An Evaluation of Death Depression and Death Anxiety in Patients with Chronic Obstructive Pulmonary Disease

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ABSTRACT

Objectives: The study aimed to determine the level of death depression and death anxiety in patients with COPD.

Method: The sample of this cross-sectional and descriptive study including patients' views consisted of 104 patients diagnosed with COPD and hospitalized in a hospital's pulmonary disease clinic in Turkey. Number, percentage, mean, regression, and correlation analysis were used in the analysis of the data.

Results: The most disturbing symptom of COPD was found to be dyspnea (71.2%), cough (17.3%), and sputum (11.5%). 44.2% of the patients had mild, 40.4% had moderate death anxiety levels, and 51% were in a depressive mood. According to the regression analysis, the death depression total score is predictable based on marital status, disease duration, presence of respiratory disease in patients, and patients' self-care levels (R: 0.556, R2: 0.310, F: 3.401, p: 0.000). The Anxiety about Death Process-Pain and Suffering subscale score is also predictable depending on the marital status, duration of the disease, desire to know the truth in case of deadly disease, and the level of meeting self-care needs (R: 0.563, R2: 0.317, F: 3.520, p: 0.000).

Conclusion: Nurses should monitor the following patients more closely in terms of death depression and death anxiety; those with high dyspnea, those with a history of respiratory disease, single or widowed patients, those with a disease of long duration, those who have difficulties meeting self-care needs and those who do not want to know the diagnosis in case of a deadly disease.

Keywords: COPD, Death, Depression, Dyspnea, Nursing

1. INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is the leading cause of morbidity and mortality in the world (1). Approximately 3 million people die of COPD worldwide each year. It is estimated that the prevalence of COPD will increase in the next 30 years, and deaths due to COPD and related reasons will surpass 4.5 million per year by 2030 due to the gradually increasing smoking rates in developing countries and the aging of the population in developed countries (2). The most apparent symptom of COPD is dyspnea. Patients may also have a long-lasting cough, sputum, and wheezing (1). Dyspnea is the symptom that creates the most fear, panic, and anxiety for COPD patients (3). In addition to physical symptoms, anxiety, and depression are also very typical symptoms in COPD patients. Dyspnea is more common in patients with depression symptoms (4). In a meta-analysis study, COPD is reported to increase the risk of developing depression. It is emphasized that the risk of exacerbation

of the disease increases by 43% in COPD patients with depression or anxiety (5). The prevalence of anxiety and depression is higher in COPD than in other chronic diseases. Factors like the feeling of being dependent on others, physical disability, reduced effort capacity, chronic inflammation, the effect of smoking on brain functions, and reduced exercise capacity are listed as the causes of depression and anxiety. The effect of dynamic hyperinflation and hyperventilation is also reported to be significant. The presence of anxiety and depression in COPD has been associated with decreased quality of life and exercise capacity, and an increased frequency of hospitalization, exacerbation, and mortality (2).

According to the study by Strang et al., the anxiety experienced by most patients was associated with "COPD". Patients expressed that they felt as if they were suffocated and strangled, and the feeling of not getting enough

air caused fear of death (6). In Barnett's study, patients described the moment they experienced respiratory distress as *"unbearable and frightening"* (7). In a phenomenological study, a patient emphasized that when s/he had respiratory distress, s/he *"felt as if s/he was going to die"* and *"felt frightened"* (8).

As dyspnea progresses in patients with the diagnosis of COPD, fear of not being able to breathe intensifies the death anxiety. With the progression of the disease, increasing dependence restricts social activities and can cause patients to have difficulty fulfilling their expected roles in the family and society, resulting in social isolation (9).

Although medical interventions for the treatment of COPD disease are limited, healthcare professionals can still do a lot to improve patients' symptoms and life standards related to the disease. By identifying how symptoms affect patients, they can develop coping strategies.

There are various studies on depression in the literature. Depression is accompanied by many symptoms or diseases. However, there are a limited number of studies describing the relationship between death depression and death anxiety in Turkey (10-12). This study was conducted to evaluate death depression and death anxiety in COPD patients and determine the socio-demographic and disease-related factors influencing them and patients' views on death. In addition to guiding nursing care and practices, the data obtained from the study are thought to shed light on innovative approaches in the future with an improved insight into the issue.

2. METHODS

2.1. Ethical Considerations

Institutional approval for the study was obtained from the General Secretariat of the Trabzon Public Hospitals Association on 22/05/2014 (Number: 96975.576.1704), and ethical permission was received from Karadeniz Technical University Faculty of Medicine Ethics Board (No:2014/58). The participants were informed about the aim of the study, their questions were answered, and their written and verbal consents were obtained.

Study Design: The study was conducted descriptively and cross-sectionally to determine the level of death depression and death anxiety in patients diagnosed with COPD. 104 patients hospitalized with COPD diagnosis in a hospital's pulmonary clinics in northern Turkey were included in the study.

Sample Selection: The study including patients' views was carried out in a descriptive and cross-sectional design at the Pulmonary Clinics of Hospital in Turkey between October 2014 and March 2015. The sample size was determined to be 104 patients after a power analysis was performed in the Open Epi program (9.1% incidence of COPD (13), %95 confidence interval, %80 test power) (14). Inclusion criteria were being 18 and over, being hospitalized with the diagnosis

of COPD, being able to communicate, having no vision and hearing loss and psychiatric disease, and being a volunteer.

Data Collection: In the collection of data, the "Patient Information Form", the "Thorson-Powell Death Anxiety Scale (TPDAS)", the "Death Depression Scale (DDS)", and the "Medical Research Council Scale (MRCS)" were used. The data were collected by the researchers through the face-to-face interview technique.

2.2. Data Collection Forms

The Patient Information Form: The Patient Information Form created by the researchers consists of three parts and 19 questions. The first part includes the descriptive characteristics of the patients (age, gender, marital status, education level, family structure, where they spend most of their life, and smoking status). The questions in the second part are about the clinical characteristics of the patients (the most disturbing symptom of COPD, chronic respiratory disease history, duration of the disease, annual hospitalization frequency, knowledge about the disease and prognosis, regular doctor visits, receiving support from the family, the level of meeting self-care needs), and the third part investigates the opinions of patients about death (the importance of religious beliefs in daily life, the desire to know the truth in case of a deadly disease, the expectations of terminal patients).

The Thorson-Powell Death Anxiety Scale (TPDAS): Developed by Thorson and Powell (1992), the Turkish validity and reliability study of the scale was performed by Karaca and Yıldız (2001) (15, 16). The scale consists of 25 items and is scored from 0 to 4, from weak to strong, using a 5-point Likert type. The lowest and the highest points on the scale are 0 and 100. High scores indicate high levels of death anxiety (16). The evaluation of the scores is as follows: 0-25 very low; 26-50 mild; 51-75 moderate; and 76-100 high. Death anxiety is examined in four subscales; anxiety about losing physical and mental functions, anxiety about the life after death, anxiety about decomposition, and anxiety about the death process-pain, and suffering. An increase in scores in all these dimensions is interpreted as an increase in death anxiety. The Cronbach alpha coefficient of the Thorson-Powell death anxiety scale is 0.84 (16). In this study, the Cronbach alpha coefficient of the scale was found as 0.79.

The Death Depression Scale (DDS): Developed by Templer et al. in 1990, the Turkish validity and reliability study of the Death Depression Scale was conducted by Yaparel and Yıldız in 1998 (17, 18). There are 17 items on the scale measuring the emotional states such as death-related depression, sadness, loneliness, terror, and grief. Minimum and maximum scores are 0 and 17 on the scale. 0-8 scores refer to non-depressive mood, and 9-17 refer to depressive mood. The Cronbach alpha coefficient of the Death Depression Scale is 0.74 (18). In this study, the Cronbach alpha coefficient of the scale was found to be 0.74.

The Medical Research Council Scale (MRCS): It is a five-item scale based on a variety of physical activities that produce a sense of dyspnea. The scoring is between 0 and 5, and patients are asked to mark the level of activity that causes dyspnea (19).

2.3. Statistical Analysis

The data were evaluated with the SPSS (Statistical Package for the Social Sciences) 18.0 program. Kolmogorov Smirnov test was used to check the data's conformity to normal distribution. Number, percentage, mean, standard deviation, multiple linear regression analysis, Spearman, and Pearson correlation analysis were used to evaluate the data. Independent t-test, and ANOVA test, which are parametric tests, were used because the variables conformed to the normal distribution in the independent data. In the comparison of the data, the *P*-value of less than .05 was accepted as statistically significant.

3. RESULTS

Patient Characteristics: The results showed that 77.9% of the patients were male, the mean age was 67.65 ± 9.63 years, and 68.3% had nuclear families. The MRCS mean score was found to be 3.58±1.20. The most frequently experienced symptoms of COPD were found to be dyspnea (71.2%), coughing (17.3%), and sputum (11.5%). 56.7% had a history of one or more chronic respiratory diseases (asthma, chronic bronchitis, emphysema, tuberculosis). 37.5% had been followed up with the diagnosis of COPD for 10-29 years, 39.4% were hospitalized 1-3 times a year, 71.2% received family support during their disease, and 83.7% could meet their self-care needs independently (Table 1).

Patients' Views on Death: 71.2% of the patients stated that their religious beliefs were very important in their daily lives. 67.3% wanted to know the truth in case of a deadly disease by reporting the following reasons; "I just want to know" (30.7%), "I want to know to take measures" (19.2%), "I want to know to worship more for the rest of my life" (5.8%), "I believe in death, and I am not afraid of it" (4.8%).

Patients listed their reasons for not wanting to know the truth in case of a deadly disease (25.0%) as follows; "I would feel sad" (15.4%), and "I would feel scared" (3.8%). The expectations of terminal patients from nurses were "to show interest and compassion" (41.3%), "to help and meet the patients' needs" (21.2%), and "to make necessary interventions" (19.2%) (Table 2).

The Death Depression and Death Anxiety: Table 3 shows the distribution of the patients' mean scores of the DDS and TPDAS. On the Death Depression Scale, 51% of patients were found to be in a depressive mood. On the Death Anxiety Scale, 6.7%, 44.2%, 40.4%, and 8.7% of the patients had very low, mild, moderate, and high levels of death anxiety, respectively (Table 3).

Table 1. Distribution of Descriptive and Clinical Characteristics of Patients (n = 104)

Descriptive Characteristics		n	%
Age (Mean±SD) 67.65±9.63 years	64 years old and ↓	37	35.5
	65 years old and ↑	67	64.5
Gender	Female	23	22.1
	Male	81	77.9
Marital Status	Married	81	77.9
	Single/Divorced	8	7.7
	Widowed	15	14.4
Education Level	Illiterate /Literate	29	27.9
	Primary school	56	53.8
	Secondary school and over	19	18.3
Family Type	Nuclear	71	68.3
	Extended	33	31.7
The place where the patient spent most of her/his life	City	35	33.7
	District	21	20.2
	Village	48	46.1
Smoking	Yes	10	9.6
	No	26	25.0
	Quit due to disease	68	65.4
Clinical Characteristics		n	%
MRCS* (Mean±SD) 3.58±1.20	Stage 1	7	6.7
	Stage 2	13	12.5
	Stage 3	24	23.1
	Stage 4	32	30.8
	Stage 5	28	26.9
The most disturbing symptom of COPD*	Dyspnea	74	71.2
	Cough	18	17.3
	Sputum	12	11.5
Having a history of respiratory disease	Yes	59	56.7
	No	45	43.3
The duration of the disease (Mean ±SD) 13.75±13.30 years	Less than 1 year	10	9.6
	1-9 years	37	35.6
	10-29 years	39	37.5
	30 years and ↑	18	17.3
The frequency of hospitalization (Mean ±SD) 3.29±3.28 years	First time	21	20.2
	Once in every 2-3 years	6	5.8
	1-3 times a year	41	39.4
	Four times and ↑ a year	36	34.6
Having information about disease and prognosis	Yes	53	51.0
	No	51	49.0
Having regular doctor visits	Yes	76	73.1
	No	28	26.9
Receiving family support during disease	Yes	74	71.2
	No	30	28.8
Meeting self-care needs	Independent	87	83.7
	Partially dependent***	17	16.3

*MRCS: Medical Research Council Scale
**COPD: Chronic Obstructive Pulmonary Disease
*** Those supported by someone and those using assistive vehicles were combined.

The total score that the patients got from the DDS ranged from 2 to 17, and the total mean score was 8.84±3.56. The total mean TPDAS score was 50.19±15.61, and the highest score was obtained from the subscale of the anxiety about the death process-pain and suffering (15.80±5.17). This is followed by the anxiety about the life after death subscale (15.60 ± 4.96) (Table 4).

Table 2. Distribution of Patients' Views on Death (n = 104)

Death-Related Views		n	%
The importance of religious beliefs in daily life.	Very important	74	71.2
	Important / Not very important	30	28.8
Desire to know the truth in case of a deadly disease	Yes	70	67.3
	No	26	25.0
	Depends on conditions	8	7.7
The reasons why the patients want to know the truth in case of a deadly disease (n=70)	I just want to know	32	30.7
	To take measures	20	19.2
	To worship more	6	5.8
	I believe in death, and I am not afraid of it	5	4.8
	To say goodbye to my loved ones	3	2.9
	I would be glad to die	2	1.9
	I would show more interest to my children	1	1.0
	I would try to heal the hearts I broke	1	1.0
The reasons why the patients would not want to know the truth in case of a deadly disease (n=26)	I would feel sad.	16	15.4
	I would feel scared.	4	3.8
	I would not want to leave my loved ones	2	1.9
	It is difficult to accept	2	1.9
	In order not to despair	1	1.0
	Because I'm afraid of being punished in the life after death	1	1.0
The expectations of terminal patients from the nurses (n=93) *	Nurses are expected to show interest and compassion	43	41.3
	to help and meet the patients' needs	22	21.2
	to make necessary interventions	20	19.2
	to give moral support and to have a smiling face	14	13.5
	to provide religious support	4	3.8
	to behave normally	4	3.8
	to relieve pain	3	2.9
	to be careful/attentive	2	1.9
	to ask for their last wishes	1	1.0

*Since the questions were answered more than once.

Table 3. The distribution of the patients' DDS and TPDAS total mean scores.

Death Depression Scale	n	%
Non depressive mood (0-8 points)	51	49.0
Depressive mood (9-17 points)	53	51.0
The Thorson-Powell Death Anxiety Scale- Anxiety levels	**n**	**%**
Very low	7	6.7
Mild	46	44.2
Moderate	42	40.4
High	9	8.7

The Relationship between Patients' Death Depression Scale-Thorson-Powell Death Anxiety Scale Scores and MRCS scores: According to the correlation analysis, there was a positive correlation between MRCS and DDS mean scores (r=0.231, p<0.05). As the MRCS mean score increased, the DDS mean score increased. The relationship between the MRCS mean score and the subscale of anxiety about decomposition mean score (r=0.222, p=0.023) was statistically significant (p<0.05). Accordingly, as the MRCS score average increased, the anxiety about decomposition sub-score increased. On the other hand, there is a positive significant correlation between the total scores of the DDS and TPDAS in COPD patients (r=0.677, p<0.01), and as the total score of patients increases, the total TPDAS score also increases (Table 5).

Table 4. Distribution of Patients' DSS and TPDAS Total Scores and TPDAS Sub-Scales Mean Scores (n=104)

	Min-Max Points to be obtained	Min-Max Points obtained in the study	X±SD
DSS Total Scores	0-17	2-17	8.84±3.56
TPDAS Total Scores	0-100	13-88	50.19±15.61
TPDAS Sub Scales			
Anxiety about losing physical and mental function	0-32	0-31	12.32±6.96
Anxiety about the Life After Death	0-24	0-24	15.60±4.96
Anxiety about Decomposition	0-16	0-16	6.45±4.48
Anxiety about Death Process- Pain and Suffering	0-28	4-28	15.80±5.17

Regression Analyses

Regression analysis revealed that marital status, disease duration, chronic respiratory disease in etiology, and self-care were significantly associated with the death depression scale (R: 0.556, R^2: 0.310, F: 3.401, p: 0.000). (R: 0.556, R^2: 0.310, F: 3.401, p: 0.000). The total score was found higher in widowed patients, those with a disease duration of 30 years or more, those with a history of chronic respiratory disease, and those who could meet their self-care needs semi-dependently.

According to the ANOVA analysis of variance performed to determine the differences between the groups in terms of marital status variable, there was a significant difference in widowed participants compared to married ones (F: 5.653, p: 0.11) (p<0.05). In the etiology of the t-test analysis performed to determine the differences between the groups, there was a significant difference between the groups in patients with chronic respiratory system disease (t: 2.149 p: 0.034) and in patients who could meet their self-care needs semi-dependently (t: 2.007, p: 0.047).

Anxiety about Death Process-Pain and Suffering subscale was significantly associated with marital status, duration of illness, willingness to learn in case of deadly disease, and self-care level (R: 0.563, R^2: 0.317, F: 3.520, p: 0.000).

The total score is higher in singles, those with a disease duration of 10-29 years, those who did not want to learn in case of a deadly disease, and those who could meet their self-care needs semi-dependently. According to the ANOVA analysis of variance performed to determine the differences

between the groups in the marital status variable, a significant difference was found between single and married patients (F: 8.003, p: 0.003), and between widowed and married patients (F:8.003, p: 0.032). In the t-test analysis performed to determine the differences between the groups, a significant difference was found in those who did not want to learn the truth in case of a deadly disease and the others (p<0.001, t: 4.723) (Table 6).

Table 5. The Relationship between Patients' Death Depression Scale-Thorson-Powell Death Anxiety Scale Scores and MRCS scores (n=104)

	DDS Total Score	Anxiety About Losing Physical and Mental Function	Anxiety about the Life After Death	Anxiety about Decomposition	Anxiety about Death Process – Pain and Suffering	TPDAS Total score
MRCS	r=0.231 p=0.018**	r=0.116 p=0.241**	r=0.013 p=0.893**	r=0.222 p=0.023**	r=0.010 p=0.919**	r=0.115 p=0.246**
DDS						r=0.677* p=0.000***

*Pearson Correlation Analysis, **Spearman Correlation test p<0.05, ***p<0.01

Table 6. Regression Analyses

Death Depression Scale	B	Standard Error	β	t	P
Age	-0.067	0.039	-0.181	-1.695	0.093
Gender	-0.891	0.865	-0.104	-1.030	0.306
Marital Status	1.719	0.456	0.349	3.770	**0.000**
Family Structure	0.947	0.722	0.124	1.312	0.913
Education level	0.358	0.610	0.068	0.586	0.559
Duration of the disease	0.881	0.416	0.218	2.119	**0.037**
The frequency of hospitalization	-0.224	0.335	-0.069	-0.668	0.506
Having a history of respiratory disease	-1.423	0.679	-0.199	-2.097	**0.039**
Meeting self-care needs	2.428	0.895	0.253	2.713	**0.008**
Receiving family support during disease	-1.386	0.746	-0.177	-1.859	0.066
The most disturbing symptom of COPD	-0.405	0.505	-0.078	-0.802	0.425
MRCS	0.508	0.354	0.172	1.437	0.154
R: 0.556 R²: 0.310 F: 3.401 p: 0.000					
Anxiety about Death Process-Pain and Suffering Subscale	B	S.E	β	t	P
Age	-0.055	0.055	-0.103	-1.001	0.320
Gender	-1.754	1.240	-0.141	-1.414	0.161
Marital Status	2.124	0.648	0.298	3.277	**0.001**
Education level	1.281	0.932	0.167	1.375	0.173
MRCS	-0.467	0.502	-0.109	-0.931	0.354
Duration of the disease	1.655	0.626	0.283	2.645	**0.010**
The frequency of hospitalization	-0.776	0.515	-0.165	-1.507	0.135
Having information about disease and prognosis	1.180	1.022	0.115	1.154	0.251
The desire to know the truth in case of a deadly disease	2.015	0.744	0.246	2.709	**0.008**
The importance of religious beliefs in daily life	-1.300	1.044	-0.114	-1.244	0.217
Having regular doctor visits	0.827	1.040	0.071	0.795	0.429
Meeting self-care needs	4.084	1.354	0.293	3.016	**0.003**
R: 0.563 R²: 0.317 F: 3.520 p: 0.000					

4. DISCUSSION

Patients with COPD can experience many symptoms and associated problems. In this study, half of COPD patients were determined to be in a depressive mood (51%), and almost all had mild and moderate (44.2%; 40.4%) levels of death anxiety, respectively.

One of the most significant factors that can cause death anxiety is chronic diseases. However, the presence of any

chronic disease does not always increase death anxiety. Studies show that the presence of physical problems and/or serious health problems, mostly seen in chronic diseases, affects death anxiety (20). In a study conducted in Turkey, moderate and mild death anxiety were seen in patients with Myocardial Infarction (MI) and cancer, respectively (10). Sahan et al. (2018) suggested that the reason why patients with a history of MI had higher levels of death anxiety than cancer patients may be due to facing death unexpectedly. In our study, the total score on the death anxiety scale was found similar to that of MI patients in Sahan's study. This situation may be the result of COPD patients' fear of not being able to breathe due to dyspnea, which makes them feel at the edge of death.

The thought of death has an inevitable impact on human life, and excessive, extreme thought of death negatively affects human psychology (20). Also, a positive correlation was found between death depression and death anxiety total scores (p<0.01). As the total death depression score increased, the death anxiety total score increased. Thus, death depression can be considered a reflection of death anxiety.

Dyspnea is the major symptom of COPD disease and the main cause of many other complaints. It can lead to death depression by confronting the individual with death (21). A positive correlation was found between the severity of dyspnea and the death depression and the subscale of anxiety about decomposition mean score in this study. As the MRCS mean score increased, the subscale of anxiety about decomposition mean score increased too. Gokcek et al. (2019) argued that the level of depression due to dyspnea increased, and the risk of depression increased in patients with increasing severity of COPD (21). Marko et al. (2006) observed higher anxiety rates in severe COPD patients (22). Voogda et al. (2011) also revealed a significant positive relationship between exertional dyspnea and anxiety (23). However, Kayhan et al. (2013) determined no statistically significant relationship between dyspnea severity and the scores of depression, state anxiety, and trait anxiety in patients with COPD and asthma (24). Physical limitations associated with dyspnea in COPD patients can cause individuals to feel insufficient, experience a change in role performance, move away from work and social life, and create an inability to fulfill their self-care needs, which may lead individuals to experience depression. Therefore, how patients perceive dyspnea is very important because a high perception of dyspnea indicates high a depressive emotional mood (21).

Regression Analysis Discussion

According to the results of the regression analysis in the study, marital status, duration of illness, chronic respiratory disease in the etiology and self-care for the death depression scale, marital status, duration of illness, willingness to learn in case of a deadly disease, and self-care are predictors for the sub-dimension of death anxiety. On the other hand, no significant relationship was found between age, gender, education level,

death depression, death anxiety subscales, and total scores. The reason for the lack of a significant relationship with the age variable may be due to the close distribution (peak value) of the ages of the patients in the sample. On the other hand, female patients' mean scores were found to be higher. In traditional cultures like Turkish culture, men are expected to be braver and stronger than women. Therefore, death anxiety may have been found higher in women depending on this cultural feature. Women are thought to express their feelings more easily because they are emotionally and cognitively different from men. Women express their feelings more easily because they are different from men emotionally and cognitively. For this reason, it is thought that the mean death anxiety scores in women are higher in our study. A human being is a psychosocial entity, and his/her spouse and family have a positive effect on establishing social relations and dealing with difficult life events (25, 26). Therefore, the presence of spouses and children is thought to be effective in reducing death anxiety. In this study, marital status was found to be a significant determinant of death depression and death anxiety. The mean death depression score of widowed patients was significantly higher than that of married patients. The mean death anxiety subscale score was higher in single patients than in married patients, and it was higher in widowed patients than married patients (p<0.005). Tutuk and Altun (2014) also reported that the depression mean scores of widowed patients and anxiety scores of those separated from their spouses were higher than the other groups in their study with COPD patients (27). In a study carried out with patients with heart failure, Bayrak et al. (2019) argued that single patients had higher death anxiety than married patients (28). Nal et al. (2016) stated that the death anxiety scores of widowed patients with COPD were higher than married and single patients (29). However, Acehan and Aker (2013) did not find a statistically significant difference between marital status, death depression, and death anxiety (11).

In our study, chronic respiratory system disease in etiology is a predictor of death depression. Prolonged disease and treatment durations in chronic diseases lead to psychosocial problems such as anxiety and depression (30). It is stated in the literature that health problems can increase death anxiety and fears. In other words, as anxiety about the body increases, death anxiety also increases. The individual who monitors changes in his body with anxiety may tend to establish a relationship between disease and death (31).

According to the regression analysis, the duration of diagnosis is a factor that may affect the depression and death anxiety sub-dimensions. The total score is higher in patients with a longer diagnosis period. The total score was found higher in patients with longer disease duration. Consistent with our study, Nal et al. (2016) reported that disease duration affected death anxiety, and death anxiety increased in individuals with COPD as the disease duration increased (29). Tutuk and Altun (2014) emphasized that when the disease duration of COPD patients and their hospital anxiety depression mean scores were compared, the anxiety mean score was found

significantly higher in those who had been ill for 1-5 years, and the depression mean score was higher for those who had been ill for 11 years or more (27). On the contrary, in their study with COPD patients, Kayhan et al. (2013) reported no significant relationship between the severity of depression and the duration of the disease (24). Likewise, Aydemir et al. (2015) found no significant relationship between disease duration and anxiety and depression scores in hospitalized patients with chronic heart disease and chronic respiratory disease (9). In this study, the duration of the disease was determined to affect the death depression, and anxiety. Accordingly, the mean death anxiety score of those with disease duration of 11-20 years was higher than the others. As the duration of the disease increases, the disease progresses, and the frequency and severity of the symptoms increase, so the repeated hospital admissions and hospitalizations increase. In addition, individuals' witnessing some symptoms that evoke closeness to death (e.g., the severity of symptoms and increased frequency of attacks) and continuous exposure to them may increase death anxiety.

Having a deadly disease and not being willing to learn about it are predictors of the death anxiety sub-dimension. This result may be an approach to get rid of existing painful conditions. Similarly, Dougherty et al. (1986) found a positive correlation between death anxiety and denial in their study on cancer patients. It can be suggested that patients who are more anxious about death do not want to face the reality of a deadly disease, and this situation increases their death anxiety (32).

The results showed that death-related depression and death anxiety sub-dimension scores were higher in patients who could meet their self-care needs semi-dependently than those who could meet their self-care needs independently. Nal et al. (2016) found that COPD patients in need of home care had higher death anxiety scores (29). On the contrary, Magrebi Kurt and Akçay (2019) stated that there was no significant relationship between death anxiety and dependency levels in their studies (12). The results of this study are similar to those of Nal et al. (2016) (29). In line with these results, it can be argued that being dependent on the care of others increases death anxiety and death depression.

5. CONCLUSION

This study demonstrated that death depression and death anxiety in COPD patients may have significant behavioral and emotional widespread effects. According to the results, the following patients should be evaluated in terms of death anxiety and death depression and necessary support should be provided; patients who are single, who are without spouse support, who has a disease of long duration, who has a history of chronic respiratory disease, who do not want to know the truth in case of a deadly disease and who are dependent on others in meeting self-care needs. It is concluded that dyspnea increases death depression and death anxiety. Therefore, it is recommended that nurses should monitor COPD patients with increasing dyspnea levels

more closely in terms of death anxiety and death depression. Health professionals working with COPD patients need to pay attention to determining how patients can cope with death anxiety, develop effective strategies, increase the support resources, and ensure continuity of education and treatment after discharge. In the treatment of COPD, not only medical treatment but also a psychosocial approach should be adopted. It is recommended to conduct further qualitative research on nurses working with COPD patients and patients receiving COPD treatment to determine their views on death.

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