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Correlation of Perceived Social Support with Medication Adherence and Quality of Life in Individuals with Chronic Obstructive Pulmonary Disease

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ABSTRACT

Background/Purpose: It is known that declining social support increases the disease burden in individuals with chronic obstructive pulmonary disease. The association between perceived social support with medication adherence and quality of life in COPD patients is unclear. The aim of this study was to show the correlation of perceived social support with medication adherence and quality of life in individuals with chronic obstructive pulmonary disease.

Methods: A descriptive and correlational study was conducted. A Patient Information Form, the Multi-Dimensional Scale of Perceived Social Support, the St. George Respiratory Questionnaire and the Medication Adherence Report Scale were used to collect data. A total of 221 patients with COPD were included in the study. Descriptive statistics, the Mann–Whitney U test, Kruskal-Wallis tests, and Spearman's correlation analysis were used to analyze the data.

Results: Perceived social support was negatively correlated with the respiration score ($r=-0.23$, $p\leq0.01$), and positively with medication adherence ($r=0.17$, $p<0.05$). Perceived support from family and friends positively affects health-related quality of life ($p<0.05$). It was also found that perceived social support, respiration score and medication adherence mean scores varied according to many of the descriptive characteristics ($p<0.05$).

Conclusion: Identifying the sources of social support can promote developing strategies which enhance the coping resources.

Keywords: chronic obstructive pulmonary disease, medication adherence, nursing, perceived social support, quality of life, social support.

ÖZET

Amaç: Kronik obstrüktif akciğer hastalığı olan bireylerde azalan sosyal desteğin hastalık yükünü artırdığı bilinmektedir. KOAH hastalarında algılanan sosyal destek ile ilaç uyumu ve yaşam kalitesi arasındaki ilişki net değildir. Bu çalışmanın amacı, kronik obstrüktif akciğer hastalığı olan bireylerde algılanan sosyal desteğin ilaç uyumu ve yaşam kalitesi arasındaki ilişkiyi sunmaktır.

Yöntemler: Tanımlayıcı ve ilişki arayıcı bir çalışma yürütüldü. Verilerin toplanmasında "Hasta Bilgi Formu", "Çok Boyutlu Algılanan Sosyal Destek Ölçeği", "St. George Solunum Anketi" ve "İlaç Uyumunu Bildirim Ölçeği" kullanıldı. Çalışmaya toplam 221 KOAH hastası dahil edildi. Verilerin analizinde tanımlayıcı istatistikler, Mann-Whitney U testi, Kruskal-Wallis testleri ve Spearman korelasyon analizi kullanıldı.

Bulgular: Algılanan sosyal destek ile solunum skoru arasında negatif yönde ($r=-0.23$, $p\leq0.01$), ilaç uyumu ile pozitif yönde ilişki bulundu ($r=0.17$, $p<0.05$). Aile ve arkadaşlardan algılanan destek sağlıkla ilgili yaşam kalitesini olumlu yönde etkilediği saptandı ($p<0.05$). Ayrıca, algılanan sosyal destek, solunum skoru ve ilaç uyumu ortalama puanlarının tanımlayıcı özelliklerin birçoğuna göre değiştiği bulundu ($p<0.05$).

Sonuç: Sosyal destek kaynaklarının belirlenmesi, baş etme kaynaklarını artıran stratejilerin geliştirilmesini teşvik edebilir.

Anahtar Kelimeler: Kronik obstrüktif akciğer hastalığı, ilaç uyumu, hemşirelik, algılanan sosyal destek, yaşam kalitesi, sosyal destek.

COPD continues to be a worldwide health problem because of the steadily increasing burden of morbidity and mortality (1). In individuals who cannot cope with the physical, psychological and social effects of COPD, the symptom burden and severity of the disease increase, and have a negative effect on health-related quality of life (2). In addition, in individuals with COPD who have difficulty in adhering to medication and who continue to be exposed to risk factors, repeated attacks are seen as the stages of the disease advance (3). The quality of life of persons with COPD who cannot achieve symptom management (4) or who have difficulty in achieving medication adherence (5) gets progressively worse. Also, their confidence in fighting the disease is reduced, and they feel a greater need for social support (6).

In individuals with COPD, increased social support is important for a good level of medication adherence, self-care management (7), and for seeing fewer signs relating to depression, anxiety and stress (8). Also, social support which is perceived to be at a good level helps the improvement of a patient's functional capacities and the control of physical and psychological effects (2). A poor level of social relations in those with COPD can create a risk for the solution of problems relating to the disease (9). For this reason, in order to be able to implement approaches to recovery from the effects of COPD, the factors making it difficult to control the effects of the disease must be determined. As far as we know, there is no research in the literature simultaneously examining the correlation of social support with medication adherence and quality of life in individuals with COPD and the factors affecting it. Therefore, the aim of this study was to determine the correlation of perceived social support with medication adherence and quality of life in individuals with COPD.

Material and Method

Design and Participants

The research was conducted with a descriptive and correlational design, and was performed at the chest diseases outpatients' department of Ankara City Hospital, the second largest hospital in Ankara and Turkey. The program G*Power (v3.1.9.2) was used to determine the sample size. Taking account of direct effect sizes standardized with two correlation tests (correlation: point biserial model), and taking 95% confidence, 95% test power and an effect size of 0.30, a minimum sample size of 111 was determined. Patients were included in the research who had had a diagnosis of COPD for at least one year, who did not have a COPD exacerbation and/or a respiratory tract infection, and who were at stage1 (mild), stage 2 (moderate) or stage 3 (severe) according to the GOLD report. Those who were at stage 4 (very severe), those who had had a COPD diagnosis for less than one year, and those with an exacerbation and/or a respiratory tract infection were excluded from the study. The research was completed with 221 volunteer participants who met the inclusion criteria.

Data Collection and Instruments

The face-to-face interview technique was used to collect data between December 2021 and May 2022. The patients' sociodemographic and clinical characteristics were obtained from interviews conducted with the patients by the researchers, from patients' files, and from the hospital's electronic medical records system. Data collection instruments;

Patient Information Form: This form was developed by the researchers in accordance with the literature. On the form, there are a total of 21 questions, covering sociodemographic characteristics such as age, gender, education and work status, and COPD-related characteristics such as time since COPD diagnosis, smoking, treatment and accompanying diseases (2,4,6,9).

Multi-Dimensional Scale of Perceived Social Support (MSPSS): The scale consists of 12 items in total. MSPSS has three subscales with four items each to identify support from families, friends and other individuals. The possible score range of each subscale is 4–28 points, with a minimum possible total score of 12 points and a maximum of 84 points. A high score obtained from the scale indicates a high level of perceived social support (10). Eker et al. (2001) calculated the Cronbach's alpha for the MSPSS to be 0.89, and our Cronbach's alpha was 0.89.

St. George Respiratory Questionnaire (SGRQ): The SGRQ consists of 50 items that survey patients' recollection of their symptoms (symptom scores), the disturbance to patients' daily physical activity (activity scores) and psychosocial dysfunction (impact scores). The three sections of the test are scored separately and a total score is calculated, ranging from 0 to 100. A score of 0

indicates perfect health condition, while 100 shows the worst health condition (11). Polatlı et al. (2013) calculated the Cronbach's alpha for the SGRQ to be 0.88, and our Cronbach's alpha was 0.86.

Medication Adherence Report Scale (MARS): The scale consists of five items in total. The total test score is determined by summing the scores obtained from the items. The scores obtained from the scale range from 5 to 25. Higher total scores indicate better medication adherence and lower total scores indicate poor medication adherence (12). Temeloğlu Şen et al. (2019) calculated the Cronbach's alpha for the MARS to be 0.78, and our Cronbach's alpha was 0.96.

Statistical Analysis

SPSS IBM™ version 24.0 was used to perform all analyses. The Kolmogorov-Smirnov test was conducted to determine whether the data was normally distributed. Descriptive statistics, the Mann–Whitney U test and Kruskal-Wallis tests were used for the analysis of the data. The correlations between MSPSS, SGRQ and MARS were tested using Spearman correlation coefficient. Multiple linear regression analysis was used to examine the association of MSPSS and SGRQ. A p-value of less than 0.05 was considered significant.

Ethical Considerations

This research was conducted in conformity with ethical principles and the Helsinki Declaration. Before starting the study, approval from the Ethics Committee (decision number 14/14, dated 19 August 2021) and consent from each participant were obtained.

Results

The mean age of those participating in the research was 60.41±11.80 years, and their mean time since COPD diagnosis was 4.17±3.96 years.

Descriptive statistics for MSPSS, SGRQ and MARS total and subscale scores

Participants' total score means obtained from MSPSS, SGRQ and MARS were 51.87 (SD = 17.56), 31.47 (SD = 10.2) and 19.84 (SD = 5.53) respectively (Table 1).

Comparison of participants' MSPSS, SGRQ and MARS mean scores according to their descriptive characteristics

Table 1: Descriptive statistics for MSPSS, SGRQ and MARS total and subscale scores

Variable	Mean (SD)	Min-Max
MSPSS total	51.87 (17.56)	12.00-84.00
Family support	21.12 (7.22)	4.00-28.00
Friend support	16.60 (7.96)	4.00-28.00
Other person support	14.11 (8.30)	4.00-28.00
SGRQ total	31.47 (10.02)	10.00-57.00
Symptom score	7.54 (0.77)	2.00-8.00
Activity score	9.62 (3.95)	1.00-24.00
Impact score	13.92 (6.83)	1.00-27.00
MARS total	19.84 (5.53)	5.00-25.00

Abbreviations: MSPSS=Multi-Dimensional Scale of Perceived Social Support; SGRQ=St. George Respiratory Questionnaire; MARS=Medication Adherence Report Scale

Low MSPSS score means were obtained by participants who had another chronic disease in addition to COPD (p=0.00), lived alone (p=0.00), were single (p=0.03), had a primary or middle school education (p=0.00), did not work (p=0.00), had an economic income less than expenditure (p=0.02), were at a severe stage (p=0.00), had been hospitalized (p=0.00), had resorted to the emergency service (p=0.00), were receiving LTOT (p=0.00), or who were using a large number of medications (Table 2).

Table 2: Comparison of participants' mean MSPSS, SGRQ and MARS scores according to their descriptive characteristics

			MSPSS		SGRQ		MARS	
		n (%)	Mean (SD)	MWU*/KW** p	Mean (SD)	MWU*/KW** p	Mean (SD)	MWU*/ KW** p
Gender	Female	53 (24.0)	51.55 (15.80)	-0.179* 0.86	33.25 (10.54)	-1,421* 0.16	20.80 (5.05)	-0.750* 0.45
	Male	168 (76.0)	51.98 (18.12)		30.91 (9.31)		19.60 (5.66)	
Marital Status	Married	184 (83.3)	53.14 (17.55)	-2.245* **0.03**	30.82 (10.12)	-2.245* **0.03**	20.09 (5.55)	-1.870* 0.06
	Single	37 (16.7)	45.59 (16.40)		34.73 (8.91)		18.57 (5.30)	
Working	Yes	81 (36.7)	56.90 (17.63)	-3.199* **0.00**	27.83 (8.01)	-4.091* **0.00**	18.62 (6.38)	-1.972* **0.04**
	No	140 (63.3)	48.96 (16.90)		33.58 (10.47)		20.54 (4.85)	
Chronic disease accompanying COPD	Yes	126 (57.0)	48.02 (17.97)	-3.753* **0.00**	34.14 (9.82)	-4.668* **0.00**	19.70 (5.37)	-0.840* 0.40
	No	95 (43.0)	56.99 (15.66)		27.93 (9.19)		20.02(5.76)	
LTOT	Yes	58 (26.2)	45.05 (17.83)	-3.39* **0.00**	41.12 (6.33)	-8.574* **0.00**	20.29 (4.55)	-0.128* 0.90
	No	163 (73.8)	54.30 (16.86)		28.04 (8.77)		19.67 (5.84)	
Training on COPD in the last 1 year	Yes	87 (39.4)	50.10 (17.51)	-1.000* 0.32	35.32 (8.55)	-4.755* **0.00**	20.23 (4.67)	-0.038* 0.97
	No	134 (60.6)	53.02 (17.56)		28.97 (10.13)		19.58 (6.02)	
Persons lived with	Alone[a]	41 (18.6)	42.32 (17.36)	32.814** **0.00** a<b, a<c b<c, d<c	32.71 (9.63)	34.207** **0.00** c<a, c<b c<d, b<d	17.88 (5.61)	11.018** **0.01** a<b
	Spouse[b]	90 (40.7)	51.38 (16.50)		33.27 (9.81)		20.90 (5.07)	
	Spouse and children[c]	70 (31.7)	60.60 (16.37)		26.27 (8.69)		19.23 (6.01)	
	Children[d]	20 (9.0)	43.15 (11.27)		39.05 (7.90)		21.20 (4.31)	
Economic status	Income less than expenditure[a]	119 (53,8)	49.27 (17.26)	8.254** p= **0.02** a<c	30.53 (9.91)	2.391** 0.30	19.43 (5.88)	0.848** 0.65
	Income and expenditure equal[b]	92 (41.6)	54.27 (17.98)		32.78 (10.30)		20.27 (5.19)	
	Income more than expenditure[c]	10 (4.5)	60.80 (11.17)		30.60 (7.90)		20.70 (4.00)	
Education status	Primary school[a]	49 (22,2)	47.22 (18.81)	16.494** **0.00** a<d, b<d, a<c	33.61 (10.88)	12.376** **0.01** c<b, d<b	18.86 (6.84)	1.123** 0.77
	Middle school[b]	62 (28.1)	48.48 (19.36)		34.10 (10.48)		20.24 (4.45)	
	High school[c]	76 (34,4)	54.00 (15.37)		29.34 (9.01)		19.74 (5.66)	
	University[d]	34 (1.8)	60.00 (13.33)		28.35 (8.31)		20.74 (4.84)	
Smoking	Never smoked[a]	17 (7.7)	54.41 (13.83)	0.899** 0.64	29.71 (10.74)	15.696** **0.00** b>c	22.53 (3.26)	9.185** **0.01** a>c, b>c
	Quit smoking[b]	116 (52.5)	50.63 (17.43)		33.98 (9.32)		20.67 (4.62)	
	Currently smoke[c]	88 (39.8)	53.02 (18.39)		28.50 (9.98)		18.22 (6.49)	
Use of Antidepressants	Yes	14 (6.3)	45.07 (18.53)	-1.545* 0.12	36.64 (13.74)	-1.742** 0.08	16.14 (7.08)	-2.234* **0.03**
	No	207 (93.7)	52.33 (17.44)		31.12 (9.66)		20.09 (5.34)	
COPD duration	1 year[a]	54 (24.4)	53.52 (16.29)	5.166** 0.16	25.57 (7.47)	59.659** **0.00** a<b, a<c a<d, b<c	19.35 (6.20)	5.066** 0.17
	2-5 years[b]	111 (50.2)	53.30 (17.69)		30.15 (9.44)		19.82 (5.42)	
	6-15 years[c]	45 (20.4)	46.69 (17.32)		40.62 (7.40)		19.80 (4.78)	
	≥ 16 years[d]	11 (5.0)	50.64 (21.25)		36.27 (9.02)		22.55 (5.96)	
COPD Stage	Stage 1[a]	114 (51.6)	55.87 (16.74)	18.730** **0.00** b<a, c<a, c<b	27.25 (8.27)	58.249** **0.00** a<b, a<c b<c	19.11 (6.06)	3.180** 0.20
	Stage 2[b]	75 (33.9)	50.32 (17.77)		33.39 (10.04)		20.71 (4.49)	
	Stage 3[c]	32 (14.5)	41.28 (15.22)		42.00 (5.75)		20.41 (5.52)	
Hospitalization in the last one year because of exacerbation	No[a]	130 (58.8)	56.07 (16.85)	22.359** **0.00** b<a, c<a, c<b	26.59 (8.25)	74.684** **0.00** a<b, a<c	19.86 (5.95)	1.968** 0.37
	Once[b]	79 (35.7)	47.44 (17.13)		38.22 (8.10)		19.76 (4.58)	
	Two or more times[c]	12 (5.5)	35.58 (10.60)		39.92 (7.49)		20.08 (6.83)	
Visit to emergency service in the last one year because of exacerbation	No[a]	87 (39.4)	56.67 (17.88)	16.573** **0.00** b<a, c<a, c<b	25.51 (8.53)	55.334** **0.00** a<b, a<c	20,80 (5,82)	11.866** **0.00** b<a
	Once[b]	123 (55.7)	49.80 (16.78)		34.96 (9.02)		19,08 (5,10)	
	Two or more times[c]	11 (4.9)	37.09 (10.22)		39.64 (7.50)		20,64 (6,90)	
Total number of medications used	1-2[a]	103 (46.6)	56.55 (16.69)	28.851** **0.00** c<a, c<b	27.89 (8.32)	27.701** **0.00** a<b, a<c	19.63 (5.75)	1.834** 0.40
	3-5[b]	76 (34.4)	52.49 (15.75)		33.45 (10.14)		20.57 (5.02)	
	≥ 6[c]	42 (19.0)	39.29 (17.01)		36.67 (10.54)		19.02 (5.82)	

**MWU: Mann–Whitney U test value, **KW: Kruskal–Wallis test value, Significant difference at p<0,05; value in bold: significant;*
Abbreviations: MSPSS=Multi-Dimensional Scale of Perceived Social Support; SGRQ=St. George Respiratory Questionnaire; MARS=Medication Adherence Report Scale; LTOT= Long-term oxygen therapy,

SGRQ score means were low in participants who were married (p=0.03), lived with their spouse and children (p=0.00), were working (p=0.00), had a high school or university education (p=0.01), had quit smoking (p=0.00), had had a COPD diagnosis for one year (p=0.00), were not at a severe stage (p=0.00), did not have another chronic disease in addition to COPD (p=0.00), had not been hospitalized (p=0.00), had not resorted to the emergency service (p=0.00), were not receiving LTOT (p=0.00), who had received education on COPD (p=0.00), and who used few medications (p=0.00) (Table 2).

The SGRQ score means were high of participants who did not live alone (p=0.01), were not working (p=0.04), did not smoke (p=0.01), had not resorted to the emergency service (p=0.00), and did not use anti-depressants (p=0.03) (Table 2).

Correlation between age and mean MSPSS, SGRQ and MARS scores

A weak negative correlation was found between age and MSPSS (r=-0.23, p≤0.01), and a moderate positive correlation was found with SGRQ (r=0.47, p≤0.01).

Correlation between MSPSS, SGRQ and MARS

The correlation between MSPSS and SGRQ mean scores was weak and negative (r=-0.23, p≤0.01), and that between MSPSS and MARS was very weak and positive (r=0.17, p<0.05) (Table 3).

Table 3: Correlation between MSPSS, SGRQ and MARS (n=221)

Family support Friend support			**MSPSS**				**SGRQ**				**MARS**
			Other person support	**MSPSS**	**Symptom score**	**Activity score**	**Impact score**	**SGRQ**	**MARS**		
MSPSS	Family support	r	1	-	-	-	-	-	-	-	-
	Friend support	r	**0,28***	1	-	-	-	-	-	-	-
	Other person support	r	0,05	**0,56***	1	-	-	-	-	-	-
	MSPSS total	r	**0,52***	**0,85***	**0,77***	1	-	-	-	-	-
SGRQ	Symptom score	r	**-0,33***	**-0,23***	0,01	**-0,21***	1	-	-	-	-
	Activity score	r	**-0,20***	**-0,31***	-0,13	**-0,30***	**0,37***	1	-	-	-
	Impact score	r	**-0,31***	**-0,18***	0,04	**-0,18***	**0,53***	**0,67***	1	-	-
	SGRQ total	r	**-0,30***	**-0,23***	-0,03	**-0,23***	**0,50***	**0,80***	**0,92***	1	-
MARS	**MARS total**	r	**0,39***	0,10	-0,01	**0,17****	-0,07	0,00	-0,11	-0,08	1

*r: Spearman correlation ; *p≤0,01;**p<0,05*

The effect of the mean scores of MSPSS and its subdimensions on the mean scores of SGRQ and its subdimensions

It was found that as family and friend support increased, the symptom score (p=0.01; p=0.03), the activity score (p=0.03; p=0.01) and the SGRQ mean score (p=0.00; p=0.01) decreased. As family and friend support increased, the impact score (p=0.00; p=0.01) decreased, and as MSPSS increased, the impact score (p=0.03) also increased (Table 4).

Table 4. Effect of MSPSS and subdimensions mean scores on SGRQ and subdimension mean scores (n=221)

Dependent variables	Independent variables	B	t	p
Symptom score	Constant	8.08	46.47	**0.00***
	Family support	-0.03	-2.79	**0.01***
	Friend support	-0.03	-2.26	**0.03***
	MSPSS	0.01	1.51	0.13
	F=5.146, p= 0.00*, R=0.258, R^2=0.066			
Activity score	Constant	13.32	15.35	**0.00***
	Family support	-0.11	-2.20	**0.03***
	Friend support	-0.18	-2.65	**0.01***
	MSPSS	0.03	0.85	0.39
	F=9.105, p= 0.00*, R=0.334, R^2=0.112			
Impact score	Constant	19.76	13.13	**0.00***
	Family support	-0.37	-4.09	**0.00***
	Friend support	-0.32	-2.78	**0.01***
	MSPSS	0.14	2.20	**0.03***
	F=8.609, p= 0.00*, R=0.326, R^2=0.106			
SGRQ total	Constant	41.01	18.68	**0.00***
	Family support	-0.47	-3.62	**0.00***
	Friend support	-0.48	-2.83	**0.01***
	MSPSS	0.16	1.74	0.08
	F=9.423, p=0.00*, R=0.339, R^2=0.115			

*p: Multiple linear regression analysis, *p<0.05: Significance level; B= regression coefficient*

Discussion

It was found in the study that perceived social support in individuals with COPD was correlated with medication adherence and health-related quality of life. It was found that as family and friend support increased, quality of life also increased. The presence of comorbidities accompanying COPD (2), living alone (7) and being single (4) could negatively affect perceived social support. Also in this study, perceived social support was low in those who had another chronic disease other than COPD, those who live alone and those who were single. Zhao et al. (2020) found that the social support perceived by individuals with COPD was provided mostly by their families (13). The findings of the present study support the literature. Perception of inadequate social support can cause more negative feelings and inadequate self-care in those with COPD (8). For this reason, interventions should be developed to increase social support for those with comorbidities and those living alone. Turnier et al. (2021) found that COPD patients with a higher level of perception of social support were older and married, and had a good level of economic income (4). In the present study also, those who were single or whose economic income was not at a good level had a low level of perceived social support. However, it was found that as age increased, perceived social support and quality of life declined. Also, perceived social support was poor in those

who were hospitalized or who resorted to the emergency service. The severity of COPD can have an adverse effect on perceived social support (9). Having a higher level of social support is correlated with a better quality of life and a smaller symptom burden (4). The findings of the study support the literature.

Health-related quality of life is one of the factors defining an individual's health and well-being, and which is greatly affected by COPD (14). Merino et al. (2019) found that the quality of life of individuals with COPD was not at a good level (40.9± 25.0), and that the effect of their activity score on their quality of life (52.7 ±28.7) was greater (15). In the present study also, a high respiration score showed that quality of life was not at a good level. But in contrast, in other studies (15,16), the impact score was mostly negatively affected. In the impact score, difficulties experienced in the performance of in work, occupation and daily activities are queried. This difference may arise from the higher mean age of the patient populations on which the other studies were performed, or from the smaller number of those working. With increasing age, the frequency with which comorbidities are seen increases, and symptoms get worse (16,17). Hospitalization and the frequency of exacerbations are an indicator of quality of life at a low level (16). It was found in the present study also that those with comorbidities had difficulty in achieving control of the disease, and that their quality of life was not at a good level. Also, it was found that symptom burden increased with advancing age, and that therefore, restrictions were experienced in daily life activities. It is to be expected that the quality of life of individuals whose coping with the disease and its effects is inadequate will be poor, and that their need for health care services will increase.

Even though medication adherence is important for improving health-related quality of life in COPD, a lack of adherence to medication is often seen (16,17). Müllerov et al. (2016) found that individuals with COPD who resorted more to the emergency service, who were younger, who were still smoking and who had two or more comorbidities reported a low level of medication adherence (18). It was found in another study that the adherence to long term treatment was better in those who did not smoke than in those who did (19). The findings of the study support the literature. Lower medication adherence in individuals with COPD who continue to smoke compared to those who have quit is an expected situation. In contrast to these findings, there are studies which report no correlation between smoking and medication adherence (3,20,21). Moretti et al. (2017) found individuals with COPD whose adherence to prescribed drugs was higher were hospitalized less for acute exacerbations (22). In contrast, there was no difference in this study in medication adherence scores according to hospitalization. Similarly, Duarte-de-Araújo et al. (2018) did not find any significant correlation between medication adherence and number of exacerbations (20). Humenberger et al. (2018) found a higher level of medication adherence in those with very severe COPD (3). In the same study, no correlation was found between medication adherence and gender or age. In other studies, it has been reported that there was no significant correlation between age or gender and medication adherence in individuals with COPD (20,21). In the present study also, medication adherence levels showed no difference according to age or gender.

Boland et al. (2016) found that the health-related quality of life of individuals with COPD who adhered to medication was at a worse level than that of patients whose medication adherence was weak (5). In another study, no correlation was found between medication adherence and quality of life (16). In the present study also, no significant correlation was found between quality of life and adherence to medication. The reason for this may be that most participants were at a mild stage. Adherence to treatment is strongly correlated with patients' beliefs concerning the need felt for prescription medicines and the functional severity of the disease (20). Medication adherence at the beginning of treatment affects health related quality of life in a positive way by reducing symptoms of the disease and improving health condition. However, improvement in health related quality of life in the long term may trigger non-adherence to medication (23). Mollaoğlu and Yanmış (2018) found that as perceived social support increased, levels of adherence to medication also rose (24). The findings of the present study support the literature.

Limitations of the Study

One limitation of this study is selection bias because of the questionnaire and scales used in the collection of data. The research was conducted at a single center. The research results are limited by the responses given by the participants who met the research inclusion criteria. For this reason, the results of the research cannot be generalized.

Conclusion

In this study, it was found that the dimension of family support had the most influence on perceived social support scores, while the effect of the activity score was greater on quality of life. It was found that perceived social support declines with advancing age, and that quality of life is not at a good level. Perceived social support was negatively correlated with the respiration score, and positively with medication adherence. It was found that in individuals with COPD, health related quality of life increases as family and friend support increases. It is recommended that qualitative and quantitative studies be conducted evaluating the effect of perceived social support on medication adherence and quality of life. In those whose perceived social support is low, interventions should be developed to increase social support. Education can be given to those with COPD, care-giving family members and nurses on the importance of providing adequate social support and to create awareness of what they can do in this regard, in order to improve medication adherence and quality of life.

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