

# Attitudes of Patients with Chronic Obstructive Pulmonary Disease About Complementary Alternative Medicine

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## Article Info

## ABSTRACT

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### Keywords:

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Methods.

**Purpose:** This study was conducted to determine the attitudes of chronic obstructive pulmonary disease (COPD) patients about complementary and alternative medicine (CAM) and the symptoms they experience.

**Method:** This descriptive correlational study was conducted with chronic obstructive pulmonary patients who applied to a University Hospital disease during October 2020 to December 2020. Sociodemographic questionnaire, mMRC dyspnea scale, Chronic Obstructive Pulmonary Disease assessment test (COPDAT), Holistic Complementary and Alternative Medicine Attitude Scale (HCAMAS) were used as data collection tools in the study.

**Results:** The average age of the patients was 68.25±9.84 years and 50.6% of them were male. 55.4% of the patients were primary school graduates, 81.9% were married, 38.5 % were a smoker and quit in the past, 13.3% were still smokers, and 62.7% suffered from another chronic disease. There is a significant positive correlation between mMRC and COPDAT scores ( $r=0.369$ ,  $p=0.001$ ). There is a significant difference between the total scores of the HCAMAS according to the education levels of the participants ( $p=0.025$ ). 61.4% of the participants were informed about CAM, 92.8% used CAM, 65.1% benefitted from using CAM, 18.1% suffered from using CAM, 55.4% used herbal products, and 54.2% didn't notify healthcare personnel.

**Conclusion and Suggestions:** COPD patients should be informed about complementary and alternative medicine, its benefits and possible side effects by healthcare professionals in clinic.

## Kronik Obstrüktif Akciğer Hastalığı Olan Hastaların Tamamlayıcı ve Alternatif Tıp Hakkındaki Tutumları

## Makale Bilgileri

## ÖZ

### Makale Geçmişi

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### Anahtar Kelimeler:

Dispne,  
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Yöntemleri.

**Amaç:** Bu araştırma, Kronik obstrüktif akciğer hastalarının tamamlayıcı ve alternatif tıba yönelik tutumları ile yaşadıkları semptomlar arasındaki ilişkiyi belirlemek amacıyla yapılmıştır.

**Yöntem:** Tanımlayıcı ve ilişkisel türde olan bu araştırma, Ekim 2020- Aralık 2020 tarihleri arasında bir Üniversite hastanesine başvuran Kronik obstrüktif akciğer hastaları ile yapılmıştır. Sosyodemografik anket, mMRC Dispne Skalası, Kronik Obstrüktif Akciğer Hastalığı Değerlendirme Testi (CAT), Holistik Tamamlayıcı ve Alternatif Tıp Tutum Ölçeği (HCAMAS) araştırmada veri toplama aracı olarak kullanılmıştır.

**Bulgular:** Hastaların yaş ortalaması 68.25±9.84 yıl olup %50.6'sı erkekti. Hastaların %55.4'ü ilköğretim mezunu, %81.9'u evli, %38.5'i geçmişte sigara içip bırakmış, %13.3'ü halen sigara içiyor ve %62.7'si başka bir kronik hastalıktan muzdaripti. mMRC ile CAT puanları arasında anlamlı pozitif korelasyon vardır ( $r=0.369$ ,  $p=0.001$ ). Katılımcıların eğitim düzeylerine göre HCAMAS toplam puanları arasında anlamlı farklılık vardır ( $p=0.025$ ). Katılımcıların %61.4'ü CAM konusunda bilgilendirilmiş, %92.8'i TAT kullanmış, %65.1'i CAM kullanımından fayda görmüş, %18.1'i CAM kullanımından zarar görmüş, %55.4'ü bitkisel ürün kullanmış ve %54.2'si sağlık personeline bilgi vermemiştir.

**Sonuç ve Öneriler:** KOAHA hastaları kurumlarındaki sağlık profesyonelleri tarafından Tamamlayıcı ve alternatif tıp yöntemleri, yararları ve olası yan etkileri konusunda bilgilendirilmelidir.

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## INTRODUCTION

Many chronic, degenerative, and malignant diseases with difficult and expensive treatment have appeared as life expectancy increases (Turan et al., 2010; Khorshid & Yapucu, 2005). Together with increasing chronic diseases, people's tendency to complementary and alternative medicine (CAM) increases to treat and alleviate the symptoms associated with these diseases (Linde et al., 2001; Steurer-Stey & Russi, 2002)

The diagnosis, treatment, and protection methods which are based on long-time experiences and traditions that are not generally considered part of conventional medicine are called CAM (Barnes et al., 2004). The frequency of using CAM, which increases throughout the world, in the general population is 9 to 65% (Chen & Chang, 2003). CAM usually differ based on the beliefs, lifestyles, and cultures of patients and the course of a disease. The most preferred CAM are herbal medicine, multivitamins, cardiopathy, osteopathy, acupuncture, homeopathy, massage, physiotherapy, hypnosis, music therapy, visualization, meditation, relaxation techniques, yoga, reiki, and prayer (Çetin, 2007)

The review of the literature showed that CAM can promote health and healthy behaviors, strengthen the immune system, minimize the side effects of medicine, hopelessness, loss, and anxiety (Güven et al., 2013; Özçelik & Fadiloğlu 2009; Steurer-Stey & Russi 2002). The use of CAM is preferred by individuals with chronic diseases such as chronic obstructive pulmonary disease (COPD), stroke, cancer, heart diseases, and diabetes (Broom, et al., 2010; Khalaf & Whitford, 2010; Mao et al., 2011)

Chronic obstructive pulmonary disease (COPD) is characterized by progressive airflow obstruction which can increase morbidity and mortality (Bellamy et al., 2006). Based on the results of a study, 56.8% of the individuals diagnosed with COPD used at least one CAM in their life. The most preferred methods were herbal products or vitamin supplements at the rate of 73.5%. The patients use CAM to relieve dyspnea, coughing, phlegm, pain, fatigue, and sleeplessness, and 40.3% of them benefitted from these practices. It was reported that 88.4% of the patients applied these methods without obtaining information, and those suffering from the disease for more than 10 years applied CAM more (Kütmeç Yılmaz et al., 2017)

Nurses have important roles in assessing CAM and informing patients about the use, effects, and risks of these practices (Aktaş, 2017; Öztürk et al., 2016). However, when the previous studies were examined, it was reported that patients were not knowledgeable about CAM and they did not inform healthcare personnel about the problems in applying these methods (Yılmaz et al., 2017). For this reason, nurses should have knowledge about the CAM used by patients as well as their medicine. The number of studies about preferred CAM by COPD patients, their attitudes toward these practices, and their symptoms are limited (Yıldız Gülhan et al., 2020; Kütmeç Yılmaz et al., 2017). So, the present study aims to determine the attitudes of COPD patients about complementary and alternative medicine and the symptoms they experience.

## METHOD

### Research Design

This descriptive correlational study was conducted to determine the attitudes of COPD patients about complementary and alternative medicine and the symptoms they experience.

### Research Sample

Gpower 3.1.9.2. program was used to calculate the sample size. In determining the sample size of the study, the average COPDAT score in COPD patients was used (Varol et al. 2014). For this study, the sample size was determined as 95% confidence (1- $\alpha$ ), 95% test power (1- $\beta$ ),  $d=0.41$  effect size, and the number of sample were 82 people. The study was conducted with 83 COPD patients who applied to a University Hospital during October 2020 to December 2020. The inclusion criteria include patients with the age of 18 and more, diagnosed with COPD for 6 months and more, able to communicate verbally, and voluntarily participated in the study. The face-to-face interview technique was used to collect data and it took 20-25 minutes to complete the surveys. The interviews were conducted following the COVID 19 pandemic measures.

### Research Instruments and Processes

A demographic questionnaire, Modified Medical Research Council Dyspnea Scale (mMRC), COPD Assessment Test (COPDAT), and Holistic Complementary and Alternative Medicine Attitude Scale (HCAMAS) were used to collect the data.

**Demographic Questionnaire:** It was composed of a total of 15 questions. It had questions regarding age, gender, education status, disease duration, and alternative treatment.

**mMRC Dyspnea Scale:** It was developed by Fletcher in 1952 (Fletcher, 1952). The British Medical Research Council developed this scale. It is a universal scale used to determine the activity level causing dyspnea in patients. It was a five-item scale prepared for dyspnea based on various physical activities. The scale is scored between 0 and 4. (0) indicates no dyspnea, (1) indicates slight dyspnea, (2) indicates intermediately severe dyspnea, (3) indicates severe dyspnea and (4) indicates very severe dyspnea. Higher mMRC scores indicate that the perception of dyspnea is more severe. It has been reported that this scale is suitable for the assessment of dyspnea (Yapucu et al., 2012)

**COPD Assessment Test (COPDAT):** This scale was developed by Jones et al., (2009) and evaluates the health status of COPD patients (Jones et al., 2009). The Turkish reliability and validity study of the scale was conducted by Yorgancıoğlu et al., (2012). It is used to rate the symptoms experienced by COPD patients and the severity of the disease and determine their quality of life. The scale includes dyspnea, coughing, expectorating, and wheezing and it is also composed of eight items including systemic symptoms such as fatigue and sleeping status. “The questions in the scale determine the effects of the disease on daily life and health status. Each question is rated from 0 to 5. Zero point indicates no symptoms and five indicate severe symptoms. The total score ranges from 0 points to 40 points. Zero point indicates perfect health status and 40 points indicate the worst health status. COPDAT assessment score is classified as follows: 0-10 points low effect, 11-20 points medium effect, 21-30 points high effect, and 31-40 points the highest effect” (Jones et al., 2009; Yorgancıoğlu et al., 2012). The Cronbach’s alpha value of the scale was 0.91. In the present study, the Cronbach’s alpha value was 0.81.

**Holistic Complementary and Alternative Medicine Attitude Scale (HCAMAS):** It was developed by Hyland et al., in 2003 and its reliability and validity study was conducted by Erci (Hyland et al., 2003; Erci 2007). The scale aimed to determine the attitudes of participants towards holistic complementary and alternative medicine. The Cronbach's alpha value of the scale is 0.72. It is a Likert-type scale with 11 questions. Its minimum score is 11 and its maximum score is 66. It has been reported that as the scale score decreases, the positive attitude toward CAM increases. It has two sub-scales of Holistic Health (HH) and Complementary and Alternative Medicine (CAM). The CAM subscale include the questions of 2, 4, 6, 8, 9,11 and HH subscales include the questions of 1, 3, 5, 7,10. The

items of 2, 4, 6, and 9 are scored as negative and the remaining items are scored as positive (Erci 2007). In the present study, the Cronbach's alpha value was 0.80.

**Data Analysis**

The data were assessed by SPSS 22 packaged software (Chicago, USA). For descriptive analysis, numbers, percent, mean and standard deviations were used. Kolmogorov–Smirnov and Shapiro–Wilk tests were used to assess whether the data conformed to a normal distribution. Independent sample t-test, one-way analysis of variance, Kruskal Wallis test, Mann Whitney U test, and Spearman Correlation analysis were used for analysis. The statistical significance level was determined to be less than 0.05.

**Ethic**

The ethics committee approval was obtained from the Noninvasive Ethics Committee of a state university (29.05.2020-5/9) and written permission was received from the hospital where the study would be conducted. The patients who participated in the study were informed about the aims of the study and their verbal and written consent was received.

**RESULTS**

Table 1 shows the socio-demographic characteristics of the participants. The average age of the patients was 68.25±9.84 years and 50.6% of them were male. 55.4% of the patients were primary school graduates, 81.9% were married, 38.5 % were a smoker and quit in the past, 13.3% were still smokers, and 62.7% suffered from another chronic disease. It was determined that the average period of having COPD was 10.01±7.73 years. There is a significant difference between the total scores of the HCAMAS according to the education levels of the participants (p=0.025). According to post hoc Tukey test results, the HCAMAS total score of primary education graduates is significantly higher than those who are illiterate (p= 0.023) (Table 1).

**Table 1.** The Distribution of COPDAT, HCAMAS, and CAM and HH Subscale Mean Scores Based on the Socio-demographic Characteristics of COPD Patients.

			CAT	HCAMAS	CAM	HH
Gender	n	%	M±SD	M±SD	M±SD	M±SD
Female	41	49.4	29.92±6.91	38.71±4.82	18.30±3.66	17.43±4.98
Male	42	50.6	30.00±7.56	39.78±3.92	18.67±2.60	17.63±4.09
			U=820.00	t=-1.107	t=-0.520	t=-0.199
			p =0.708	p=0.272	p =0.605	p =0.843
<b>Education</b>						
Illiterate <sup>a</sup>	29	40.0	31.31±7.06	37.48±4.18	18.57±3.31	16.22±4.68
Literate <sup>b</sup>	8	9.6	32.12±5.76	40.26±6.36	18.22±3.93	18.45±6.42
Primary school <sup>c</sup>	46	55.4	28.73±7.40	40.19±3.86	18.48±2.98	18.21±3.94
			KW=2.875	F=3.864	F=0.037	F=1.942
			p =0.238	<b>p =0.025*</b>	p =0.964	p =0.150
				<b>c&gt;a</b>		
<b>Marital status</b>						
Married	68	81.9	30.58±6.51	39.18±4.32	18.43±3.03	17.51±4.54
Single	15	18.1	27.13±9.53	39.56±4.84	18.74±3.78	17.65±4.63
			U=431.50	t=-0.297	t=-0.340	t=-0.107
			p =0.352	p =0.767	p=0.734	p=0.915
<b>Smoking</b>						
Yes	11	13.3	32.63±7.78	40.86±3.32	17.93±1.69	19.12±2.54
I quit	32	38.5	29.59±7.21	38.34±3.91	18.83±3.10	16.26±4.71
No	40	48.2	29.52±7.07	39.54±4.91	18.36±3.51	18.12±4.62
			KW=3.244	F=1.538	F=0.387	F=2.350
			p =0.197	p=0.221	p=0.680	p=0.101

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Chronic disease						
No	31	37.3	28.74±6.92	39.39±4.00	18.34±2.96	17.63±4.74
Yes	52	62.7	30.69±7.33	39.17±4.65	18.58±3.29	17.48±4.44
			U=679.500	t=0.222	t=-0.328	t=0.153
			p=0.233	p=0.825	p=0.744	p=0.879
Disease Duration (M±SD)			10.01±7.73			
Age (M ± SD)			68.25±9.84			

U: Mann Whitney U, t:Independent sample t test, F: One-way analysis of variance, KW: Kruskal Wallis  
 mMRC: Modified Medical Research Council Dyspnea Scale, COPDAT: COPD Assessment Test, HCAMAS: Holistic Complementary and Alternative Medicine Attitude Scale, CAM: Complementary and Alternative Medicine, HH: Holistic Health

Table 2 compares the mMRC-dyspnea, COPDAT, HCAMAS and subscales scores of the COPD patients according to their knowledge and attitudes about using CAM. It was determined that 61.4% of the participants were informed about CAM, 92.8% used CAM, 47% heard about CAM from their relatives. Also, 55.4% stated that their intended use was relaxing, 65.1 % benefitted from using CAM, 18.1% suffered from using CAM, 55.4% used herbal products, and 54.2% didn't notify healthcare personnel. Participants that had not being informed about CAM had higher HCAMAS total and HH subscale scores compared to being informed and the difference was significant ( $p < 0.05$ ). Participants who don't use CAM had significantly higher HCAMAS scores compared to those use CAM ( $p < 0.05$ ).

**Table 2.** The Distribution of COPDAT, HCAMAS and CAM and HH Subscale Mean Scores of the COPD Patients According to Their Knowledge and Attitudes.

			COPDAT	HCAMAS	CAM	HH
Being Informed on CAM	n	%	M±SD	M±SD	M±SD	M±SD
Yes	51	61.4	30.00±7.21	38.24±4.25	18.82±3.45	16.43±4.60
No	32	38.6	29.90±7.30	40.86±4.18	17.95±2.58	19.29±3.85
			U=801.00	t=-2.751	t=1.224	t=-2.919
			p=0.888	<b>p=0.007</b>	p=0.225	<b>p=0.005</b>
CAM Use						
Yes	77	92.8	30.22±7.12	38.91±4.26	18.32±3.06	17.40±4.53
No	6	7.2	26.66±8.09	43.60±4.04	20.66±3.82	19.30±4.54
			U=157.00	t=-2.602	t=-1.775	t=-0.988
			p=0.192	<b>p=0.011</b>	p=0.080	p=0.326
Who did you hear CAM from						
Neighbors	25	30.1	32.34±5.10	38.75±4.15	19.01±2.98	16.68±4.24
Relatives	39	47.0	28.91±8.13	40.22±4.81	18.64±3.26	18.23±5.04
Friends	9	10.8	28.00±8.30	37.44±3.90	17.27±3.15	16.97±3.04
Healthcare personnel	3	3.6	29.66±3.21	41.45±2.23	16.83±3.08	21.00±2.49
TV, newspaper, internet	7	8.5	32.42±6.50	37.03±2.31	18.02±3.37	15.97±4.16
			KW=2.473	F=1.613	F=0.764	F=1.145
			p=0.649	p=0.179	p=0.552	p=0.342
Intended use						
Relaxation	46	55.4	30.07±7.66	39.69±4.67	18.74±3.00	17.70±4.85
Support	13	15.7	30.00±5.86	38.03±4.12	17.25±3.66	17.36±4.82
Treatment	24	28.9	30.45±7.10	39.07±4.01	18.67±3.14	17.30±3.84
			KW=0.483	F=0.746	F=1.190	F=0.071
			p=0.785	p=0.477	p=0.309	p=0.932
CAM Methods						
Herbal Product	46	55.4	31.63±5.79	39.04±4.84	18.51±3.32	17.43±4.75
Massage	11	13.3	28.27±9.85	39.09±3.64	17.13±2.46	18.70±3.85
Prayer+Her.Product	19	22.9	26.42±6.60	38.97±3.63	19.31±3.20	16.36±4.61
Cupping	7	8.4	25.33±6.50	41.64±4.41	18.23±2.63	19.60±3.20
			KW=4.951	F=0.750	F=1.128	F=1.166
			p=0.175	p=0.526	p=0.343	p=0.328
Benefitting from CAM						
Yes	54	65.1	29.41±7.80	39.69±4.51	18.13±3.33	18.14±4.61
No	29	34.9	31.44±5.85	38.43±4.12	19.15±2.73	16.40±4.22
			U=682.00	t=1.255	t=-1.411	t=1.688
			p=0.334	p=0.213	p=0.162	p=0.095

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<b>Getting damage from CAM</b>							
Yes	15	18.1	29.53±7.14	39.23±4.61	19.14±3.18	17.13±4.17	
No	68	81.9	30.33±7.21	38.26±4.38	18.34±3.15	17.62±4.62	
			KW=482.0	t=-0.025	t=0.883	t=-0.382	
			p=0.740	p=0.980	p=0.380	p=0.704	
<b>Notifying healthcare personnel about CAM use</b>							
Yes	38	45.8	29.03±6.88	39.04±4.25	18.40±3.66	17.23±4.64	
No	45	54.2	31.04±7.31	39.43±4.55	18.56±2.69	17.79±4.47	
			U=2.932	t=-0.399	t=-0.233	t=-0.557	
			p=0.087	p=0.691	p=0.816	p=0.579	

U: Mann Whitney U, t:Independent sample t test, F: One-way analysis of variance, KW: Kruskal Wallis  
 mMRC: Modified Medical Research Council Dyspnea Scale, COPDAT: COPD Assessment Test, HCAMAS: Holistic Complementary and Alternative Medicine Attitude Scale, CAM: Complementary and Alternative Medicine, HH: Holistic Health, significant values ( $p < 0.05$ ) are shown in bold

Table 3 shows the mean scores of mMRC-dyspnea, CAT, HCAMAS, and its subscale. The mMRC mean score of the patients was  $3.25 \pm 0.92$  and was severe. The mean score of CAT was  $29.96 \pm 7.20$  and high. The mean total score of HCAMAS was  $39.25 \pm 4.39$ , and the mean score of CAM subscale was  $18.49 \pm 3.15$ , The mean score of HH subscale was  $17.53 \pm 4.53$ . There is a significant positive correlation between mMRC and CAT scores ( $r = 0.369$ ,  $p = 0.001$ ) (Table 3).

**Table 3.** mMRC-Dyspnea, COPDAT, HCAMAS and Subscale Mean Scores and the Correlation Between Them.

	Min	Max	M±SD	mMRC	COPDAT	HCAMAS	CAM	HH
				r/p	r/p	r/p	r/p	r/p
<b>mMRC</b>	0.00	4.00	3.25±0.92	1	0.369/0.001*	-0.070/0.528	-0.003/0.980	-0.085/0.445
<b>COPDAT</b>	13.00	40.00	29.96±7.20		1	-0.160/0.150	-0.071/0.523	-0.084/0.453
<b>HCAMAS</b>	31.27	49.27	39.25±4.39			1		
<b>CAM</b>	10.50	25.33	18.49±3.15				1	
<b>HH</b>	6.40	25.20	17.53±4.53					1

mMRC: Modified Medical Research Council Dyspnea Scale, COPDAT: COPD Assessment Test, HCAMAS: Holistic Complementary and Alternative Medicine Attitude Scale, CAM: Complementary and Alternative Medicine, HH: Holistic Health, significant values ( $p < 0.05$ ) are shown in bold, \*Spearman correlation

## DISCUSSION

This study was conducted to determine the attitudes of COPD patients about CAM and the symptoms they experience. The results of the present study confirmed that vast majority of the COPD patients used CAM and nearly half of them didn't notify healthcare personnel.

In the present study, it was determined that 92.8% of the participants used CAM. According to the literature, 72.1% of the patients used CAM (Şahin & Şahin, 2013), and 41% of the COPD patients used CAM (George et al., 2004). The frequency of using CAM in asthma and COPD patients was 43% (Abadoğlu et al., 2008), 63% of the patients used at least one CAM method (Tokem et al., 2012), and 39.4% of the patients used CAM (Yıldız Gülhan et al., 2020). When compared with the literature, the CAM use rate of the patients participating in the present study was quite high.

It was determined that the sociodemographic factors of the participants did not affect CAM use except for education levels in the present study. Similarly, there are studies in the literature reporting that socio-demographic factors do not affect CAM use (Akinci et al., 2011; Abadoğlu et al., 2008; Tokem et al., 2012). In the present study, HCAMAS total score of primary education graduates is significantly higher than those who are illiterate. As the scale score decreases, the positive attitude toward CAM increases. It can be said that illiterate participants had a positive attitude towards CAM than primary school graduates.

In the present study, the most common CAM method was herbal products. Likewise, there are studies in the literature supporting that the most common CAM was herbal products (Abadoğlu et al., 2008; Mollaoğlu & Aciyurt, 2013; Sahin & Sahin, 2013; Tokem et al., 2012). Since herbal products are cheap and easily accessible, they are accepted to be more reliable compared to the other CAM.

COPD is a disease with progressive symptoms affecting the daily lives of individuals. Patients may use CAM instead of medication to reduce their experience problems. In the present study, 55.4% of the patients stated that they used CAM for relaxation. Similarly, according to the literature, it was reported that COPD patients used CAM to breathe easily, ease the symptoms of the disease, make deep breathing easier, relax, protect from diseases, and promote their health (Abadoğlu et al., 2008; Akıncı et al., 2011; Mollaoğlu & Aciyurt, 2013; Sahin & Sahin 2013). In the present study, 65.1% of the patients stated that they benefited from CAM. Similarly, studies reported that the COPD patients using CAM benefitted from it (Haifeng et al., 2015; George et al., 2004; Tokem et al., 2012; Yıldız Gülhan 2020; KütmeçYılmaz et al., 2017).

Participants who had previously learned about CAM had more positive attitudes towards CAM compared to those who had not. Especially, individuals with chronic diseases such as COPD should be informed about CAM methods by nurses. Participants who don't use CAM had significantly higher HCAMAS and HH scores compared to those who use CAM ( $p < 0.05$ ). It has been reported that as the scale score decreases, the positive attitude toward CAM increases. CAM users had more positive attitudes towards complementary medicine.

The mean score of mMRC of the participants was  $3.25 \pm 0.92$  and which was severe, and the mean score of COPDAT was  $29.96 \pm 7.20$  and which was high in the present study. Similar to the present study, the median score of COPDAT was 29.0 (Aldan, 2019). Based on these scores, it can be concluded that patients had severe COPD symptoms. The results of the present study revealed that the mean score of HCAMAS was  $39.25 \pm 4.39$ , the mean score of CAM subscale was  $18.49 \pm 3.15$ , and the mean score of HH subscale was  $17.53 \pm 4.53$ . Considering that the maximum total score that can be obtained from HCAMAS is 66, the average score is high. Based on the result of the present study, it may be asserted that the participants exhibited a negative attitude toward CAM. In the present study, the mean scores of HCAMAS and its subscale of those not know about using CAM were high and there was a statistically significant difference between them. The fact that the patients did not know CAM may cause them to have a negative attitude towards these methods.

In the present study, no correlation was found between the attitudes of the participants toward CAM and mMRC and COPDAT scores. The correlation between the mean score of mMRC and CAT was positively significant ( $r=0.369$ ). It is an expected situation that the symptoms experienced by COPD patients increase as dyspnea complaints increase.

## CONCLUSION AND SUGGESTIONS

The results showed that the vast majority of the COPD patients used CAM and nearly half of them didn't notify healthcare personnel. Educational status affects the COPD patients attitudes towards CAM. Illiterate participants had more positive attitude towards CAM than primary school graduates. COPD patients who use CAM and previously learned about CAM had more positive attitudes towards CAM. COPD patients should be informed by healthcare professionals in their institution about the CAM methods, their benefits, and possible adverse effects. Considering that cultural differences may affect CAM use, it is suggested to conduct studies in different regions with more participants.

## LIMITATIONS

The limitation of the study is that the study was conducted in a single hospital. It is recommended that future studies be conducted in more than one center and with larger sample groups, considering that regional and cultural differences may affect the results.

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### Conflict of Interest

No conflict of interest.

### Author Contributions

Design: E.K.S., H.T.P., Y.Ç.D., Data collection or processing: H.T.P., Analysis or interpretation: E.K.S., H.T.P., Y.Ç.D., Literature search: E.K.S., H.T.P., Y.Ç.D., Writing: E.K.S., H.T.P., Y.Ç.D.

## REFERENCES

- Abadoğlu, O., Cakmak, E., Kuzucu, D.S. (2008). The view of patients with asthma or Chronic Obstructive Pulmonary Disease (COPD) on complementary and alternative medicine. *The Journal of Allergy and Clinical Immunology*, 36(1), 21–5. <https://doi.org/10.1157/13115667>
- Akinci, A. C., Zengin, N., Yildiz, H., Sener, E., & Gunaydin, B. (2011). The complementary and alternative medicine use among asthma and chronic obstructive pulmonary disease patients in the southern region of Turkey. *International Journal of Nursing Practice*, 17(6), 571–582. <https://doi.org/10.1111/j.1440-172X.2011.01976.x>
- Aktaş, B. (2017). Hemşirelik öğrencilerinin bütüncül tamamlayıcı ve alternatif tıba karşı tutumları. *Hemşirelik Akademik Araştırma Dergisi*, 3(2), 55-59. <https://dergipark.org.tr/tr/download/article-file/706326>
- Aldan, G. (2019). Kronik obstrüktif akciğer hastalığında dispne, sağlık durumu ve yaşam kalitesi ilişkisi. Hacettepe Üniversitesi Sağlık Bilimleri Enstitüsü İç Hastalıkları Hemşireliği Programı Yüksek Lisans Tezi.
- Barnes PM, Powell-Griner E, McFann K, Nahin RL. (2004). Complementary and alternative medicine use among adults: United States, 2002. *Advance Data*. 27(343), 1-19. <https://doi.org/110.1016/j.sigm.2004.07.003>
- Bellamy, D., Boucharad, J., Henrichsen, S., Johansson, G., Langhammer, A., Reid, J., van Weel, C., & Buist, S. (2006). International Primary Care Respiratory Group (IPCRG) Guidelines: Management of chronic obstructive pulmonary disease (COPD). *Primary Care Respiratory Journal: Journal of the General Practice Airways Group*, 15(1), 48–57. <https://doi.org/10.1016/j.pcrj.2005.11.003>
- Broom, A., Wijewardena, K., Sibbritt, D., Adams, J., & Nayar, K. R. (2010). The use of traditional, complementary and alternative medicine in Sri Lankan cancer care: results from a survey of 500 cancer patients. *Public Health*, 124(4), 232–237. <https://doi.org/10.1016/j.puhe.2010.02.012>
- Chen, Y. F., & Chang, J. S. (2003). Complementary and alternative medicine use among patients attending a hospital dermatology clinic in Taiwan. *International Journal of Dermatology*, 42(8), 616–621. <https://doi.org/10.1046/j.1365-4362.2003.01809.x>
- Çetin, O. (2007). Eskişehir'de tamamlayıcı ve alternatif tıp kullanımı. *Sosyoekonomi*, 6(6), 89-106. <https://dergipark.org.tr/tr/download/article-file/197617>
- Erci B. (2007). Attitudes towards holistic complementary and alternative medicine: a sample of healthy people in Turkey. *Journal of clinical nursing*, 16(4), 761–768. <https://doi.org/10.1111/j.1365-2702.2006.01655.x>
- Fletcher C. M. (1952). The clinical diagnosis of pulmonary emphysema; an experimental study. *Proceedings of the Royal Society of Medicine*, 45(9), 577–584. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1987525/pdf/procrsmed00506-0012.pdf>
- George, J., Ioannides-Demos, L. L., Santamaria, N. M., Kong, D. C., & Stewart, K. (2004). Use of complementary and alternative medicines by patients with chronic obstructive pulmonary disease. *The Medical Journal of Australia*, 181(5), 248–251. <https://doi.org/10.5694/j.1326-5377.2004.tb06262.x>
- Güven, Ş. D., Gamze, M. U. Z., Ertürk, N. E., & Özcan, A. (2013). Hipertansiyonlu bireylerde tamamlayıcı ve alternatif tedavi kullanma durumu. *Balikesir Sağlık Bilimleri Dergisi*, 2(3), 160-166. <https://dergipark.org.tr/tr/download/article-file/521184>
- Haifeng, W., Hailong, Z., Jiansheng, L., Xueqing, Y., Suyun, L., Bin, L., Yang, X., & Yunping, B. (2015). Effectiveness and safety of traditional Chinese medicine on stable chronic obstructive pulmonary disease: A systematic review and meta-analysis. *Complementary Therapies in Medicine*, 23(4), 603–611. <https://doi.org/10.1016/j.ctim.2015.06.015>



- Hyland, M. E., Lewith, G. T., & Westoby, C. (2003). Developing a measure of attitudes: the holistic complementary and alternative medicine questionnaire. *Complementary Therapies in Medicine*, 11(1), 33–38. [https://doi.org/10.1016/s0965-2299\(02\)00113-9](https://doi.org/10.1016/s0965-2299(02)00113-9)
- Jones, P. W., Harding, G., Berry, P., Wiklund, I., Chen, W. H., & Kline Leidy, N. (2009). Development and first validation of the COPD Assessment Test. *The European Respiratory Journal*, 34(3), 648–654. <https://doi.org/10.1183/09031936.00102509>
- Khalaf, A. J., & Whitford, D. L. (2010). The use of complementary and alternative medicine by patients with diabetes mellitus in Bahrain: a cross-sectional study. *BMC Complementary and Alternative Medicine*, 10, 35. <https://doi.org/10.1186/1472-6882-10-35>
- Khorshid, L., & Yapucu, Ü. (2005). Tamamlayıcı tedavilerde hemşirenin rolü. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, 8(2), 124-130. <https://dergipark.org.tr/tr/download/article-file/29275>
- Kütmeç Yılmaz, C., Duru Aşiret, G., Çetinkaya, F., & Kapucu, S. (2017). Kronik Obstrüktif Akciğer Hastalarının Alternatif ve Tamamlayıcı Tedavi Yöntemi Kullanımı. *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi*, 10(4), 216- 221. <https://dergipark.org.tr/tr/download/article-file/752875>
- Linde, K., Jonas, W. B., Melchart, D., & Willich, S. (2001). The methodological quality of randomized controlled trials of homeopathy, herbal medicines and acupuncture. *International Journal of Epidemiology*, 30(3), 526–531. <https://doi.org/10.1093/ije/30.3.526>
- Mao, J. J., Palmer, C. S., Healy, K. E., Desai, K., & Amsterdam, J. (2011). Complementary and alternative medicine use among cancer survivors: a population-based study. *Journal of Cancer Survivorship: Research and Practice*, 5(1), 8–17. <https://doi.org/10.1007/s11764-010-0153-7>
- Mollaoğlu, M., & Aciyurt, A. (2013). Use of complementary and alternative medicine among patients with chronic diseases. *Acta clinica Croatica*, 52(2), 181–188. <https://hrcak.srce.hr/file/163887>
- Özçelik H, Fadiloğlu Ç. Kanser hastalarının tamamlayıcı ve alternatif kullanım nedenleri. *Türk Onkoloji Dergisi*. 2009;24(1): 48-52. <https://dergipark.org.tr/tr/download/article-file/11231>
- Öztürk, R., Şatır, D. G., & Sevil, Ü. (2016). Jinekolojik kanserli hastaların tamamlayıcı ve alternatif tedavi kullanım durumları ve tutumlarının incelenmesi. *Gaziantep Medical Journal*, 22(3), 141-147. <https://doi.org/10.5152/EurJTher.2016.006>
- Steurer-Stey, C., Russi, E. W., & Steurer, J. (2002). Complementary and alternative medicine in asthma: Do they work?. *Swiss Medical Weekly*, 132(25-26), 338–344. <https://doi.org/10.4414/smw.2002.09972>
- Şahin, Z. A., & Şahin, M. (2013). The view of patients with Chronic Obstructive Pulmonary Disease (COPD) on Complementary and Alternative Medicine (CAM) in Eastern Turkey. *African Journal of Traditional, Complementary, And Alternative Medicines*, 10(4), 116–121. <https://doi.org/10.4314/ajtcam.v10i4.19>
- Tokem, Y., Aytemur, Z. A., Yildirim, Y., & Fadiloglu, C. (2012). Investigation into the use of complementary and alternative medicine and affecting factors in Turkish asthmatic patients. *Journal of Clinical Nursing*, 21(5-6), 698–707. <https://doi.org/10.1111/j.1365-2702.2011.03823.x>
- Turan, N., Öztürk, A., Kaya, N. (2010). Hemşirelikte yeni bir sorumluluk alanı: Tamamlayıcı terapi. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi*, 3(1), 93-8. <https://url24.top/LfFBH>
- Varol, Y., Ozacar, R., Balci, G., Usta, L., & Taymaz, Z. (2014). Assessing the effectiveness of the COPD Assessment Test (CAT) to evaluate COPD severity and exacerbation rates. *COPD*, 11(2), 221–225. <https://doi.org/10.3109/15412555.2013.836169>
- Yapucu Güneş, Ü., Kara, D., Erbağcı, A. (2012) Comparison of the diferent dyspnea scales in patients with complaints of dyspnea. *DEUHYO ED*. 5(2), 65–71. <https://dergipark.org.tr/tr/pub/deuhfed>
- Yıldız Gülhan, P., Güleç-Balbay, E., Üzer, F. (2020). Kronik obstrüktif akciğer hastalarda geleneksel ve tamamlayıcı tıp yöntemi kullanımlarının değerlendirilmesi. *Online Turkish Journal of Health Sciences*, 5(1), 147-154. <https://doi.org/10.26453/otjhs.638683>
- Yorgancıoğlu, A., Polatlı, M., Aydemir, Ö., Demirci, N.Y., Kırkıl, G., Atış, S.N., ... & Günakan, G. (2012). KOAH değerlendirme testinin Türkçe geçerlilik ve güvenilirliği. *Tuberk Toraks*, 60(4), 314-320. <https://url24.top/ZmrOe>