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Research Article

Evaluation of the Relationship between the Adherence to the Treatments of Individuals with Chronic Obstructive Pulmonary Disease and their Attitudes Towards Complementary and Alternative Medicine in the COVID-19 Pandemic

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Abstract

Introduction: This study was conducted in a descriptive type in order to determine the relationship between the adherence to treatment of individuals with COPD during the COVID-19 pandemic and their attitudes towards complementary and alternative treatment.

Method: The study was completed with 205 individuals diagnosed with COPD who were treated at a university hospital between October and December 2021. Data were collected by face-to-face interview method through patient information form, attitudes towards complementary and alternative medicine, and Morisky sthe cale. For this study, the Cronbach's alpha value of the scales was calculated as 0.72.

Results: According to the research; People aged 65 and over, female, married, housewife, primary school graduates, diagnosed with COPD for more than 10 years, and those with multiple concomitant chronic diseases have a positive attitude towards complementary treatments ($p<0.001$) but their compliance with COPD treatments is low ($p<0.05$) has been determined. A negative weak-moderate correlation was determined between the participants' attitudes towards complementary therapies and the Morisky total score ($p<0.05$), which evaluates their compliance with COPD treatments, and its subscales, "adherence and knowledge levels" ($p=0.001$).

Conclusion: It has been determined that individuals with COPD, 65 years of age and older, female, married, primary school graduate, diagnosed with COPD for more than 10 years, and individuals with chronic diseases other than COPD, have adaptation problems in continuing their treatment during the pandemic process and are open to trying different complementary treatment methods. In addition, the increase in the orientation of individuals with COPD to complementary therapies may adversely affect their compliance with their existing treatments.

Keywords: adherence to treatment; COPD; traditional complementary alternative therapy; pandemic

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is one of the important causes of morbidity and mortality among chronic diseases. Periods of exacerbation seen during the disease process can cause progression of the disease, increase in health expenditures and mortality (1). The leading cause of COPD exacerbations is the occurrence of tracheobronchial infections. Viral agents are shown as the source of tracheobronchial infections (2). All these data; It predicts that individuals with COPD may be adversely affected by the new type of coronavirus (COVID-19). The first data collected from the Chinese city of Wuhan at the beginning of the pandemic; It shows that the frequency of COPD among patients who develop COVID-19 pneumonia is 2-3% (3). In a study conducted in Italy in April 2020, it was found that COPD ranks 6th among the diseases accompanying COVID-19, after hypertension, ischemic heart disease, diabetes, chronic kidney failure and atrial fibrillation with 18.3% (4,5) . COVID-19 pneumonia significantly increases the duration of intensive care, intubation and mortality rate in COPD patients compared to non-COPD patients (6,7). For this reason, individuals with many chronic diseases such as COPD have been affected by the long quarantine restrictions.

Delaying applications to health institutions, unless necessary, during the ongoing pandemic process has caused individuals with COPD to stay alone at home with their ongoing pharmacological treatments and symptoms of the disease (1,5). Studies have shown that individuals with chronic diseases are concerned about the interaction of their ongoing pharmacological treatments with COVID-19 during the

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pandemic process (8). It is predicted that this anxiety and worry experienced by the patients may cause treatment compliance problems. For this reason, Traditional Complementary and Alternative Therapies (CAM), which are thought to have no side effects and strengthen the immune system during quarantine processes, have been heavily preferred by individuals with chronic diseases. (8,9). Treatment approaches other than modern medical practices are defined as CAM. CAM includes many treatment methods and applications such as aromatherapy, massage, reflexology, acupuncture and therapeutic touch (10,11).

In the literature, it is reported that CAM applications are used to support the immune system in the prevention and treatment of infectious diseases (12,13). It has been stated that individuals with COPD use TCAT methods that they apply at home instead of applying to the hospital during the COVID-19 pandemic (14). At the same time, it is predicted that the emerging data will help nurses to take a holistic approach in providing care to individuals with COPD in the future.

METHOD

Aim

This study was conducted in a descriptive type in order to determine the relationship between the adherence to treatment of individuals with COPD during the COVID-19 pandemic and their attitudes towards complementary and alternative treatment.

Location and Characteristics of the Research

The study was conducted with individuals with COPD who were treated in the internal services of the University Hospital.

Population and Sample of the Research

The population of the study consists of all patients with COPD who were treated in the internal services of the University Hospital in Sivas/Turkey between October and December 2021. No sample selection was made in the study, and all patients who agreed to participate in the study and met the criteria were included. In the power analysis for the research, 95% working power was calculated for at least 100 patients, and a total of 205 patients were reached.

Inclusion and Exclusion Criteria for Research

In the study; 18 years of age and older, who met the diagnostic criteria of COPD, had chronic shortness of breath, cough, sputum complaints, had an FEV1/FVC ratio of 70% and below in the pulmonary function test, were in a stable period, had bronchiectasis, asthma, interstitial fibrosis, had no psychological problems, and did not participate in the study. Accepted patients were included. Individuals who could not answer the questionnaire and scale questions at the time of data collection and did not want to leave the study were planned to be excluded from the study, but such a situation did not occur.

Data Collection Tools; Patient Information Form (PIF) and Morisky Scale and Attitudes Towards Complementary and Alternative Medicine Scale (CACMAS) were used.

Patient Information Form (PIF); The form consists of 15 questions prepared based on previous similar studies and literature.

Attitude Scale Towards Complementary and Alternative Medicine (CACMAS); The scale was developed by Hyland et al. (2003) (15), and its Turkish validity and reliability were performed by Erci (2007) (16). The highest score that can be obtained from the scale is 66, and the lowest score is 11. Low scores from the scale indicate a positive attitude towards complementary and alternative medicine. The Cronbach alpha reliability coefficient of the scale is 0.72 (15,16).

Modified Morisky Scale: The scale was developed by Morisky et al. (1980) (17) and its Turkish validity and reliability were verified by Bahar et al. (18) by. If the total score obtained from the scale is 0-1, it indicates low level of compliance, and >1 indicates high level of compliance. The Cronbach's alpha value of the scale was calculated as 0.72.

Data Collection

The study was completed with 205 patients who voluntarily agreed to participate by informing the patients about the study. In the study, data were collected by HBF, Morisky, CACMAS and the coordinator.

Evaluation of Data

The analysis of the research data was carried out using the SPSS for Windows (statistics package for social sciences) 22.0 package program, using the arithmetic mean, standard deviation, significance test of the difference between the two means, analysis of variance, and correlation test. Statistical significance level ($p<0.05$) is shown together with the related tests.

Ethic

Faculty of Medicine Ethics Committee Approval (No. 2021-09/06) was obtained for the study. Written and verbal consent was obtained from the patients participating in the study.

RESULTS AND DISCUSSION

In the pandemic conditions, warnings were made by the authorities to apply to health institutions when necessary and to stay at home as much as possible for individuals with chronic diseases. It has been determined that COVID-19, which emerged for the first time and contains many unknowns about its efficacy and treatment, causes anxiety and anxiety in patients for COPD treatment. At this point, it is thought that patients are more open than ever to experience CAM methods, which they think are economical, accessible and have few side effects.

The sociodemographic characteristics of the patients participating in the study are shown in Table 1. According to Table 1, the mean age of the patients participating in the study was 66.99±15.58 years, 52.2% of them were 65 years and older, 61% were male, 79.5% were married, more than half (52%) were primary school graduates, (52.2%) were retired and self-employed. In addition to the disease, 55.2% have DM patients, 50.7% have COPD patients for 1-5 years, the majority (63%) are non-smokers. According to the results of this study, it was found that those aged 65 and over, female, married, housewife, primary school graduate, diagnosed with COPD for more than 10 years, and those with multiple concomitant chronic diseases developed a positive attitude towards complementary treatments ($p<0.001$) but continued It was determined that their compliance with COPD treatments was low ($p<0.05$) (Table 1).

According to the results of this study, it was determined that individuals with COPD aged 65 and over had high CAM attitudes, but low compliance with ongoing COPD treatments ($p<0.05$). Studies have shown that individuals aged 65 and over with chronic diseases feel the side effects of long-term treatments more intensely, therefore they want to control their symptoms with alternative treatments (14,19). It has been determined that individuals with chronic diseases during the

pandemic process tend to CAM for many different reasons. In a study in which the health checks of individuals with chronic diseases during the pandemic process were carried out with the telemedicine method, it is commented that elderly patients have problems using the telemedicine method and they do not want to apply to health institutions due to infection anxiety, so they turn to CAM (20). Considering these difficulties experienced by elderly individuals with COPD during the pandemic process, it is a striking finding that they try different alternative treatments and delay their treatment while they stay at home. It is thought that addressing this situation in the health system may be important in terms of improving and maintaining health.

In this study, it was determined that women, married and housewives had a positive attitude towards CAM (p<0.001), while their compliance with ongoing COPD treatments was low (p<0.05) (Table 1). The results of this study show similarities with the literature. In a review examining the CAM orientations of different countries, it is stated that in Malaysia, which prefers complementary therapy in many diseases, women benefit from CAM applications more than men (21). In a study conducted in Turkey, it was found that 71.8% of CAM users were women and housewives (22). In studies evaluating gender and adherence to treatment, it was revealed that women with chronic diseases use their medications more irregularly than men (23,24). Socially, the fact that women spend more time at home than men can increase their CAM orientation with the influence of neighbors and households.

In this study, it was determined that the higher the education level, the lower the CAM orientation of the patients and the higher their adherence to treatment (p<0.05) (Table 1). In a study evaluating the drug compliance of individuals with chronic diseases during the pandemic process, it was determined that those with a high education level and those living in the city center had a high level of adherence to their

Table 1: *Sociodemographic Characteristics of COPD*

Sociodemographic Characteristics	CACMAS Total	Morisky Score		
	X±SD	Adherences level X±SD	Knowledge level X±SD	Total X±SD
< 65	31.37±3.18	2.35±0.08	2.29±0.01	4.64±0.09
≥ 65	34.85±6.23	2.27±0.75	2.23±0.18	4.50±0.93
*p/t	p<0.001* t=9.241	p<0.05* t=9.745	p<0.05* t: 6.021	p<0.05* t:5.668
Gender				
Female	33.10±5.32	2.07±0.05	1.83±0.04	3.95±0.07
Male	28.47±4.17	2.12±0.03	2.34±0.03	4.41±0.08
*p/t	p:.0.001* t:4.01	p:.0<0.05* t:0.305	p<.0.05* t:1.598	p<0.05*t: 0.417
Marital status				
Married	32.46±4.32	2.28±0.05	2.24±0.03	4.52±0.08
Singel	31.33±4.52	2.10±0.13	2.13±0.07	4.23±0.20
*p/t	p:.0<0.05* t:0.412	p<0.05* t:0.545	p<0.05* t:1.698	p<0.05* t:0.417
Education status				
Primary education	32.84±3.82	2.12±0.17	2.05±0.02	4.12±0.07
High school	27.30±4.55	2.07±0.05	2.15±0.17	4.27±0.34
University and above	26.50±16.26	2.38±0.06	2.32±0.08	4.70±0.14
**p/KW	p:.0.001** KW:28.39	P:0.046** KW:29.57	p:.0.05** KW:30.28	p:.0.042** KW: 10.12
Comorbid diseases				
Yes	32.30±4.71	2.11±0.78	2.09±0.08	4.16±0.0.86
Yes, more than one	31.18±2.25	2.04±0.15	2.07±0.15	4.11±0.30
No	27.92±0.26	2.18±0.66	2.15±0.08	4.27±0.74
**p/KW	p:0.001** KW:19.74	p: 0.044** KW: 20.28	p:0.047** KW:6.19	p: 0.038** KW: 23.86
COPD duration				
1-9 years	29.60±4.72	2.21±0.78	2.25±0.18	4.46±0.90
10-19 years	30.35±3.98	2.18±0.76	2.13±0.08	4.31±0.84
20 years and above	33.48±4.32	2.14±0.15	2.07±0.18	4.21±0.33
**p/KW	p:0.036** KW:10.394	p:0.033** KW:0.463	p:0.045** KW: 15.867	p: 0.046** KW: 2.878
Occupation				
Not officer	31.55±1.60	2.33±0.78	2.75±0.16	5.08±0.94
Officer	28.00±11.26	2.19±0.76	2.49±0.11	4.68±0.87
Housewife	35.04±6.51	2.10±0.15	2.12±0.07	4.22±0.22
**p/KW	p:.0.001** KW:35.30	p:0.047**KW:19.18	p:0.037**KW:22.23	p:0.042**KW:25.47

**p: Chi-square test; **p: Kruskalwallis test*

Table 2: *Score Distribution of CACMAS and Morisky among individuals with COPD*

Score	Minimum	Maksimum	X±SD
CACMAS Total Score	15	40	32.86±5.20
MORİSKY Score Total	2	6	4.37±1.01
Adherences Level	0	3	2.28±0.77
Knowledge Level	0	3	2.33±0.74

Table 3: *The relationship between CACMAS and Morisky Scale*

		1	2	3	4
1- CACMAS	r p	1	.-225** 0.012	.-440** 0.001	.-287** 0.001
2-Morisky Score	r p	.-225** 0.012	1	503** 0.001	677** 0.001
3.Adherences level	r p	.-440** 0.001	503** 0.001	1	.698** 0.001
4. Knowledge level	r p	.-287** 0.001	677** 0.001	.698** 0.001	1

**p<0.05 **p<0.001*

treatments. In the said study, a positive correlation was observed between the level of knowledge about the harms of drugs and the level of education (25). It has been demonstrated by a number of studies that as the education level of individuals decreases, the belief that drugs are harmful and addictive increases (23,25). Especially during the pandemic period, the fact that individuals with a low level of education are more open to wrong treatments and practices emerges as an issue that should be considered by health professionals.

In this study, it was determined that those with COPD over 10 years and those with more than one chronic disease were found to have low adherence to CAM orientation and treatment (p<0.05) (Table 1). Different results have been revealed in studies on the effects of chronic disease and treatment duration on CAM and treatment compliance. It is known that individuals with several chronic diseases experience adaptation problems after a certain period of time due to long-term treatments, and they want to stop their treatment when symptoms become stagnant (25). On the other hand, McAuley et al (2021), in their study, showed that the compliance of individuals with COPD to their treatment increased due to the anxiety and fear caused by COVID-19 (26).

According to Table 2, the mean scores of the patients from the scales were calculated as CACMAS 32.86±5.20 and Morisky 4.37±1.01, while the Morisky "Adaptation and Knowledge" sub-dimensions of the scale were determined as 2.28±0.77 and 2.33 ±0.74, respectively. A statistically negative weak-moderate correlation was determined between the attitudes of individuals with COPD participating in the study towards complementary treatments and the Morisky total score (p<0.05), which evaluates their compliance with COPD treatments, and its subscales, "adherence and knowledge levels" (p=0.001) (Table 3). In the literature, supporting the results of this study, it is stated that especially women and individuals over 65 years of age have low adherence to treatment, but are open to experiencing complementary therapies (21-23). It is important for nurses to have information about which treatments and approaches experienced by patients with low adherence to treatment during the pandemic process, in terms of managing the process of the disease.

Limitations

The collection of study data in a certain region during the pandemic process creates limitations in terms of the generalizability of the results.

Conclusion and Recommendations

In line with the results of this study, it has been determined that individuals aged 65 and over, female, married, primary school graduate, diagnosed with COPD for more than 10 years and having other chronic diseases have adaptation problems in continuing their treatment during the pandemic process and are open to trying different complementary treatment methods. At the same time, it is revealed by the data of this study that the increase in the orientation of individuals with COPD to complementary therapies negatively affects their compliance with their existing treatments.

There is a need for research in which nurses reveal the problems of individuals with chronic diseases in maintaining their treatment during the COVID-19 pandemic and the quality of solutions to their problems through longitudinal studies.

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Conflict of Interest: There is no personal or financial conflict of interest within the scope of the study.

Author Contribution: Creation and design of the research idea GA; data collection GA; analysis and interpretation GA, MM; The reporting of the article was done by GA, MM.

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