

The Impact of Home Care Needs of Chronic Obstructive Pulmonary Disease Patients on Anxiety Level in Turkey

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Abstract: The aim of this study is to determine the effect of anxiety levels on home care needs of chronic obstructive pulmonary disease (COPD) patients. This descriptive study was conducted at a university hospital between January 2016 and June 2017. In the power analysis to determine the sample of the study, 0.05 error level, 0.08 effect size and 0.95 sample size were determined as 202 patients. Patients were selected by simple random sampling method. Personal data form, Katz Daily Life Activities index and Status Anxiety Scale (STAI form TX - I) were used for data collection. The mean STAI scores of the patients participating in the study were found as 45.17 ± 11.28 . Patients with STAI score 40-59 indicate moderate concern. Statistically significant difference was found between the total score of the patients on the Katz scale and the mean of the points of gender, education and cohabitation ($p < 0.05$). The difference between STAI total score and gender total score of the patients was statistically significant ($p < 0.05$). There was a statistically significant negative correlation between Katz total score and STAI score averages. As a result, the anxiety levels increase as the home care needs of COPD patients decrease. As the independence of daily living activities of COPD patients increases, the level of anxiety is decreasing.

Keywords: Anxiety, COPD, Home Care Needs

1. Introduction

Chronic obstructive pulmonary disease (COPD) is an increasingly health problem all over the world today and is recognized as a cause of significant morbidity and mortality [1]. According to WHO data, 50 million people die from this disease each year, while 3 million of them lose their lives [2].

Since the COPD respiratory system is a progressive condition, the ability of individuals to carry out their daily life activities is diminishing over time [3]. In order for patients to be able to cope with the problems caused by the disease process, to manage the symptoms and complications of the disease effectively in the home environment, home care needs need to be determined [4].

In COPD patients during daily life activities, can be seen hypoxia, hypercapnia, hyperventilation and respiratory failure, which affect brain function directly and causes anxiety. At the same time bronchodilator used in the

treatment of respiratory system diseases, sympathomimetic and decongestants also facilitate the development of anxiety due to side effects. For these reasons, anxiety is one of the major problems in COPD [5]. The prevalence of anxiety in COPD patients varies between 2-96% [6-10]. In patients with COPD, the symptoms of the disease are exacerbated, serious life-threatening complications and significant functional losses leading to disease table failure [10].

Nurses who make up the largest part of the health care team need to determine the anxiety levels and daily life activities of COPD patients, provide patient self care and home care support.

2. Method

2.1. Aim

The aim of the study was to determine the effect of anxiety levels on home care needs of COPD patients.

2.2. Design

The study was conducted as a descriptive.

2.3. Sample

The research was conducted at a university hospital between January 2016 and June 2017. The study consisted of patients with COPD who were hospitalized at a university hospital's chest diseases clinic. In the power analysis to determine the sample of the study, 0.05 error level, 0.08 effect size and 0.95 sample size were determined as 202 patients. Patients were selected by simple random sampling method.

2.4. Data Collection

Personal data form, Katz Daily Life Activities index and Status Anxiety Scale (STAI form TX - I) were used for data collection.

2.5. Data Collection Tools

Personal Information Form: The Personal Information Form consists of 11 questions, which include the identification characteristics of the patients who were created by the researchers by searching the literature.

Katz Daily Life Activities Index: The validity reliability of Index developed by Katz in 1963 was made by Şahbaz in 2005 [11]. The index consists of 6 titles: nutrition, dressing, bathing, continence, movement and transfer. 0-6 points are considered "dependent", 7-12 points are "partially dependent" and 13-18 points are considered "independent" in the daily living activity index. The reliability coefficient of

the scale in this study was found to be 0.80.

State Anxiety Scale: The scale was developed by Spielberger and Gorsuch in 1964. The Turkish validity reliability study of the scale was conducted by Öner and Le Compte in 1983. State Anxiety Scale; determines how the individual feels himself or herself in a particular situation and in certain conditions. In State anxiety scale 10 per (1, 2, 5, 8, 10, 11, 15, 16, 19 and 20. substances are inversely expressed. From the total weighted points that contain direct expressions, the total weighted points of the opposite statements are subtracted and 50 are added to this number. Cronbach's alpha coefficient of the scale was 0.94. In our study Cronbach Alpha Coefficient was found 0.90.

2.6. Data Analysis

Percentage distribution, mean, *t* test, Kruskal Wallis, Mann-Whitney-U and correlation test were used in the evaluation of the data.

3. Results

When the distributions according to the descriptive characteristics of the patients are examined; 95% of them are 50 years of age or older, 65.8% of them are male, 83.7% are married, 41.6% are not illiterate, 53% are equivalent to the income expense and 36.1% live with their spouse and children. Statistically significant difference was found between the total score of the patients on the Katz scale and the mean of the points of gender, education and cohabitation ($p < 0.05$). The difference between STAI total score and gender total score of the patients was statistically significant ($p < 0.05$) (Table 1).

Table 1. Distribution of Patients according to their Descriptive Characteristics (n = 202).

Demographic Characteristics	n (%)	KATZ		STAI	
		Mean \pm S.D.	Test statistic p-value	Mean \pm S.D.	Test statistic p-value
Age					
50 years and under	10 (5.0)	17.25 \pm 0.88	MWU: -1.523	42.80 \pm 11.26	MWU: 867.500
50 years and over	192 (95.0)	15.17 \pm 3.40	p: .128	45.29 \pm 11.30	p: .608
Gender					
Female	69 (34.2)	14.30 \pm 3.67	t: -2.51	48.04 \pm 11.79	t: 2.64
Male	133 (65.8)	15.56 \pm 3.19	p: .012*	43.68 \pm 10.76	p: .009*
Marital Status					
Married	169 (83.7)	15.23 \pm 3.40	t: .971	44.98 \pm 11.58	t: -.543
Single	33 (16.3)	14.60 \pm 3.47	p: .333	46.15 \pm 9.75	p: .558
Education Status					
Illiterate	84 (41.6)	13.88 \pm 3.69	KW: 25.25	46.25 \pm 10.80	KW: 4.42
Literate	30 (14.9)	15.70 \pm 3.46	p: .000**	43.96 \pm 13.17	p: .218
Elementary School	71 (35.1)	15.94 \pm 2.88		45.70 \pm 11.05	
High School	17 (8.4)	16.94 \pm 1.43		39.76 \pm 10.21	
Income Status					
Income < Expenses	87 (43.0)	14.32 \pm 3.89	KW: 5.85	46.17 \pm 11.85	KW: 2.51
Income = Expenses	108 (53.0)	15.80 \pm 2.76	p: .054	44.66 \pm 10.47	p: .285
Income > Expenses	7 (4)	14.85 \pm 4.29		40.57 \pm 15.95	
Roommate					
Alone	22 (10.9)	15.86 \pm 2.14	KW: 19.44	46.95 \pm 11.24	KW: 2.27
Wife/Husband	57 (28.2)	14.89 \pm 3.51	p: .000**	46.26 \pm 11.89	p: .518
Wife/ Husband and Her/his Children	73 (36.1)	16.16 \pm 2.95		43.73 \pm 10.49	
Only her/his Children	50 (24.8)	13.58 \pm 3.79		45.24 \pm 11.79	

* $p < 0.05$ ** $p < 0.001$

The mean STAI scores of the patients participating in the study were found as 45.17 ± 11.28 . Patients with STAI score 40-59 indicate moderate concern. Katz total scores of the patients were found to be 15.13 ± 3.4 . 13-18 points from this scale indicate that patients are independent in their daily life activities (Table 2).

Table 2. Scale Total Scores of Patients.

Scale	M \pm S.D
STAI	45.17 \pm 11.28
Katz Total Scores	15.13 \pm 3.4

The relationship between Katz and STAI point averages of patients was examined. There was a statistically significant negative correlation between Katz total score and nutrition, dressing, toilet needs, bathroom, transfer, continence sub-dimensions and STAI score averages (Table 3) ($p < 0.001$, $p < 0.01$, $p < 0.05$). As the independence of daily living activities of COPD patients increases, the level of anxiety is decreasing.

Table 3. Relationship Between Katz and STAI Score Averages.

	STAI	
	r	p
Katz	-.207**	.003
Nutrition	-.159*	.024
Dressing	-.163*	.020
Toilet Needs	-.174*	.013
Bathroom	-.253***	.000
Transfer	-.157*	.026
Continence	-.116	.100

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

4. Discussion

The findings of the study to determine the effect of home care needs of COPD patients on the anxiety level were discussed with literature information.

The difference between gender total score and KATZ total score of the patients participating in the study was found to be statistically significant. The independence of male patients in daily life activities is higher than that of women. It was found that the difference between the mean score of gender and daily living activities in the study conducted by Ünsal was not statistically significant [12]. Tel and Sahin have been found to be more independent in daily life activities of males than in females in the study of elderly individuals [13, 14]. As a reason for this difference in the results of the research, it can be considered that the frequency of chronic diseases in women is decreased and the related physical activity is decreased.

The difference between the total score of education level of patients participating in the study and the total score of KATZ was found to be statistically significant. High school graduates have higher independence in their daily life activities. It has been reported that the study conducted by elderly individuals with chronic chronic illnesses is more independent in the activities of daily living of people with

higher education level [15]. In the study were by Akça with hemodialysis patients difference between the education level and the average of the daily life activities scores was not statistically significant [16]. It is known that as the level of education increases, the income situation also increases. Income, on the other hand, facilitates the use of many tools that help with daily life activities. So independence is increasing in daiy work. Research results can be explained by these reasons.

The difference between the total score of the patients living in the home and the total score of KATZ was found to be statistically significant. Patients living with their spouse and children have higher independence in their daily life activities. Carried out in a study by Tel with older people, with chronic illnesses to be more independent in daily life activities of family members living [15]. Sofa has been reported to be more independent in the daily life activities of family members living at home [17]. The family is a contributing factor to activities of daily living in individuals with chronic illnesses. Living with spouses and children makes it easier to get help from both parents and children, thus increasing the level of independence. Research results can be explained by these reasons.

The difference between gender total score and STAI scale total score of the patients participating in the study was found statistically significant. Women with COPD have higher levels of anxiety. Pooler found similar results in our study of COPD patients [3]. Similar results were obtained by Willgoss and Yohannes in a systematic review of patients with COPD [8]. COPD is a disease with severe symptoms. Women struggle with many factors such as child care and home work besides their illness. Also, considering that women give more severe emotional reactions in case of stress, the results of the research are similar to the literature.

Anxiety of the patients who participated in the study were found to be moderate. The study reported the anxiety levels of COPD patients at different levels [6-9]. This condition is used in measurements of different evaluation tools and often the symptoms of the disease shows the situation of the coincidence with the symptoms of anxiety.

Patients participating in the research were found to be independent in their daily life activities. Aydin stated that most of the individuals with COPD were receiving help in their daily living activities [19]. In the Aksu study, most of the individuals with COPD reported support for home care [20]. This result of our research is important in that it is the first in the literature.

There was a statistically significant negative correlation between the Katz total score and the STAI total score of the patients participating in the study. As the independence status of the patients' daily life activities increases, the level of anxiety decreases. The level of anxiety increases as the dependency status increases in daily life activities in COPD. The result of our study is consistent with literature information (Pooler & Beech, 2014; Willgoss & Yohannes, 2013; Eisner et al., 2009).

5. Conclusion

In the study, it was determined that COPD patients had independent, anxiety levels in their daily life activities. As the independence of daily living activities of COPD patients increases, the level of anxiety is decreasing. Since COPD is a chronic disease, psychological problems such as anxiety and depression should not be overlooked. It may be possible for nurses to provide patients with COPD and their relatives with suggestions for increasing the daily activities of the patients and reducing the anxiety.

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