

Effects of Education on Care Burden and Quality of Life to Caregivers of Patients with COPD

Firdevs Kuzu¹, Hatice Tel Aydın²¹Provincial Health Directorate Public Health Directorate, Sivas, Turkey²Department of Nursing, Sivas Cumhuriyet University Faculty of Health Sciences Sivas, Turkey

Cite this article as: Kuzu F, Tel Aydın H. Effects of education on care burden and quality of life to caregivers of patients with COPD. *Turk Thorac J.* 2022;23(2):115-122.

Abstract

OBJECTIVE: This research was carried out in a single group, pretest–post-test design in order to determine the effect of education on care burden and life quality of caregivers provided to caregivers of patients diagnosed with chronic obstructive pulmonary disease who received healthcare at their home.

MATERIAL AND METHODS: The population of the study was composed of 35 patients with chronic obstructive pulmonary disease living in the city center and receiving home health care and the caregivers of these patients. Research data were obtained by using the Caregiver Information Form, Patient Information Form, Caregiver Burden Inventory, and World Health Organization Quality of Scale-Bref Quality of Life Scale. Caregivers' burden and quality of life were reevaluated once after every 1 month and 3 months following the education.

RESULTS: It was determined that caregivers were the spouses and children of the patients, the majority of them did not consider themselves sufficient in providing care; their care burden was high and their quality of life was low. In post-education follow-ups, a significant reduction in caregiver burden and a significant increase in quality of life were detected.

CONCLUSION: The education prepared considering the learning needs was seen to be effective in reducing the care burden of caregivers of patients with chronic obstructive pulmonary disease and in improving their quality of life.

KEYWORDS: COPD, caregiver, care burden, quality of life, home health care

Received: January 13, 2021

Accepted: September 16, 2021

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is one of the chronic diseases that causes an increased economic and social burden due to high care and treatment expenditures.¹⁻³ In the global disease burden study report, it is stated that there were 251 million COPD patients worldwide in 2016, and 3.17 million deaths that occurred globally in 2015 were related to COPD.⁴ The burden of COPD on the families and country economy reaches significant dimensions with the economic losses arising from diagnosis, treatment expenditures, early deaths, and loss of labor force.⁵

Patients with COPD, who experience significant functional losses during the disease process, need the help and support of a caregiver in many areas.^{6,7} This situation requires care services to move from hospital to home care services, and the need for informal caregivers is increasing.⁸ The caregivers of patients with COPD assume many important responsibilities for taking care of patients in the home environment. However, it is a known fact that the majority of caregivers do not have sufficient knowledge. Although caregivers' living with COPD patients in the same home environment is positive in terms of continuity and effectiveness of care, this situation has a restrictive effect on caregiver's own activities.⁹ In a study by Kanervisto et al.¹⁰ 37% of patients with COPD stated that the disease affected them negatively, while 55% of caregivers of the same patients reported that their responsibility to provide care negatively affected their own lives. Nakken et al¹¹ emphasize that it is important to investigate the interaction between patients and caregivers and to take the needs of caregivers into account. In a study by Miravittles et al.¹² it was revealed that 35% of caregivers had health problems, 83% had problems related to leisure/social activities, and 38% had problems in fulfilling their professional responsibilities due to caregiving; these problems increased in relation to the degree of dependence of the patient receiving care. It has been reported that caregivers, who report that they are affected and need help in providing care, have a higher burden of care¹³ and their quality of life decreases as the care burden increases.¹⁴ Marques et al¹⁵ reported that the inclusion of caregivers of patients with COPD in a multidisciplinary pulmonary rehabilitation program contributed to caregivers' developing strategies to cope with stress and psychosocial adjustment.

As the severity of the disease increases, the responsibilities of the caregivers of patients with COPD become more and more complex. In addition to providing care to patients, caregivers should support them as well.¹⁶ This situation increases the learning needs of the caregivers of patients with COPD regarding the disease and care. Health professionals and health

Corresponding author: Firdevs Kuzu, e-mail: f.kuzu58@hotmail.com

systems actively identify caregivers¹⁷ and determine and support caregivers' needs are of great importance for both caregivers and the patient they care for.¹⁶

The fact that chronic disease management is not sufficient is one of the most important reasons for increasing the economic burden and care burden of diseases. Informal caregivers are one of the most important sources of support who support patients' disease management skills. For this reason, health systems should contain elements that reduce the cost of care of patients, ensure that they achieve optimum quality of life, and support caregivers who take on the responsibility of home care. Professional support provided to caregivers will make an important contribution to providing a better quality of care to patients and reducing the burden of care.

MATERIAL AND METHODS

This research was carried out in a single group, pretest-post-test design with the purpose of determining the effect of training on caregiver burden and life quality provided to caregivers of patients diagnosed with COPD who received healthcare at their home.

According to the records of the Home Health Service Coordination Center, the population of this research was composed of 35 COPD patients living in the city center and receiving home health care and caregivers who took care of these patients. The sample of this study was formed by 35 adult caregivers living in a provincial center who had been taking care of the patient for at least 6 months, who are primarily responsible for the care of the patient, who speak Turkish, who are literate, who do not have any cognitive and sensory problems preventing communication, and who do not have a diagnosed psychiatric disease.

Data collection tools: In the collection of research data, Caregiver Information Form, Patient Information Form, Caregiver Burden Inventory (CBI), and World Health Organization Quality of Scale (WHOQOL)-Bref Quality of Life Scale were used.

Caregiver Information Form: Caregiver Information Form consists of 12 questions. In the form, there are questions to determine the socio-demographic characteristics (age, gender, marital status, etc.) of caregivers, responsibilities of the caregiver, the conditions of being affected by being a caregiver, and caregivers' information requirements about caregiving.

Patient Information Form: Patient Information Form consists of 14 questions. In this form, there are questions determining the socio-demographic characteristics of patients (age, gender, education level, marital status, family type, occupation, employment status, social security, smoking and alcohol use status, source of income, etc.) and patient characteristics regarding COPD (duration of COPD, COPD stage, hospitalization and applying to the emergency service due to COPD in the recent year, the severity of dyspnea, concomitant health problems, the use of oxygen at home, the medications used, and the use of non-drug complementary treatment).

WHOQOL-Bref Quality of Life Scale: The scale developed by the World Health Organization contains 26 questions

by which the general perception of quality of life is questioned. A 5-point Likert scale is used in the scale. The Turkish validity and reliability study of the scale was performed by Eser et al.¹⁸ The WHOQOL-Bref-TR version with a national question added in the Turkish validity study of the scale consists of 27 questions. The high score obtained from the scale indicates that the quality of life is high. Cronbach's alpha coefficient of WHOQOL-Bref Quality of Life Scale was determined as 0.85.

Caregiver Burden Inventory: It is a 5-point Likert type measurement tool with 24 statements developed by Novak and Guest¹⁹ to measure the effect of caregiving on caregivers' relatives. Based on the view that caregivers' burden is multi-dimensional, it consists of 5 sub-dimensions (time-dependency burden, developmental burden, physical burden, social burden, and emotional burden). Physical burden includes 4 items, other sub-dimensions contain 5 items. The total score that can be obtained from the scale varies between 0 and 100. The high score shows a high degree of care burden. Adaptation of the inventory to Turkish society was performed by Kucukguclu et al.²⁰ In the study, Cronbach's alpha coefficient of the inventory was calculated as 0.76.

Application of the Research: The records of the COPD patients who receive home healthcare services were taken from the records of the Provincial Health Directorate Home Health Services Coordinators of the province where the study was conducted. The researcher visited all the patients with COPD (35 patients), who are registered at the Home Health Services Coordinators, and their caregivers in their homes. Informed consent was obtained from caregivers, who agreed to participate in the study, by explaining the research to them and their patients. All patients and caregivers interviewed agreed to participate in the study. In the first interview, the Patient Information Form, Caregiver Description Form, WHOQL-Bref Quality of Life Scale, and CBI were applied to the patients and their caregivers who accepted to participate in the study. The learning needs of caregivers were determined in line with the obtained data. The "Caregiver Training" content was created with the aim of meeting the learning needs of caregivers.

Training groups consisting of 10-11 caregivers were formed. All the training was held by the researcher at the Home Health Services Coordinators building in the caregiver information class prepared for this training. The training was provided to the caregivers on the function of the respiratory system, the causes of COPD, drug therapy, chest physiotherapy practices, the effects of the disease on daily life, what to do to identify the symptoms of the disease, and the importance of regular follow-up in line with the previously defined learning needs of caregivers. The caregivers attended the training session in the caregiver information class once a week. The training was carried out in 2 sessions. During the training sessions, lectures, questions and answers, demonstration techniques, and visual training materials were shown by means of a projector. The demonstration method was preferred in order for the caregivers to comprehend some applications well. With the demonstration method, caregivers' training was supported by performing applications such as oxygen therapy (nasal cannula and oxygen application with a facial mask),

nebulizer, inhaler, and bronchodilator medication. In order to encourage the active participation of caregivers and reinforce their learning, examples were provided based on short stories of patient and case examples in accordance with the content. Caregivers were encouraged to ask questions. At the end of each session, all participants were given written training material and telephone numbers to reach the researcher whenever they wanted to get information.

Three caregivers could not attend the training sessions because there was no one else to take care of their patients and left the study. The research was completed with 32 caregivers. The WHOQOL Bref Quality of Life Scale and the CBI were re-applied to the caregivers after every 1 month and 3 months.

Data Analysis: Data of the study were analyzed with Statistical Package for Social Sciences 23.0 (IBM SPSS Corp.; Armonk, NY, USA) package program. Frequency distributions were used for categorical variables, and descriptive statistics were used for numerical variables. The data compliance status with the normality assumption was determined by the Shapiro–Wilk normality test. Parametric tests were used for comparisons of the data that met the normality assumption. Pearson’s correlation coefficient was used in the determination of the degree of non-causal relationships between 2 numerical variables, Student’s *t*-test was employed in evaluating the difference between the 2 groups, and the difference between more than 2 dependent groups was evaluated by repeated measures analysis of variance. The level of significance was set at $P < .05$.

Ethical Aspect of the Research: Written permission from the Provincial Health Directorate was obtained for the research and the ethics committee approval was received from the Ethics Committee Presidency (Decision No. 2018-12/06, dated: December 5, 2015). Each stage of the research was carried out in accordance with ethical principles.

Findings

The average age of patients with COPD participating in the study was 79.88 ± 11.07 years, and more than half were male, literate, and single. It was determined that the majority of the patients had nuclear families, none of them were working, more than half of them had a diagnosis of COPD for 5 years and less, and most of them had 3 or more hospitalizations in the recent year and repeated application to the emergency room due to exacerbation of COPD. It was determined that approximately 2/3 of the patients had health problem accompanying COPD, they used oxygen therapy at home, they experienced severe-very severe dyspnea, and they used aftercare options to reduce complaints due to the disease (Table 1).

It was determined that caregivers participating in the study showed an equal distribution in terms of gender variable, and their average age was 63.28 ± 10.70 years. The majority of caregivers were married, had primary school education, and were housewives, and the average duration of care was 6.13 years. It was determined that caregivers were mostly children and spouses of the patients, most of them did not receive any information about providing care, almost all of them needed to get information about patient care, and the

rate of those who considered themselves sufficient in the care they gave to the patient was low (Table 2).

When the care burden and quality of life scores of the caregivers before and after the training were compared, it was determined that care burden scores decreased, quality of life scores increased, and this difference between measurements was statistically significant in post-training follow-ups (Table 3).

At the end of the training, although the caregiver burden scores of female caregivers decreased, it was determined that the caregiver burden scores of the female caregivers were higher. It was observed that the caregiver burden was higher in caregivers <60 years of age. It was found that caregiver burden scores of caregivers who are high school graduates were lower than literate/primary school educated caregivers both in pre- and post-training period. While there was no significant difference in pre-training scores of caregiver burden in relevance with the occupational groups, caregiver burden scores of housewives were found to be significantly higher in post-training follow-up. It was determined that the number of people living at home and prior knowledge of caregiving did not make a significant difference in caregiver burden scores. It was also determined that the caregiver burden scores of the caregivers, those who had been caregivers for 6 years or more, those who had been providing care for their parents, and those who considered themselves “partially sufficient and inadequate” at caregiving were also significantly higher in post-training follow-ups.

When the caregivers’ overall quality of life pre- and post-training scores were examined, the quality of life scores at the third month post-training follow-up of female, housewives, caregivers who had been giving care for 1-5 years, who had not received any information about caregiving, and who considered themselves self-sufficient in caregiving were significantly higher compared to the other groups’ scores (Table 4).

DISCUSSION

Patients with COPD need the support of caregivers, especially in cases where functional losses progress and dependency levels increase. In many studies, it was reported that the majority of caregivers were female, they usually cared for their spouses,^{9,14,21-23} and caregivers were mostly at a young age.^{12,14,24} The fact that the majority of caregivers participating in the study were the children and spouses of the patients is similar to the previous study findings. However, the average ages of both caregivers (63 years and 79 years) were high in the study. It is a remarkable finding that caregivers who took the responsibility for taking care of elderly patients were also in the elderly group. This finding shows that the caregiver profile has started to change as a result of the prolonged life expectancy in societies and the gradual aging of societies. It can be suggested that as the age of the caregiver increases, age-related health problems and physical limitations may occur and the caregiving burden will increase. In some studies conducted with the caregivers of people who have chronic physical diseases, the caregiving burden was found to be higher in elderly caregivers, but age was reported not to be an important determinant of this burden.^{25,26} However,

Table 1. Features of Patients

Feature	Number (%)
Gender	
Female	13 (40.6)
Male	19 (59.4)
Age 42-92 (79.88 ± 11.07) years	
Educational status	
Illiterate	4 (12.4)
Literate	19 (59.5)
Primary school	5 (15.6)
Middle school	1 (3.1)
High school	2 (6.3)
University	1 (3.1)
Marital status	
Married	15 (46.9)
Single	17 (53.1)
Family type	
Nuclear family	18 (56.3)
Extended family	8 (25.0)
Alone	6 (18.8)
Employment status	
Employed	0 (0.0)
Unemployed	32 (100.0)
Smoking status	
Smoker	1 (3.1)
Smoked but quit	17 (53.1)
Nonsmoker	14 (43.8)
Year of COPD diagnosis	
7 months-5 years	17 (53.1)
6 years-15 years	15 (46.9)
Hospitalization due to COPD in the recent years	
No hospitalization	7 (21.9)
Once	1 (3.1)
Twice	1 (3.1)
Three times and more	23 (71.9)
Application to the emergency room due to COPD in the past years	
Yes	21 (65.6)
No	11 (34.4)
Another health problem other than COPD	
Yes	21 (65.6)
No	11 (34.4)
Oxygen use at home	
User	20 (62.5)
Non-user	12 (37.5)
Aftercare	
User	13 (40.6)
Non-user	19 (59.4)
MRC dyspnea scale	
No dyspnea	1 (3.1)
Mild dyspnea	5 (15.6)
Moderate dyspnea	5 (15.6)
Severe dyspnea	5 (15.6)
Very severe dyspnea	16 (50.0)

COPD, chronic obstructive pulmonary disease; MRC Dyspnea Scale, Medical Research Council Dyspnea Scale.

Table 2. Features of Caregivers

Feature	Number (%)
Gender	
Female	16 (50.0)
Male	16 (50.0)
Age 46-80 (63.28 ± 10.70) years	
Marital status	
Married	28 (87.5)
Single	4 (12.5)
Educational status	
Literate	5 (15.6)
Primary school	17 (53.1)
High school	10 (31.3)
Occupation	
Housewife	16 (50.0)
Retired	11 (34.4)
Self-employed	5 (15.6)
Number of people living at home	
2	9 (28.1)
3	20 (62.5)
4-6	3 (9.4)
Duration of caregiving (year) 1-15 (6.13 ± 4.53)	
The degree of relationship to the patient	
Parents	15 (46.9)
Spouse	15 (46.9)
Sibling	2 (6.3)
Prior knowledge about caregiving	
Yes	11 (34.4)
No	21 (65.6)
Self-sufficiency in caregiving	
Sufficient	10 (31.3)
Partially sufficient	18 (56.3)
Insufficient	4 (12.5)
Need for knowledge in caregiving	
Yes	31 (96.9)
No	1 (3.1)

the results obtained demonstrate that the number of elderly caregivers who provide care to elderly people will increase and health care systems should be prepared for this change in the caregiver profile.

It was determined that the caregivers who participated in the study have been working as a caregiver for an amount of time that cannot be said to be short (average 6 years). However, more than half of the caregivers reported that they needed to be informed about caregiving and that they did not find themselves competent in providing care. It has been shown that a longer period of caregiving is associated with higher care burden.²⁷ Therefore, it can be said that it is important to

Table 3. Mean Scores Caregivers Obtained from CBI and WHOQOL-Bref Quality of Life Scale in the Pre-training and Post-training Follow-Up Periods

	Before Training	Post-training First Month Follow-Up	Post-training Third Month Follow-Up	F; P	Difference
Caregiver Burden Inventory	(Mean ± SD)	(Mean ± SD)	(Mean ± SD)		
Time-dependency burden	17.97 ± 2.376	16.81 ± 2.306	15.81 ± 2.191	137.406; .000***	1-2-3
Developmental burden	11.13 ± 3.087	8.00 ± 3.048	7.09 ± 2.821	185.932; .000***	1-2-3
Physical burden	14.96 ± 3.585	12.62 ± 3.762	11.29 ± 3.322	144.299; .000***	1-2-3
Social burden	8.88 ± 3.386	7.06 ± 3.151	6.09 ± 3.073	99.431; .000***	1-2-3
Emotional burden	6.09 ± 2.006	3.53 ± 1.218	3.28 ± 1.198	48.932; .000***	1-2-3
CBI total score	59.02 ± 9.12	48.02 ± 8.358	43.57 ± 8.08	427.893; .000**	1-2-3
WHOQOL-Bref Quality of Life Scale					
General status of health	8.69 ± 2.669	11.88 ± 1.431	12.75 ± 1.107	91.233; .000***	1-2-3
Physical domain	10.04 ± 1.399	11.96 ± 0.695	12.43 ± 0.681	80.354; .000***	1-2-3
Psychological domain	11.38 ± 0.957	12.00 ± 0.535	12.33 ± 0.718	11.250; .000***	1-2-3
Social domain	10.42 ± 1.987	11.83 ± 0.738	12.42 ± 0.924	20.384; .000***	1-2-3
Environmental domain	11.73 ± 1.862	12.47 ± 1.513	12.66 ± 1.450	28.881; .000***	1-2-3
Total score	52.25 ± 5.322	60.14 ± 2.315	62.58 ± 2.271	105.244; .000***	1-2-3

*** $P < .001$; 1 = first follow-up; 2 = second follow-up; 3 = third follow-up.

SD, Standard Deviation; F, Repeated Measurements Analysis of Variance (Repeated Measurements); Difference, Bonferroni test; P, significance level.

provide professional support and counseling by nurses to the caregivers of patients with COPD.

It was determined that the care burden of the caregivers who took care of elderly and dependent patients was high and their quality of life decreased.¹⁴ It is stated that caregivers of patients with COPD experience many physical and psychosocial difficulties, exhaustion, and difficulties in providing care; their quality of life is negatively affected.^{9,28,29} Wang et al³⁰ reported that in order to improve self-care behaviors among COPD patients, both patients and their caregivers should be provided with training on COPD to increase their level of knowledge of the disease.

In the study, it was determined that in the pre-training period, caregiver burden was high, quality of life was low, and in the post-training period, there was a significant decrease in care burden and a significant increase in quality of life in follow-ups ($P < .001$). This result shows that the training organized in accordance with the learning needs of the caregivers of patients with COPD contributed to the conscious fulfillment of the caregivers' responsibilities, to the decrease in the care difficulties and care burdens, and to the increase in their quality of life. Professional support which will be provided to caregivers in supporting the care needs and comfort living of caregivers and patients, especially in healthcare systems where home care services are not becoming widespread, will be the most important intervention.

Nakken et al.²⁷ in their study with spouses of COPD patients, determined that women sought less social support, more symptoms of passive reaction and anxiety were observed in them, and their health was worse. In the study, it was concluded that in the post-training, the care burden of female

caregivers and caregivers who were housewives was higher and both of their quality of life scores were lower. When these 2 findings are evaluated together, it can be said that female caregivers have taken caregiver responsibilities in addition to their responsibilities as housewives, spouses, and children and that this had an impact on these findings.

Salama and El-Soud³² reported that caregiver burden increased when the education level of the caregiver decreased, and Bicki³³ stated that education led to a decrease in the average scores of care burden. In this study, caregivers had lower levels of caregiver burden and higher quality of life scores due to their high school and higher education level, and this made us think that they used the information and training channels more efficiently in order to do a better job in caregiving and therefore they experienced less caregiver burden.

It was determined that caregivers who lived with COPD patients experienced serious physical and emotional problems.¹⁴ It was reported that the caregiver burden causes conditions such as depression, anxiety, burnout, decrease in physical health, social isolation, and economic difficulties.³⁴ Around 63.5% of family caregivers were found to have symptoms of anxiety.³⁵ It has been emphasized that anxiety and depression levels of caregivers are inversely related to having provided care for a patient before, duration of care, social support, and leisure activities.²⁹ It was stated in some intervention studies that interventions made to caregivers made positive contributions against anxiety.^{36,37}

It was determined that caregivers who cared for the patient who did not have severe COPD and who could get help from others had lower anxiety levels.³⁸ In some studies, it was

Table 4. Average of Caregiver Burden and Quality of Life Scores According to Some Descriptive Characteristics of Caregivers

	Caregiver Burden Inventory Total Score				Total Score of the WHOQOL-Bref Quality of Life Scale			
	Before the Training Mean ± SD	After the Training First Month Follow-up Mean ± SD	After the Training Third Month Follow-up Mean ± SD	Before the Training Mean ± SD	After the Training 1st Month Follow-up Mean ± SD	Before the Training Mean ± SD	After the training 3rd Month Follow-up Mean ± SD	
Gender								
Female	62.06 ± 11.745	51.91 ± 10.45	47.78 ± 9.758	50.52 ± 5.807	60.06 ± 2.170	50.52 ± 5.807	63.69 ± 1.590	
Male	55.98 ± 3.786	44.14 ± 1.681	39.36 ± 1.381	53.98 ± 4.297	60.23 ± 2.520	53.98 ± 4.297	61.48 ± 2.349	
t; P	1.970; .058	2.933; .006**	3.418; .002**	-1.913; .065	-0.208; .837	-1.913; .065	3.122; .004**	
Age								
45-60 years old	61.37 ± 9.617	50.99 ± 9.536	45.66 ± 9.553	51.08 ± 4.768	60.80 ± 1.815	51.08 ± 4.768	62.75 ± 2.704	
61-80 years old	56.37 ± 8.022	44.67 ± 5.293	41.20 ± 5.382	53.57 ± 5.764	59.40 ± 2.643	53.57 ± 5.764	62.40 ± 1.732	
t; P	1.585; .124	2.273; .030*	1.597; .121	-1.335; .192	1.766; .088	-1.335; .192	0.427; .673	
Educational status								
Literate/primary school	61.42 ± 9.512	50.31 ± 8.725	46.13 ± 7.971	51.58 ± 5.940	59.91 ± 2.257	51.58 ± 5.940	62.90 ± 1.454	
High school	53.75 ± 5.530	43.00 ± 4.708	37.95 ± 5.063	53.72 ± 3.429	60.64 ± 2.484	53.72 ± 3.429	61.90 ± 3.475	
t; P	2.362; .025*	2.475; .019*	2.968; .006**	-1.053; .301	-0.818; .420	-1.053; .301	1.160; .255	
Occupation								
Housewife	62.06 ± 11.745	51.91 ± 10.458	47.78 ± 9.758	50.52 ± 5.807	60.06 ± 2.170	50.52 ± 5.807	63.69 ± 1.590	
Retired/self-employed	55.98 ± 3.786	44.14 ± 1.681	39.36 ± 1.381	53.98 ± 4.297	60.23 ± 2.520	53.98 ± 4.297	61.48 ± 2.349	
t; P	1.970; .058	2.933; .006**	3.418; .002*	-1.913; .065	-0.208; .837	-1.913; .065	3.122; .004*	
Number of people living at home								
2 people	60.36 ± 8.165	49.58 ± 7.404	44.36 ± 7.171	50.90 ± 3.721	58.90 ± 1.964	50.90 ± 3.721	63.38 ± 1.665	
3 people and above	58.50 ± 9.592	47.41 ± 8.781	43.26 ± 8.542	52.78 ± 5.818	60.63 ± 2.295	52.78 ± 5.818	62.27 ± 2.429	
t; P	0.513; .612	0.654; .518	0.341; .735	-0.891; .380	-1.991; .056	-0.891; .380	1.256; .219	
Duration of caregiving								
1-5 years	54.77 ± 7.151	45.03 ± 6.533	40.56 ± 5.416	55.45 ± 4.064	60.75 ± 2.699	55.45 ± 4.064	63.59 ± 2.387	
6 years and above	63.28 ± 9.065	51.02 ± 9.087	46.58 ± 9.291	49.05 ± 4.496	59.54 ± 1.734	49.05 ± 4.496	61.58 ± 1.673	
t; P	-2.950; .006**	-2.139; .041*	-2.237; .033*	4.220; .000**	1.510; .141	4.220; .000**	2.765; .010*	
The degree of relationship of the patient to the caregiver								
Parents	63.07 ± 8.774	52.18 ± 9.302	46.78 ± 9.613	50.17 ± 4.217	60.43 ± 0.738	50.17 ± 4.217	62.12 ± 2.08	
Spouse/sibling	55.46 ± 8.065	44.35 ± 5.392	40.74 ± 5.239	54.08 ± 5.630	59.89 ± 3.124	54.08 ± 5.630	63.00 ± 2.414	
t; P	2.557; .016*	2.957; .006**	2.246; .032*	-2.199; .036*	0.657; .516	-2.199; .036*	-1.093; .283	
Information obtaining status								
Yes	59.55 ± 4.362	46.25 ± 3.453	41.43 ± 4.128	50.07 ± 2.562	58.73 ± 1.487	50.07 ± 2.562	60.79 ± 1.331	
No	58.75 ± 10.92	48.95 ± 9.983	44.69 ± 9.427	53.39 ± 6.053	60.88 ± 2.354	53.39 ± 6.053	63.52 ± 2.103	
t; P	0.231; .819	-0.865; .394	-1.087; .286	-1.730; .094	-2.738; .010*	-1.730; .094	-3.896; .001**	
Self-sufficiency in caregiving								
Sufficient	64.93 ± 11.175	56.18 ± 9.092	51.78 ± 8.191	50.96 ± 6.721	61.44 ± 1.107	50.96 ± 6.721	63.89 ± 1.089	
Partially sufficient/insufficient	56.34 ± 6.724	44.32 ± 4.654	39.84 ± 4.585	52.84 ± 4.615	59.55 ± 2.494	52.84 ± 4.615	61.99 ± 2.435	
t; P	2.707; .011*	4.918; .000*	5.301; .000**	-0.922; .364	2.280; .030*	-0.922; .364	2.341; .026*	

*p < 0.05; **p < 0.01; ***p < 0.001.
SD, Standard Deviation; t, Independent Sample T-Test; P, Significance Level.

shown that the duration of care was a variable³⁹ that affected the care burden, and the care burden of caregivers increased as the care duration increased.⁴⁰ In the study, most of the caregivers stated that their physical health was affected due to caregiving, and it was determined that caregivers had a high care burden. This result is thought to have evolved as a result of the majority of caregivers have had to care for their elderly parents for years.

Cedano et al.⁴¹ in their study with caregivers of patients with COPD, determined that all dimensions of quality of life were affected by care burden. In the study, it was found that caregivers had low quality of life scores, and there was a significant post-training increase in quality of life scores. This result shows that the training provided in content that meets the learning needs of caregivers is effective in improving the quality of life of caregivers.

CONCLUSION

COPD patients who participated in the study were mostly taken care of by their spouses and children. The majority of patients with COPD and their caregivers consisted of older individuals. It was observed that the care burden of the caregivers, where the gender of men and women were distributed equally, was high and the quality of life was low. It was determined that the training created based on defining the learning needs of caregivers was effective in decreasing the care burden of caregivers and increasing the quality of life. Training and counseling services to be provided by nurses to caregivers will reduce the care difficulties of both caregivers and patients and support their quality of life.

Limitations

In this study, which has a relatively small sample size, the care burden and quality of life perceived by the caregivers of patients with COPD were discussed. In this study, the evaluation of caregivers' perceptions of care was identified on the basis of socio-demographic characteristics. In studies to be conducted with larger samples, by making in-depth evaluation of the health status of caregivers, the relationship between perceived care burden and health problems may be examined. Studies examining the effects of the training given to caregivers of patients with COPD on their caregiving quality may be carried out.

Ethics Committee Approval: This study was approved by Ethics committee of Sivas Cumhuriyet University, (Decision No: 2018-12/06, Date:05.12.2018).

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Design – EK., H.TA.; Resources – EK., H.TA.; Materials – EK., H.TA.; Data Collection and/or Processing – EK., H.TA.; Analysis and/or Interpretation – EK., H.TA.; Literature Search – EK., H.TA.; Writing Manuscript – EK., H.TA.; Critical Review – EK., H.TA.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

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