercising and resting were statistically significantly different based on educational status ($p < 0.01$, $p < 0.05$). Accordingly, the percentage of those who 'always-listening to music and exercising' and 'never-resting' are higher among those with an education level above high school compared to those with a high school diploma or below (Table 4).

When the patients' attempts to cope with fatigue were examined according to the mean fatigue score, it is found that medication use differed significantly based on the fatigue score ($\chi^2 = 7.769$, $p < 0.05$). Accordingly, the percentage of those who 'always-using-medication' is higher among patients with a fatigue score of 6–10 compared to those with a fatigue score of 1–5 (Table 5).

4 | Discussion

Fatigue is a common and challenging symptom to cope with in the COPD patients [10, 19]. This study was conducted with 62 patients to determine the fatigue status of the COPD patients and the coping interventions they use to relieve fatigue. In our study, patients feeling tired for approximately 5 days a week, and the severity of fatigue was moderate, with a score of 6.91 ± 2.81 points. In literature, it was found that at least half of the COPD patients experience daily fatigue [13, 20–22] and their fatigue levels are moderate [21].

In our study, patients reported having multiple causes of fatigue, with the primary factors being stress, illness and sleep problems. Nearly half of the patients indicated that their fatigue was caused by illness. Fatigue often occurs as the disease progresses and can be a potential consequence of hypoxaemia [23]. However, it may also result from other pathogenic

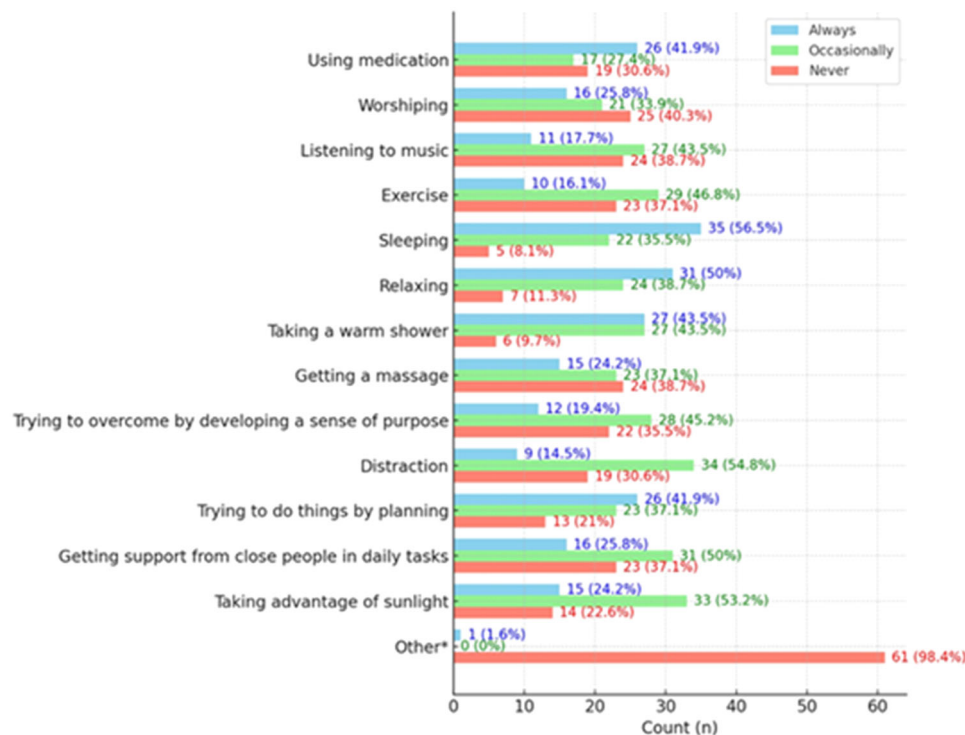


FIGURE 1 | Patients' ways of coping with fatigue. [Color figure can be viewed at wileyonlinelibrary.com]

mechanisms such as anaemia or systemic inflammation [21]. Current research indicates that patients experience fatigue as airflow limitation increases [13, 21, 23, 24], believe that fatigue is a natural consequence of the COPD, and tend to accept the symptom [25]. In our study, the relationship between fatigue and disease stage, hypoxia, inflammation and anaemia was not questioned; however, the causes of fatigue from the patient's perspective were explored. While the literature highlights advanced age, concomitant diseases, medications and sleep disorders as contributing factors to fatigue [14, 25], it is also well-known that the COPD patients suffer from insomnia and significant energy depletion due to fatigue [14]. In our sample, patients reported being tired due to stress (72.6%), illness (48.4%), sleep disorders (45.2%) and advanced age (40.3%). Studies have found a close relationship between respiratory diseases and mental health issues [26, 27]. Additionally, the research has emphasised the link between sleep disorders and depression, anxiety and stress in the COPD patients [27–29]. The present study did not evaluate the relationship between psychological problems and the fatigue status of COPD patients. However, the observation that 40.3% of the patients were using antipsychotic drugs led us to hypothesise that these drugs may trigger fatigue. This finding suggests the need for additional studies to be conducted in the future. Some of the triggers identified by participants in a study [30] on chronic fatigue include exposure to hot weather or sunlight, lack of sleep, cold, being in stressful situations and taking on additional tasks beyond their normal routine. In light of this evidence, our research results suggest that stress, illness, advanced age and sleep problems can trigger fatigue in the COPD patients. In our study, patients reported multiple consequences of fatigue, including an increased tendency to sleep during daily life, difficulties in performing household, a loss of interest in hobbies, feelings of restlessness and tension, a preference for a sedentary

lifestyle, and social withdrawal. The literature indicates that approximately 70% of the COPD patients experience decreased sleep quality [31], and these patients have been reported to suffer from agitation, memory impairment [26, 32, 33], lack of energy, decreased performance [34], reduced interest in their surroundings, and diminished social activities [26, 32, 33]. Additionally, patients experiencing chronic fatigue have reported decreased productivity and reduced social participation [30]. A parallel can be drawn between the results of the existing literature and those of our research.

In our study, the most common attempts that patients consistently used to cope with fatigue were sleeping, taking a warm shower, taking medication, and organising activities in a planned manner. The strategies they occasionally used included diverting their attention, taking advantage of sunlight, and exercising. It was determined that most patients did not attempt to watch movies, pray, listen to music or get a massage as a way to cope with fatigue. There are few studies on coping with fatigue in the COPD patients. In literature, the COPD patients have stated managing fatigue through individual coping strategies such as conserving energy, staying active, resting, planning daily activities, sleeping, seeking help from assistive devices or family members, walking and exercising [25]. Patients experiencing chronic fatigue resort to the following methods to cope with the symptom [30]: getting enough sleep and taking naps during the day, planning and pacing activities, using technology to assist with daily living tasks, seeking support for housework when needed, and keeping a list of important things to remember. Young people are seen to adopt methods such as exploring patient and peer-led platforms, researching health forums, regularly accessing social sites like Facebook and YouTube, following personal stories, resorting to emotional content, and using interactive technologies to cope with chronic fatigue [35]. It has been found that patients with the

TABLE 3 | Distribution of ways patients cope with fatigue according to gender.

Methods of coping with fatigue	Frequency level	Female (<i>n</i> = 33) <i>n</i> (%) ^c	Male (<i>n</i> = 28) <i>n</i> (%) ^c	Statistical analysis		Effect size
				χ^2	<i>p</i> ^a	
Using medication	Always	14 (42.4)	12 (42.9)	0.275	0.871	0.067
	Sometimes	10 (30.3)	7 (25.0)			
	Never	9 (27.3)	9 (32.1)			
Worshipping	Always	8 (24.2)	8 (27.6)	2.445	0.294	0.199
	Sometimes	14 (42.4)	7 (24.1)			
	Never	11 (33.3)	14 (48.3)			
Listening to music	Always	4 (12.1)	7 (24.1)	3.742	0.154	0.246
	Sometimes	18 (54.5)	9 (31.0)			
	Never	11 (33.3)	13 (44.8)			
Exercise	Always	5 (15.2)	5 (17.2)	0.867	0.648	0.118
	Sometimes	14 (42.4)	15 (51.7)			
	Never	14 (42.4)	9 (31.0)			
Sleeping	Always	19 (57.6)	16 (55.2)	0.299 ^b	0.932	0.057
	Sometimes	11 (33.3)	11 (37.9)			
	Never	3 (9.1)	2 (6.9)			
Relaxing	Always	17 (51.5)	14 (48.3)	0.421 ^b	0.876	0.074
	Sometimes	13 (39.4)	11 (37.9)			
	Never	3 (9.1)	4 (13.8)			
Taking a warm shower	Always	15 (45.5)	12 (41.4)	0.795 ^b	0.712	0.112
	Sometimes	14 (42.4)	15 (51.7)			
	Never	4 (12.1)	2 (6.9)			
Getting a massage	Always	7 (21.2)	8 (27.6)	0.521	0.771	0.092
	Sometimes	12 (36.4)	11 (37.9)			
	Never	14 (42.4)	10 (34.5)			
Trying to overcome by developing a sense of purpose	Always	8 (24.2)	4 (13.8)	4.014	0.134	0.254
	Sometimes	17 (51.5)	11 (37.9)			
	Never	8 (24.2)	14 (48.3)			
Distraction	Always	7 (21.2)	2 (6.9)	3.014 ^c	0.234	0.224
	Sometimes	18 (54.5)	16 (55.2)			
	Never	8 (24.2)	11 (37.9)			
Trying to do things by planning	Always	12 (36.4)	14 (48.3)	7.109	0.029	0.339
	Sometimes	17 (51.5)	6 (20.7)			
	Never	4 (12.1)	9 (31.0)			
Getting support from close people in daily tasks	Always	9 (27.3)	7 (24.1)	1.476	0.478	0.154
	Sometimes	14 (42.4)	9 (31.0)			
	Never	10 (30.3)	13 (44.9)			
Taking advantage of sunlight	Always	7 (21.2)	8 (27.6)	0.569	0.753	0.096
	Sometimes	19 (57.6)	14 (48.3)			
	Never	7 (21.2)	7 (24.1)			

^aChi-square test.

^bFisher Freeman Halton test.

^cColumn percentage, *p* < 0.05.

TABLE 4 | Distribution of ways patients cope with fatigue according to education status.

Methods of coping with fatigue	Frequency level	High school degree or below (<i>n</i> = 50) <i>n</i> (%) ^b	Above high school (<i>n</i> = 12) <i>n</i> (%) ^b	Statistical analysis		Effect size
				χ^2	<i>p</i> ^a	
Using medication	Always	24 (49.0)	2 (16.6)	4.376	0.108	0.260
	Sometimes	12 (24.5)	5 (41.7)			
	Never	13 (26.5)	5 (41.7)			
Worshipping	Always	12 (24.0)	4 (33.3)	0.772	0.664	0.105
	Sometimes	18 (36.0)	3 (25.0)			
	Never	20 (40.0)	5 (41.7)			
Listening to music	Always	6 (12.0)	5 (41.7)	12.432	0.002*	0.427
	Sometimes	20 (40.0)	7 (58.3)			
	Never	24 (48.0)	0 (0.0)			
Exercise	Always	6 (12.0)	4 (33.3)	6.676	0.022**	0.323
	Sometimes	22 (44.0)	7 (58.4)			
	Never	22 (44.0)	1 (8.3)			
Sleeping	Always	30 (60.0)	5 (41.7)	1.673	0.547	0.154
	Sometimes	16 (32.0)	6 (50.0)			
	Never	4 (8.0)	1 (8.3)			
Relaxing	Always	26 (52.0)	5 (41.7)	5.988	0.047**	0.344
	Sometimes	21 (42.0)	3 (25.0)			
	Never	3 (6.0)	4 (33.3)			
Taking a warm shower	Always	21 (42.0)	6 (50.0)	1.750	0.417	0.154
	Sometimes	25 (50.0)	4 (33.3)			
	Never	4 (8.0)	2 (16.7)			
Getting a massage	Always	12 (24.0)	3 (25.0)	0.214	1.000	0.039
	Sometimes	19 (38.0)	4 (33.3)			
	Never	19 (38.0)	5 (41.7)			
Trying to overcome by developing a sense of purpose	Always	11 (22.0)	1 (8.3)	2.512	0.301	0.217
	Sometimes	20 (40.0)	8 (66.7)			
	Never	19 (38.0)	3 (25.0)			
Distraction	Always	8 (16.0)	1 (8.3)	0.724	0.739	0.122
	Sometimes	26 (52.0)	8 (66.7)			
	Never	16 (32.0)	3 (25.0)			
Trying to do things by planning	Always	21 (42.0)	5 (41.7)	0.261	1.000	0.059
	Sometimes	18 (36.0)	5 (41.7)			
	Never	11 (22.0)	2 (16.6)			
Getting support from close people in daily tasks	Always	14 (28.0)	2 (16.7)	1.128	0.618	0.139
	Sometimes	17 (34.0)	6 (50.0)			
	Never	19 (38.0)	4 (33.3)			
Taking advantage of sunlight	Always	10 (20.0)	5 (41.7)	2.334	0.365	0.200
	Sometimes	28 (56.0)	5 (41.7)			
	Never	12 (24.0)	2 (16.6)			

^aFisher Freeman Halton test.

^bColumn percentage.

p* < 0.01; *p* < 0.05.

TABLE 5 | Distribution of ways patients cope with fatigue according to fatigue score.

Methods of coping with fatigue	Frequency level	1–5 (<i>n</i> = 29)	6–10	χ^2	<i>p</i> ^a	Effect size
		<i>n</i> (%) ^c	(<i>n</i> = 33) <i>n</i> (%) ^c			
Using medication	Always	7 (24.2)	19 (59.4)	7.769	0.021	0.357
	Sometimes	11 (37.9)	6 (18.8)			
	Never	11 (37.9)	7 (21.9)			
Worshipping	Always	8 (27.6)	8 (24.2)	0.976	0.614	0.125
	Sometimes	8 (27.6)	13 (39.4)			
	Never	13 (44.8)	12 (36.4)			
Listening to music	Always	6 (20.7)	5 (15.2)	2.845	0.241	0.214
	Sometimes	15 (51.7)	12 (36.4)			
	Never	8 (27.6)	16 (48.4)			
Exercise	Always	3 (10.3)	7 (21.2)	1.426	0.490	0.152
	Sometimes	14 (48.3)	15 (45.5)			
	Never	12 (41.4)	11 (33.3)			
Sleeping	Always	14 (48.3)	21 (63.6)	2.117 ^b	0.368	0.183
	Sometimes	13 (44.8)	9 (27.3)			
	Never	2 (6.9)	3 (9.1)			
Relaxing	Always	13 (44.8)	18 (54.5)	1.945 ^b	0.363	0.180
	Sometimes	11 (37.9)	13 (39.4)			
	Never	5 (17.2)	2 (6.1)			
Taking a warm shower	Always	11 (37.9)	16 (48.5)	4.007 ^b	0.121	0.261
	Sometimes	17 (58.6)	12 (36.4)			
	Never	1 (3.4)	5 (15.2)			
Getting a massage	Always	8 (27.6)	7 (21.2)	0.368	0.832	0.077
	Sometimes	10 (34.5)	13 (39.4)			
	Never	11 (37.9)	13 (39.4)			
Trying to overcome by developing a sense of purpose	Always	2 (6.9)	10 (30.3)	5.670	0.059	0.302
	Sometimes	16 (55.2)	12 (36.4)			
	Never	11 (37.9)	11 (33.3)			
Distraction	Always	2 (6.9)	7 (21.2)	3.014	0.228	0.224
	Sometimes	16 (55.2)	18 (54.5)			
	Never	11 (37.9)	8 (24.3)			
Trying to do things by planning	Always	12 (41.4)	14 (42.4)	3.966	0.138	0.253
	Sometimes	8 (27.6)	15 (45.5)			
	Never	9 (31.0)	4 (12.1)			
Getting support from close people in daily tasks	Always	7 (24.2)	9 (27.3)	0.079	0.961	0.036
	Sometimes	11 (37.9)	12 (36.4)			
	Never	11 (37.9)	12 (36.4)			
Taking advantage of sunlight	Always	7 (24.1)	8 (24.2)	4.855	0.088	0.280
	Sometimes	12 (41.4)	21 (63.6)			
	Never	10 (34.5)	4 (12.1)			

^aChi-square test.

^bFisher Freeman Halton test.

^cColumn percentage, *p* < 0.05.

COPD frequently use strategies such as breathing techniques, taking medication, resting and conserving energy [36]. Although some of these coping strategies are similar to those used by patients in our study, there are no findings regarding the use of technology and digital media.

In our study, it was observed that female patients coped with fatigue more frequently by organising their work from time to time compared to male patients, that those with a high school education or higher were more likely to listen to music and exercise compared to those with a lower education level; and that those with high fatigue severity consistently preferred to use medication. Although, there are no available studies evaluating the factors affecting the coping behaviours of the COPD patients, it is known that acceptance, positive thinking and turning to religion positively influence the coping behaviours of individuals with chronic diseases [37]. Fatigue needs to be identified and monitored in patients to better understand individualised needs and personalised coping approaches. Based on these findings, we can conclude that there is a need for descriptive and correlational studies to explain the factors that influencing the coping strategies of the COPD patients.

4.1 | Limitations

This study did not enquire about the training patients received to learn interventions for coping with fatigue. Consequently, the study's findings leave open the question of whether patients developed these coping mechanisms independently or acquired them through training. Additionally, the research process was prolonged due to the occurrence of the Covid-19 pandemic and the earthquake in Türkiye, which was another limitation of the study.

5 | Conclusions

Fatigue, which is common in the COPD, affects patients' daily lives. Patients often express a preference for a sedentary lifestyle and sleep, noting their inability to engage in domestic tasks and their increased susceptibility to feelings of anger or irritability due to fatigue. The results of the study revealed that COPD patients exhibited individual differences in their coping strategies and approaches to managing fatigue. To mitigate the effects of fatigue, patients often resort to various coping mechanisms, including sleep, medication, rest, and warm showers. To support and enhance individual interventions in fatigue management, it is recommended that the current situation be evaluated from the patient's perspective, new interventions be identified and implemented, existing intervention approaches be expanded. To generalise the findings obtained from this study, they should be supported by the results of both qualitative and quantitative studies. Subsequent studies should aim to investigate the physical and psychological causes and consequences of fatigue, as well as the impact of patients' coping strategies on fatigue management.

Author Contributions

All authors have contributed significantly, and all authors are in agreement with the content of the manuscript: Conception/design: AÖ

and AKS; collection of data: ND; Assembly of data: AÖ and AKS; data analysis and interpretation: AÖ and AKS; manuscript writing: AKS and AÖ; final approval of manuscript: AÖ.

Consent

Informed consent was obtained from patients.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.