Research
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Relationship between Functional Status and Type D Personality and Psychiatric Symptoms of Patients with Chronic Obstructive Pulmonary Disease (COPD)

Kronik Obstrüktif Akciğer Hastalığı (KOAH) Tanılı Hastaların Fonksiyonel Durumları ile D Tipi kişilik ve Psikiyatrik Belirtileri Arasındaki İlişki

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ABSTRACT

Emotional difficulties, adjustment difficulties, anxiety disorder, paranoid reactions and depression are among the common psychiatric disorders in patients with Chronic Obstructive Pulmonary Disease (COPD). Type D personality is characterized by social inhibition and negative affectivity. Individuals with Type D personality have difficulty in coping with chronic diseases. The aim of our study was to determine type D personality and psychiatric symptoms in patients with COPD. A patient group was formed with 44 people hospitalized with COPD in the Chest Diseases service and a control group was formed with 44 healthy people. A sociodemographic data form, the Beck Depression Inventory, State and Trait Anxiety Inventory, Somatosensory Amplification Scale, Type D Personality Scale, and BODE (Body mass index, Obstruction, Dyspnea, Exercise capacity) index, were used to. According to the results of our study, state and trait anxiety, depression and D-type personality, exaggeration of bodily sensations scale scores were statistically significantly higher in the patient group compared to the control group. Moreover, a high score on the somatosensory amplification scale and having a type D personality were correlated with the BODE index score. These results suggest that it is important for patients with COPD to be examined by a psychiatrist..

Keywords: Anxiety, Chronic obstructive pulmonary disease, Depression, D Type Personality

ÖZ

Kronik Obstrüktif Akciğer Hastalığı (KOAH) tanılı hastalar da sık görülen psikiyatrik bozukluklar arasında emosyonel zorlanmalar, uyum güçlükleri, kaygı bozukluğu, paranoid reaksiyonlar ve depresyon bulunmaktadır. D Tipi kişiliğe sahip olan kişilerde sosyal inhibisyon ve negatif affektivite görülür. D tipi kişiliğe sahip bireyler kronik hastalıklar ile başetmekte zorlanmaktadırlar. Çalışmamızda KOAH tanılı hastalarda D tipi kişilik ile psikiyatrik belirtilerin tespit edilmesi amaçlanmıştır. Göğüs Hastalıkları servisinde KOAH tanısı ile yatan 44 kişi ile hasta grubu, sağlıklı olan 44 kişi ile kontrol grubu oluşturulmuştur. Sosyodemografik veri formu, Beck Depresyon Ölçeği, Durumluk ve Sürekli kaygı envanteri, Bedensel duyumları abartma ölçeği, D Tipi kişilik Ölçeği, BODE (Body mass index, Obstruction, Dyspnea, Exercise capacity) indeksi kullanılmıştır. Çalışmamızın sonuçlarına göre, hasta grubunda kontrol grubuna göre durumluk ve sürekli anksiyete, depresyon ve D tipi kişilik, bedensel duyumları abartma ölçek puanları istatistiksel olarak anlamlı derecede daha yüksektir. Ayrıca bedensel duyumları abartma ölçek puanının yüksekliği ve D tipi kişiliğe sahip olmanın BODE indeksi skoru ile ilişkili olduğu tespit edilmiştir. Bu sonuçlar KOAH tanılı hastaların psikiyatrist tarafından da muayene edilmelerinin önemli olduğunu ortaya koymuştur...

Anahtar sözcükler: Anksiyete, Depresyon, D Tipi Kişilik, Kronik Obstrüktif Akciğer Hastalığı

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a disease with many complaints such as cough, shortness of breath, and sputum production, and it includes chronic bronchitis and emphysema diseases (Stege et al. 2008). COPD is a chronic disease that affects approximately 2-3 million people in Turkey and more than 600 million people in the world (Tel et al. 2012). Chronic diseases are a group of diseases that do not recover completely and that also negatively affect people's mental and social lives together with life-long physical complaints (Stege et al. 2008).

The physical and social lives of people diagnosed with this disease are affected, and negative changes are also observed in their emotional states. Decreased respiratory capacity, decreased exercise tolerance, and peripheral muscle weakness occur in these individuals. Psychiatric diseases are observed since the brain functions of the individuals are affected and their living conditions change (Çil and Olgun 2005). As with other chronic lung diseases, psychiatric disorders commonly observed in COPD patients include emotional difficulties, adjustment difficulties, anxiety disorder, paranoid reactions, and depression (Gökçek et al. 2019).

Common side effects of theophylline used in the treatment of this disease include tachycardia, palpitations, nausea and other gastrointestinal disorders, headache, central nervous system stimulation, insomnia, arrhythmia, and tremor (Yılmaz et al., 2011). Most of these symptoms are also seen in psychiatric diseases. Common psychiatric side effects of steroids, one of the drugs commonly used in treatment, are agitation, anxiety, hypomania, insomnia, irritability, labile mood, and restlessness (Çetin and Özmen 2010). However, steroid use can cause a wide range of clinical manifestations, from subtle mood changes to psychotic episodes that require urgent intervention (Çetin and Özmen 2010).

While the prevalence of clinical depression is 10-42% in individuals with stable COPD, the rate of anxiety is 10-19% (Maurer et al. 2008). Since depressive symptoms are noticed late, the diagnosis of anxiety is made before the depression. Anxiety level correlates with the severity of COPD and dysfunction in the patients. Anxiety and depression, the most common psychiatric disorders, negatively affect the prognosis of COPD. In addition, anxiety can also affect the severity of physical symptoms such as dyspnea in the patients (Maurer et al. 2008).

Social inhibition (SI) and negative affectivity (NA) are seen in people with Type D personalities. NA is defined as anxiety, intolerance, depressive affect, and hostile feelings (Denollet 2005). SI, on the other hand, is the tendency to prevent the expression of emotions and behaviors in crowded environments. Negative clinical results of chronic diseases are seen more frequently in individuals with Type D personalities (Denollet 2005). It is known that the decrease in social support levels and the behaviors of making positive attempts on their own health are seen at a lower rate in patients with Type D personalities (Williams et al. 2008).

Although there are many studies describing psychiatric problems in people with COPD, there is a limited number of studies investigating the type D personality pattern (de Voogd JN et al. 2009, Sumin et al. 2013). In our study, we aimed to investigate the D-type personality pattern, depressive-anxiety symptoms, and exaggeration of somatic sensations in patients with COPD diagnosis.

The first hypothesis we investigated in this study is the assumption that the patients hospitalized with COPD have depression, state-trait anxiety symptoms, and increased somatic symptoms, and the D-type personality pattern is more common in these patients. The second hypothesis of our study is that there is a correlation between psychiatric conditions and the functional status of patients. As a result of our study, it was found that the Bode index score, which shows the functional status of the patients, and the high score of the exaggeration of somatic sensations scale and having a type D personality were found to be related for the first time in the literature, and we think that it will contribute to the literature.

Method

Sample and Procedure

This is a clinical-observational study with case-control design. The data of the study were collected at Kars Harakani State Hospital between January and December 2019. The patient group consisted of 44 patients who were hospitalized with the diagnosis of COPD in the Chest Diseases Clinic of Kars Harakani State Hospital, and the control group consisted of 44 healthy cases. Before conducting the study, approval was obtained from the Ethics Committee of Kafkas University Faculty of Medicine at the session numbered 09 dated 26.06.2018. Consent was obtained from all participants to participate in the study. All cases included in the study were provided scales to fill out, and they were informed on how to fill out them, and the scales were filled out in one session. The scales were evaluated by the same psychiatrist. 50 people were included in both groups in the study, and a total of 12 people, 6 from each group, were excluded due to deficiencies in the scale forms to be filled out.

In the preliminary power analysis performed, the sample size was calculated to be 52, with 26 individuals in each group, with 0.80 power, α:0.05, and a substantial impact size (d:0.8). Since 88 people, 44 people in both groups, were included in our study, the number of cases is sufficient in our study.

For the patients in the case group, inclusion criteria were determined as being diagnosed with COPD as a result of physical examination, radiological examination, and pulmonary function tests, being hospitalized, being over 18 years old, and accepting to participate in the study as a result of the information given by the practitioner. For the control group, being over the age of 18, not having a chronic disease, and accepting to participate in the study as a result of the information given by the practitioner were the inclusion criteria.

For the patient and control groups, the exclusion criteria were determined as not accepting to participate in the study as a result of the information given by the practitioner, being diagnosed with mental retardation, dementia, and any chronic psychiatric disease, and being illiterate. In addition, having chronic diseases such as Diabetes Mellitus, heart failure and cancer, apart from the diagnosis of COPD, were determined as exclusion criteria for the patient group.

Data Collection Tools

Sociodemographic data form

In this form, which we prepared, there are questions about gender, age, marital status, working life, education level, psychiatric treatment history, and substance-cigarette-alcohol use.

Beck Depression Inventory

This scale, developed by Beck et al. (1961), is a self-assessment scale used to evaluate the emotional, somatic, cognitive, and motivational symptoms seen in individuals diagnosed with depression. There are 21 questions on the scale, and each question consists of 4 items scored between 0-3. The total score indicates the level of severity of depressive symptoms. The cutoff score is 17. Turkish validity and reliability study of the scale were conducted by Hisli et al. (1989). In the reliability study of the scale, Cronbach's alpha coefficient was found to be 0.80, and the split-half reliability was determined as r=0.74.

State-Trait Anxiety Inventory

It was developed by Spielberger et al. (1988) in 1970 to determine trait and state anxiety levels separately. The Turkish validity and reliability study of this scale was conducted by Ulusoy et al. (1998). The State Anxiety Inventory (SAI) shows sudden changes in emotional reactions. The Trait Anxiety Inventory (TAI) aims to measure the persistence of anxiety that individuals tend to experience. The higher the score, the higher the anxiety level. It was found to be between .94 and .96for the State Anxiety Inventory. It was found that the test-retest reliability coefficients ranged between .71 and .86 for the Trait Anxiety Inventory, and between .26 and .68 for the State Anxiety Inventory (Oner and Compte A 1998).

Somatosensory Amplification Scale (SSAS)

This scale, which was developed by Barsky et al. (1988), is a 5-point Likert-type scale that examines the exaggeration of usual somatic sensations. In the internal consistency analysis of the scale, Cronbach's alpha values were found to be between 0.62-0.76. There were 10 questions on this scale, and Turkish reliability-validity study was conducted (Gulec et al. 2007).

Type D Personality Scale, DS-14

It has 2 subscales. This scale also shows whether there is a type D personality along with negative affectivity (NA), and social inhibition (SI) subscales (Denollet, 2005). This scale consists of 14 items. It is a 5-point Likert-type scale, each item of which is scored between 0-4. The cut-off points of the subscales are ≥10. It has been shown that this test has good test-retest validity and high internal validity (Alcelik et al. 2012). Cronbach's Alpha values were found to be .72 for the social inhibition subscale, .90 for the negative affectivity subscale, and .87 for the Type D Personality Scale.

BODE index

Studies conducted in recent years suggest the use of the BODE (Body mass index, Obstruction, Dyspnea, Exercise capacity) index instead of using pulmonary function test (PFT) only in functional evaluation in patients with COPD (Celli et al. 2004). BODE is calculated by a scoring method using body mass index, obstruction parameter (FEV1), dyspnea scale, and exercise capacity (six-minute walking test). It is stated that this index is more decisive than the American Thoracic Society (ATS) spirometry staging in determining the survey in the patients with COPD. BODE is divided into 4 degrees. A BODE score of 0-2 is defined as 1st Quartile, a BODE score of 3-4 as 2nd Quartile, a BODE score of 5-6 as 3rd Quartile, and a BODE score of 7-10 as 4th Quartile. The higher the BODE score, the higher the possibility of mortality (Celli et al. 2004).

Statistical Analysis

The data were evaluated using SPSS (Statistical Package for Social Sciences) for Windows 24.0 software. The compatibility of the parameters with the normal distribution was checked with the Kolmogorov-Smirnov test. The student's t-test was used for comparisons of normally distributed parameters in quantitative data and for comparisons between two groups. Chi-square analysis was used to examine the distribution of ratios in qualitative data. Pearson Correlation Analysis was used to examine the relationship between quantitative data. The relationship between the BODE index and the BDI, SAI, TAI, SSAS, DS-14 and SI-NA subscales was examined with the Pearson correlation test. Simple linear regression analysis was used to determine whether the BODE Index had an effect on the SSAS, Type D personality scale and negative affect scale, one of its subscales, scores. Risk factors affecting type D personality disorder were analyzed by Binary Logistic Regression Analysis. Analysis results were presented as frequency (percentage). The statistical significance level was accepted as $p<0.05$.

Results

The study was conducted with 88 cases between January-December 2019. 29 cases (33.0%) were female and 59 cases (67.0%) were male. Their ages ranged from 27 to 85 years, with a mean of 57.19±13.35 years. The mean age of the patient group was 66.18±9.35, and the mean age of the control group was 48.20±10.38, and it was statistically significantly higher in the patient group (t=8.538; p=0.5) (Table 1).

In the comparison of the sociodemographic data of the patient and control groups, a statistically significant difference was determined in terms of age, marital status and employment status, but no significant difference was determined in terms of other variables (Table 1).

A significant difference was found between BDI, SAI, TAI, SSAS, DS-14 and the social inhibition and negative affect scale scores, which are the subscales of DS-14, between the patient and control groups (Table 2).

The relationship between the BODE index and the BDI, SAI, TAI, SSAS, DS-14 and SI-NA subscales were analyzed using the Pearson correlation test. There was a weak positive correlation between the BODE index and the scores of the somatic sensations exaggeration scale (p=0.044). In other words, as the BODE index increases, the level of exaggeration of somatic sensations also increases. There was a weak positive correlation between the BODE index and Type D personality scale scores (p=0.044). In other words, as the Bode index increases, Type D personality levels also increase. There was a weak positive correlation between the BODE index and negative affect scale scores (p=0.041). In other words, as the Bode index increases, negative affect levels also increase (Table 3).

Whether the BODE Index had an effect on the SSAS and Type D personality scale and negative affectivity scale, one of its subscales, scores was examined by simple linear regression analysis. It was found that the scores obtained from the BODE Index scale had an effect on the scores of the somatic sensations exaggeration scale ($F_{(1.42)}$ = 4.324; p=0.044). The scores obtained from the BODE Index scale affected 3.1% of the scores of exaggerating somatic sensations. In other words, 3.1% of exaggerating somatic sensations were explained by BODE index

Table 1. Evaluation of sociodemographic variables according to patient and control groups

		Patient	Control	p
		n (%)	n (%)	
Gender	Female	16 (36.4)	13 (29.5)	**0.651**
	Male	28 (63.6)	31 (70.5)	
Marital Status	Single	3 (6.8)	6 (13.6)	**0.484**
	Married	41 (93.2)	38 (86.4)	
Employment Status	Unemployed	35 (79.5)	24 (54.5)	**0.023***
	Employed	9 (20.5)	20 (45.5)	
Education Level	Primary School	39 (88.6)	4 (9.1)	**0.001****
	Secondary School	3 (6.8)	15 (34.1)	
	High School	2 (4.5)	20 (45.5)	
	University	0 (0)	5 (11.4)	

p<0.05*; p<0.01**

Table 2. Investigation of the relationship between the mean score of Beck Depression Inventory, State Anxiety Inventory, Trait Anxiety Inventory, Somatosensory Amplification Scale, the type D personality scale and its subscales according to the patient and control groups

	Group	n	Mean	Sd	t	sd	p
Beck Depression	Patient	44	18.30	9.894	4511	86	**0.001****
	Control	44	11.32	2.717			
Somatosensory Amplification	Patient	44	17.39	6.704	4.870	86	**<0.001****
	Control	44	12.30	1.773			
Type D personality	Patient	44	20.05	12.015	3.284	86	**0.001****
	Control	44	14.00	2.178			
Negative affectivity	Patient	44	10.84	6.741	3.249	86	**0.002****
	Control	44	7.39	2.071			
Social inhibition	Patient	44	9.23	5.656	3.118	86	**0.002****
	Control	44	6.45	1.677			
State Anxiety	Patient	44	38.59	12.674	6.603	86	**<0.001****
	Control	44	25.41	3.836			
Trait Anxiety	Patient	44	40.64	12.246	7.625	86	**<0.001****
	Control	44	25.98	3.560			

**p<0.01; Sd: Standart deviation

symptoms. It was found that the scores obtained from the BODE Index scale had an effect on the Type D personality scale scores ($F_{(1.42)}$ = 4.295; p=0.044). The scores obtained from the BODE Index scale affected 3.1% of type D personality scores. In other words, 3.1% of type D personality was explained by BODE index symptoms. It was found that the scores obtained from the BODE Index scale had an effect on the scores of the negative affectivity scale ($F_{(1.42)}$ = 4.435; p=0.041). Scores from the BODE Index scale affected 3.1% of negative affectivity scores. In other words, 3.1% of negative affect was explained by BODE index symptoms (Table 4).

In addition, risk factors affecting type D personality disorder were examined by Binary Logistic Regression Analysis. In the univariate examination of the model, it was observed that the risk of type D personality disorder in the patient group was 29.769 times higher compared to the control group (p=0.001). It was observed that the risk of having type D personality disorder was 0.09 times lower in those with secondary school education compared to those with primary school education (p=0.025). It was observed that the risk of having type D personality disorder was 0.073 times lower in those with high school education compared to those with primary school education (p=0.014). In the multivariate examination of the model, it was determined that the risk of type D personality disorder in the patient group was 16.623 times higher compared to the control group (p=0.03). Other variables were not considered as risk factors for type D personality disorder (p>0.05) (Table 5).

Discussion

Individuals with COPD have many problems in the treatment process due to continuous drug use, frequent hospital admissions, and severe physical and psychosocial problems. Because of these, patients are also negatively affected psychologically (Yıldırım et al. 2013). According to the results of our study, a significant difference was found in terms of age, employment status, and educational status in the examination of sociodemographic data. Since only the hospitalized patients were included in the study, the mean age was significantly higher in the patient group. Since the mean age of the patient group was high, the education level was lower in the patient group. In addition, due to this age difference, the majority of the patients in the patient group were not working because most of the patients were either retired or housewives.

The prevalence of depression in individuals with a diagnosis of COPD is 11-40%. Depressive symptoms are more common in people with type D personalities (Kim et al. 2017). In our study,

Table 3. Investigation of the relationship between BODE index and Beck Depression Inventory, State Anxiety Inventory, Trait Anxiety Inventory, Somatosensory Amplification Scale, Type D personality scale and its subscales, social inhibition and negative affectivity scales

	BODE index	
	r	**p**
Beck Depression	0.247	0.105
Somatosensory Amplification Scale	0.306	0.044*
Type D Personality	0.305	0.044*
Negative Affectivity	0.309	0.041*
Social inhibition	0.276	0.070
State Anxiety	0.256	0.093
Trait Anxiety	0.263	0.085

*p<0.05; r: correlation coefficient

Table 4. Simple Linear Regression Regarding Whether BODE Index Has an Effect on Somatosensory Amplification Scale, Type D Personality Scale, and its subscales, Negative Affectivity Scale Scores

Predictive	**Dependent**	**B**	**Standart Error B**	**β**	**t**	**p**
BODE Index	Constant	4.656	1.007	0.306	4.622	0.000
	Somatosensory Amplification	0.113	0.054		2.079	0.044
R= 0,306	R^2=0.093	$F_{(1.42)}$ = 4.324			**p=0.044**	
BODE Index	Constant	5.358	0.704	0.305	7.610	0.000
	Type D personality	0.063	0.030		2.072	0.044
R=0,305	R^2=0.093	$F_{(1.42)}$ = 4.295			**p=0.044**	
BODE Index	Constant	5.386	0.684	0.309	7.870	0.000
	Negative Affectivity	0.113	0.054		2.106	0.041
R= 0,309	R2=0.096	$F_{(1.42)}$ = 4.435			**p=0.041**	

p<0.05; β: beta coefficient; p: p value; R2 : R Squared

Table 5. Investigation of risk factors affecting type D personality disorder						
	Type D Personality		**Univariate**		**Multivariate**	
	No	**Yes**	**(95% CI)**	**P**	**(95% CI)**	**P**
Group						
Patient	26 (59.1)	18 (40.9)	29.769 (3.75 - 236.318)	**0.001**	16.623 (1.304 - 211.988)	**0.030**
Control	43 (97.7)	1 (2.3)	Reference			
Gender						
Female	21 (72.4)	8 (27.6)	1.662 (0.585 - 4.727)	0.341	1.502 (0.433 - 5.213)	0.521
Male	48 (81.4)	11 (18.6)	Reference			
Employment Status						
Unemployed	45 (76.3)	14 (23.7)	1.493 (0.48 - 4.646)	0.489	0.544 (0.129 - 2.295)	0.407
Emplayed	24 (82.8)	5 (17.2)	Reference			
Education						
Primary School	26 (60.5)	17 (39.5)	Reference			
Secondary School	17 (94.4)	1 (5.6)	0.09 (0.011 - 0.74)	**0.025**	0.422 (0.037 - 4.845)	0.488
High School	21 (95.5)	1 (4.5)	0.073 (0.009 - 0.593)	**0.014**	0.46 (0.033 - 6.474)	0.565
University	5 (100)	0 (0)	---	---	---	---
Cox & Snell R^2 = 24.5%; Nagelkerke R^2= 37.9%; frequency (percent)						

depressive symptoms were significantly higher in the patient group compared to the control group. It has been reported that exacerbations, number of hospitalizations, and mortality are associated with depression in patients diagnosed with COPD (Laforest et al. 2016). Atlantis et al. (2013) found that the relationship between depression and COPD was bidirectional, that is, not only COPD increased the risk of developing depression, but also depression increased the negative consequences of COPD (Smith 2013). The diagnosis of depression may be ignored because the symptoms related to COPD are similar to those of depressive symptoms. Depressive affection is observed in these people due to constantly existing physical complaints and social isolation. In addition, it is thought that depressive symptoms occur as a result of physical limitation observed with dyspnea, thoughts of inadequacy, and alienation from working life and social life (Taytard and Cousson 1996).

44% of those diagnosed with COPD have anxiety symptoms (Afşar et al. 2017). Anxiety disorders in these patients cause a decrease in adherence to treatment and an increase in hospitalization rates during attack periods (Ivziku et al. 2019). In our study, it was found that the state and trait anxiety scores were significantly higher in the patient group, which was consistent with the literature. Uncertainties about the future are perceived as a threat to individuals and may be a source of anxiety (Günay et al. 2017). Uncertainty and related fears about the future are observed in those with a diagnosis of COPD. Threats to the bodily integrity of people due to the symptoms seen in COPD and their fear of losing control may explain the high scores on the trait anxiety scale. Since only the hospitalized patients were included in our study, the high level of state anxiety scores could be explained by the fact that the complaints were at a high level, they were in an unfamiliar environment, and they had adjustment problems.

Although somatization is a non-specific symptom and is not considered a disease by itself, it is experiencing and perceiving emotional discomfort with physical complaints or symptoms (Koptagel 1999). Somatization, which occurs as a disease with bodily complaints and organ symptoms, is also a type of communication. Here, emotional distress is expressed with body language. Individuals are not able to name their emotional experiences and reflect them as physical symptoms (Koptagel 1999). In our study, the scores obtained from the somatic sensations exaggeration scale were significantly higher in the patient group compared to the control group. For this reason, these people tend to exaggerate physical complaints, and this may cause confusion for physicians as these are inconsistent with laboratory findings, and hospitalization rates can be reduced if this psychiatric problem is treated. If somatic sensations, which are accepted as indicators of mental problems, are interpreted incorrectly by the physician, they may lead to unnecessary tests and wrong treatments (Kirmayer 2001). In addition, a relationship was found between the BODE index, which indicates the functional status of the patients, and the exaggeration of somatic sensations exaggeration scale score, and we think that false high scores may be obtained in the BODE index since exaggeration of somatic sensations is higher in these individuals.

Individuals with type D personality patterns tend to be unhappy in general and are more pessimistic than other people. It has been reported that when individuals with this personality face a chronic health problem, recovery processes are slower in the treatment stages compared to other individuals. Optimistic people can cope with chronic problems such as this disease more

easily, while pessimistic people have difficulty in managing these processes (Carver et al. 1993). Polman et al. (2010) reported that an increase in stress and burnout levels was associated with type D personality. In a study conducted in our country, it was shown that the patients with type D fibromyalgia were in a worse condition in terms of quality of life, sleep, physical activity, and emotional functions compared to those not diagnosed with the disease (Garip et al. 2020).It has been reported in the literature that somatic symptoms are more common in individuals with type D personalities (Al-Qezweny et al. 2016, Bouwens et al. 2019, de Vroege L et al. 2019). In our study, the rate of type D personality and its subscales, social inhibition-negative affectivity subscales scores, were found to be significantly higher in the patient group compared to the control group. The patients with a diagnosis of COPD cannot do their work that requires physical strength alone, and these individuals generally do not go out of their home (Kunik et al. 2007). In addition, type D personality traits may be seen in people with this diagnosis because they isolate themselves for the purpose of protection from diseases. Since we do not know the status of these people before they were diagnosed with COPD, we could not reveal whether they had these features all their lives or whether they exhibited these features due to this disease. Also, although they experience more symptoms than non-type D patients, they do not seek help for increased symptom levels (Staniute et al. 2015). For these reasons, it is important to detect this personality pattern in individuals with COPD.

Our research has limitations. The first of the limitations is forming the sample group with individuals from only one center. The second is the difference in the mean age between the groups. Another limitation is the low number of cases included in both groups. More precise data can be obtained with studies conducted with more cases.

Conclusion

In our study, the state and trait anxiety, depression and type D personality, somatosensory amplification scale scores were higher in the patient group compared to the control group. Moreover, a high score on the somatosensory exaggeration scale and having a type D personality were found to be correlated with the BODE index score. Since psychiatric symptoms can be confused with the symptoms of this disease, this patient group should be examined by a psychiatrist. We think that as a result of recognizing and treating psychiatric symptoms, their functional status can be improved, the number and duration of hospitalizations can be reduced, and their quality of life can be increased. With these results, the effects of these psychiatric symptoms on the treatment process of the patients and the results of the interventions to reduce these symptoms in the disease process are not fully known. Our study is cross-sectional, and we think that determining the changes in the patients as a result of psychiatric treatments with prospective studies to be planned in the future will contribute to the literature.

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